

## COST MANAGEMENT IN PHASE – I OF DELHI METRO PROJECT

Delhi Metro Project involves four phases covering around 414 km across Delhi and its suburbs. This work started in 1997 and as per plan, would be completed by 2021. The cost management has been a major concern since beginning.

Barring Kolkata Metro, which is running in a loss, fare of Delhi Metro is one of the lowest among Metro fares anywhere in the world. The first phase of Delhi Metro covering about 65 km, of which about 12 km is underground and the remaining on elevated corridors, was completed not only before schedule but also within the budgetary allocation of Rs. 10570 crore (Rs. 105.70 billion). The project work started in October 1998; the first section became operational in December 2002, followed by the second section in September 2003. The remaining five sections were completed by September 2005.

### PHASE – I NETWORK OF DMRC (DMRC SOURCES)

LINE No:	ROUTE	LENGTH (KMs)	NUMBER OF STATIONS
1	Shahdara-Tri Nagar-Rithala	22.06	18
2	Vishwa Vidyalaya-Central Secretariat	10.84	10
3	Indraprastha-Barakhamba-Dwarka Sub City	32.10	31

60% of the cost of first phase of Rs. 10570 crore was financed through a loan by Japan International Corporation Agency (JICA), 28% was through equity contribution by center and state governments, who additionally contributed nearly 5% through subordinate loan to cover land acquisition, and remaining 7% was generated internally through property development. The cost of the first phase will be recovered in around 2 years earlier than estimated by Central Road Research Institute (CRRRI). With an expected economic rate of return of (ERR) of 16.9%, the breakeven period for the first phase comes out to be year 2013. DMRC scaled up the ERR to 19.98% during the same period, which squeezes the breakeven period now to December 2011.

Other than revenue from 900000 commuters per day in 2009, advertisements and rentals, etc. there are intangible economic and social benefits, which have been quantified. For an average travel distance per passenger of 20 km, at least one hour travel time is saved. This according to DMRC sources is equivalent opportunity cost of Rs. 725 crore per annum. Around 40000 vehicles would be out of road due to these commuters using the first phase of Metro. This would result into a reduction of 57800 tons fuel per year. According to Dr. Sreedharan, monthly revenue inflows are mainly in the form of total fare revenue of about Rs. 45 crore and through advertisements and rentals to the tune of Rs. 12 crore. On the expenditure side, Rs. 30 crore per month goes to meet all expenditure and rest is used to pay back loans for which the annual interest is about Rs. 250 crore.

The second phase of another 130 km would be costing Rs. 20000 crore. DMRC is quite confident of repeating the same feat in this as well as remaining two phases.

### QUESTIONS

1. Explain the concept of breakeven time of a project financing.
2. Explore the funding pattern of DMRC second phase and comment on its pattern. Compare this with first phase of DMRC.