

Investment requirements for the municipal corporations in Chhattisgarh have been estimated under the following six heads:

- Water supply (distribution and treatment)
- Sewerage, sewerage disposal and storm water drainage
- Construction of roads and paths
- Street lighting and electric distribution
- Fire fighting
- General administration

*Methodology*

- The Zakaria committee norms for O&M expenditure have been used for the purpose of estimation.
- These norms are in the unit of Rs./capita/annum)
- These norms were originally framed in 1960-61 and were reassessed in 1994-95 according to 94-95 prices<sup>1</sup>. The reassessment has been done assuming an annual inflation of about 7.74%
- The expenditure norms estimated in 94-95 have been brought upto 2000-01 prices assuming the same annual inflation of 7.74%.
- The population growth rate over the last decade for each of the cities has been used for projecting the population over the next ten years.
- The investment requirements have been estimated using the project population and per capita norms
- The investment requirements have been estimated at three points over the next ten years – by 2003, 2007 and 2010

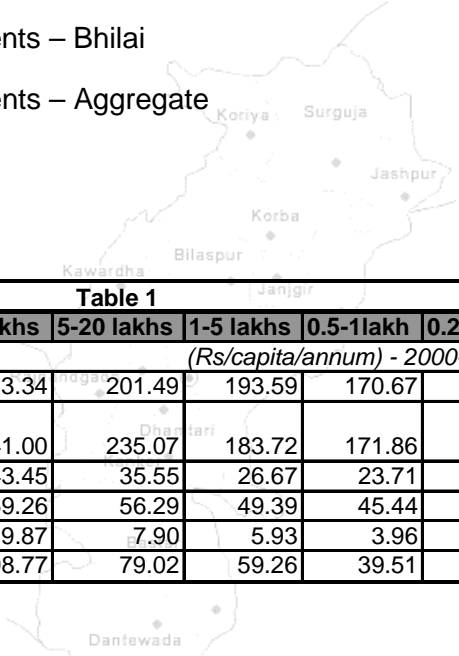
The following tables showing the detailed calculations are presented

1. Expenditure norms
2. Projected population
3. Investment requirements – Water supply
4. Investment requirements – Sewerage and storm water drainage
5. Investment requirements – City roads

<sup>1</sup> Source: National Institute of Urban Affairs

6. Investment requirements – Street lighting
7. Investment requirements – Fire fighting
8. Investment requirements – General Administration
9. Investment requirements – Raipur
10. Investment requirements – Korba
11. Investment requirements – Durg
12. Investment requirements – Rajnandgaon
13. Investment requirements – Bilaspur
14. Investment requirements – Bhilai
15. Investment requirements – Aggregate

### Expenditure Norms



**Table 1**

	>20 lakhs	5-20 lakhs	1-5 lakhs	0.5-1lakh	0.2-0.5 lakh
<b>Heads</b>	<i>(Rs/capita/annum) - 2000-01 prices</i>				
Water supply	213.34	201.49	193.59	170.67	149.34
Sewerage & storm water drainage	241.00	235.07	183.72	171.86	161.99
City roads	43.45	35.55	26.67	23.71	21.73
Street lighting	59.26	56.29	49.39	45.44	42.47
Fire fighting	9.87	7.90	5.93	3.96	1.97
General Administration	98.77	79.02	59.26	39.51	39.51

### Population

**Table2**

	Actual	Estimated	CAGR	Projected		
	1991	2001		2003	2007	2010
Cities						
Raipur	438,600	622,600	3.57%	667,786	768,234	853,366
Durg	156,000	216,700	3.34%	231,423	263,937	291,286
Korba	124,500	173,000	3.34%	184,766	210,752	232,614
Rajnandgoan	125,400	171,200	3.16%	182,199	206,361	226,563
Bilaspur	180,000	242,500	3.03%	257,395	289,985	317,108
Bhilai	473,000	553,857	1.59%	571,617	608,863	638,382

