

## 21. Financial Implications

### 21.1 Affordability

An attempt has been made to ascertain the additional costs of project interventions, and likely scope for financing them from within the capability of the city itself including cost recovery from the domestic sector. The issues are:

- the size of the funding task ahead;
- identification of funding sources and the sustainability of the project interventions;
- the likely impacts on household affordability and income levels.

As a guide, the average contribution by the domestic sector for these services in 1999 was 6.9% of average household income. Normally 10% of the household income would be the acceptable measure of the limit of affordability for civic services and water and sanitation.

The tentative proposals for major additional projects in the key sectors have been identified. These proposals have been costed and phased over the next 20 years. Estimates of operations and maintenance cost and debt service charges have also been made. The debt recovery assumes funds will need to be repaid over 20 years carrying interest at 14%. These costs have been phased to give a year-wise profile of expenditure necessary to improve the city's environment. Despite being tentative in nature, they give a clear insight in to the scale of the funding problem.

Tables 21.1.(a) & 21.1.(b) summarise the capital expenditure requirements for these proposals and the O&M costs and capital recovery required for self-sustainability over 20 years (at year 2000 base costs):

**Table 21.1 (a): Summary of Project Investments**

(Rs. million)

	0-5 Years	6-10 Years	11-20 Years	Total	(%)
<b>Investments</b>					
Water Supply	14,080	11,420	28,620	54,120	31%
Waste Water	11,350	12,650	22,000	46,000	26%
Solid Waste Management	4,285	4,500	9,000	17,785	10%
Roads and Traffic Management	6,050	29,850	6,350	42,250	24%
Slum Development	3,446	3,693	7,387	14,526	8%
<b>Total Investments</b>	<b>39,211</b>	<b>62,113</b>	<b>73,357</b>	<b>174,681</b>	<b>100%</b>
<b>Equivalent US \$ (Rs. 46 = \$1)</b>	<b>852</b>	<b>1,350</b>	<b>1,595</b>	<b>3,797</b>	

Note: @ Excludes railway and projects outside NCT

**Table 21.1 (b): Summary of Project Investments**

(Rs. million)

	0-5 Years	6-10 Years	11-20 Years	Total	(%)
Water Supply	704	571	1,431	2,706	8%
Waste Water	454	506	880	1,840	5%
Solid Waste Management	171	180	360	711	2%
Roads and Traffic Management / @	242	1,194	254	1,690	5%
Slum Development	172	185	369	726	2%
Total O&M Cost	1,744	2,636	3,294	7,674	23%
Capital Recovery	5,921	9,379	11,077	26,377	77%
Total O&M Cost and Capital Recovery	7,665	12,015	14,371	34,051	100%

Note: @ Excludes railway and projects outside NCT

## 21.2 Funding Patterns and Sensitivity Analysis

The funding patterns will depend on the sectors, financial strength of the implementing agencies, and the potential for beneficiary contributions. In order to make an assessment, some assumptions had to be made.

Contributions by the domestic sector from property taxes, municipal fees and charges and water supply were assumed to be 70% of the income of the two local bodies and the DJB. It has been further assumed that these funds initially rely on contributions by

60% of the city population, 40% contributing nothing for the civic services.

Further, the population has been assumed to rise by 2.5% annually and the contributing population rising from 60% to 80% in the 20<sup>th</sup> year. The per capita income has been assumed to rise by 2% annually in real terms.

The following table 21.2 (a) explains the present level of per capita contribution to the revenue generation through the three major local institutions. Tables 21.2 (b) & 21.2 (c) summarise the per capita contribution required for sustainable development with associated sensitivity analysis for selective years:

**Table 21.2 (a): Per Capita Contribution Analysis**

	Total Revenue in 1999-00 Rs. Million	Assuming 70% contributed by Domestic Rs. Million	Average per capita Contribution Rs.	Per capita Contribution assuming 60% paid Rs.	Contribution if 60% paid (as % to income)	Contribution assuming 100% paid (as % to income)
Per Capita Income – 1999: Rs. 27,693						
MCD	14,700	10,290	735	1,225	4.4%	2.7%
NDMC	5,900	4,130	295	492	1.8%	1.1%
DJB	2,258	1,581	113	188	0.7%	0.4%
<b>Total</b>	<b>22,858</b>	<b>16,001</b>	<b>1143</b>	<b>1,905</b>	<b>6.9%</b>	<b>4.1%</b>

**Table 21.2 (b): Affordability Analysis**

Selective Years	2006	2011	2021
O&M and Capital Recovery for the year (Rs. Million) (assuming 70% pertaining to domestic sector)	5,365	13,776	23,835
O&M and Capital Recovery to Investment	13.6%	15.1%	13.7%
Per capita Income - 2% growth in real term (Rs.)	30,575	33,758	41,150%
Per capita contribution required	8.1%	9.5%	9.4%
Present per capita contribution	6.9%	6.9%	6.9%
Increase over present level	1.2%	2.6%	2.5%

**Table 21.2 (C): Sensitivity Analysis under Key Variables**

Selective Years	2006	2011	2021
<b>Key Variable 1: If Capital investment rises by 10%</b>			
Per capita Income - 2% growth in real term (Rs.)	30,575	33,758	41,150
Per capita contribution required	8.3%	9.9%	9.8%
Increase over present level of 6.9%	1.4%	3.0%	3.0%
<b>Key Variable 2: If Per capita Income rises by 1% in real term</b>			
Per capita Income (Rs.)	29,106	30,590	33,791
Per capita contribution required	8.5%	10.5%	11.4%
Increase over present level of 6.9%	1.6%	3.6%	4.5%
<b>Key Variable 3: If per capita Income remains at the present level</b>			
Per capita Income (Rs.)	27,693	27,693	27,693
Per capita contribution required	8.95	11.5%	13.9%
Increase over present level of 6.9%	2.0%	4.7%	7.0%

The conclusion is clear: the per capita contribution may remain in the range of 8-10% even under the plausible assumption that capital costs might rise by 10% (see Key Variable 1) and is within 10% of average household income considered as the acceptable measure of the limit of affordability.

However, if the city's income fail to increase and is less than 2% the burden on the household will increase to over 11% if increase in per capita income is restricted to 1% (key variable 2) and to 14% if per capita income remains at the present level (key variable 3).

Considering the city's projected economic development over the 20 years this scenario is unlikely to happen. It may, however, happen if more and more low-income households continue to be attracted, and higher income households tend to leave the city. This is a pattern of mobility that has been observed in the evolution of cities in developed countries of North America and Europe where the environment itself was a determining factor in the demographic changes.

While the potential to fund the proposals is there, in order to achieve the objectives of mobilisation of the additional resources largely from within Delhi, changes will be needed. Galbraith's old adage of private affluence in the midst of public squalor is relevant here since *a prosperous city does not mean prosperous governance*.

### 21.3 Changes for improving finances:

Following in brief are some suggestions.

- Progressive increase in the water and sewerage tariff to the level of the real cost of services.
- Levy of a separate solid waste collection and disposal charge on all beneficiaries of the services; and reduction in staff costs through institutional and management reforms.
- Reform the property tax collection by:
  - (a) survey and coverage of all uncovered areas;
  - (b) review of all disputed cases of assessment;
  - (c) reduction in the present rebate on payment by specific dates to 10% from the present 20%, and levy of penalty if payment is not made by the year end;
  - (d) improve collection efficiency to 80%;
  - (e) removal of exemptions for properties of the Central Government and Embassies.
- Increase the one-time road tax on vehicles, and other vehicle related fees and charges e.g. driving licence and transfer of vehicle fees.
- Earmarked revenue source by the GNCTD, e.g. a differential surcharge on sales tax on petroleum fuel, graded in terms of pollution effects.

The *collections from the last two sources* need to be added to a separate fund at the

state level, which could be then specifically utilised for improvements in the public transport sector.

#### **21.4 Funding the interventions**

It is necessary to think of potential funding sources for various projects that are being recommended for achieving the vision for Delhi as outlined in the beginning. The

buoyancy of the economy of GNCTD as also the possibility of servicing any loans or recovery through user charges etc has been indicated earlier. It is in this context that the internal revenue surplus as well as borrowings can be thought of as a source of funds for all the projects that are being suggested for achieving the vision for Delhi in 2021.