### Investment requirements – Water supply

	2003	2007	2010
Raipur	13.45	15.48	17.19
Durg	4.48	5.11	5.64
Korba	3.58	4.08	4.50
Rajnandgoan	3.53	3.99	4.39
Bilaspur	4.98	5.61	6.14
Bhilai	11.52	12.27	12.86
<b>Total</b>	<b>41.54</b>	<b>46.54</b>	<b>50.72</b>

Note: Figures indicate requirement per annum

### Investment requirements – Sewerage and storm water drainage

	2003	2007	2010
Raipur	15.70	18.06	20.06
Durg	4.25	4.85	5.35
Korba	3.39	3.87	4.27
Rajnandgoan	3.35	3.79	4.16
Bilaspur	4.73	5.33	5.83
Bhilai	13.44	14.31	15.01
<b>Total</b>	<b>44.86</b>	<b>50.21</b>	<b>54.68</b>

Note: Figures indicate requirement per annum

### Investment requirements – City roads

	2003	2007	2010
Raipur	2.37	2.73	3.03
Durg	0.62	0.70	0.78
Korba	0.49	0.56	0.62
Rajnandgoan	0.49	0.55	0.60
Bilaspur	0.69	0.77	0.85
Bhilai	2.03	2.16	2.27
<b>Total</b>	<b>6.69</b>	<b>7.49</b>	<b>8.15</b>

Note: Figures indicate requirement per annum

### Investment requirements – Street lighting

	2003	2007	2010
Raipur	3.76	4.32	4.80
Durg	1.14	1.30	1.44
Korba	0.91	1.04	1.15
Rajnandgoan	0.90	1.02	1.12
Bilaspur	1.27	1.43	1.57
Bhilai	3.22	3.43	3.59
<b>Total</b>	<b>11.20</b>	<b>12.55</b>	<b>13.67</b>

Note: Figures indicate requirement per annum

### Investment requirements – Fire fighting

	2003	2007	2010
Raipur	0.53	0.61	0.67
Durg	0.14	0.16	0.17
Korba	0.11	0.12	0.14
Rajnandgoan	0.11	0.12	0.13
Bilaspur	0.15	0.17	0.19
Bhilai	0.45	0.48	0.50
<b>Total</b>	<b>1.49</b>	<b>1.66</b>	<b>1.81</b>

Note: Figures indicate requirement per annum

### Investment requirements – General Administration

	2003	2007	2010
Raipur	5.28	6.07	6.74
Durg	1.37	1.56	1.73
Korba	1.09	1.25	1.38
Rajnandgoan	1.08	1.22	1.34
Bilaspur	1.53	1.72	1.88
Bhilai	4.52	4.81	5.04
<b>Total</b>	<b>14.87</b>	<b>16.64</b>	<b>18.11</b>

Note: Figures indicate requirement per annum

### Investment requirement – Raipur

	2003	2007	2010
Water supply	13.45	15.48	17.19
Sewerage & storm water drainage	15.70	18.06	20.06
City roads	2.37	2.73	3.03
Street lighting	3.76	4.32	4.80
Fire fighting	0.53	0.61	0.67
General Administration	5.28	6.07	6.74
<b>Total</b>	<b>41.09</b>	<b>47.27</b>	<b>52.51</b>

Note: Figures indicate requirement per annum

### Investment requirement – Korba

	2003	2007	2010
Water supply	3.58	4.08	4.50
Sewerage & storm water drainage	3.39	3.87	4.27
City roads	0.49	0.56	0.62
Street lighting	0.91	1.04	1.15
Fire fighting	0.11	0.12	0.14
General Administration	1.09	1.25	1.38
<b>Total</b>	<b>9.58</b>	<b>10.93</b>	<b>12.06</b>

Note: Figures indicate requirement per annum

### Investment requirement – Durg

	2003	2007	2010
Water supply	4.48	5.11	5.64
Sewerage & storm water drainage	4.25	4.85	5.35
City roads	0.62	0.70	0.78
Street lighting	1.14	1.30	1.44
Fire fighting	0.14	0.16	0.17
General Administration	1.37	1.56	1.73
<b>Total</b>	<b>12.00</b>	<b>13.69</b>	<b>15.10</b>

Note: Figures indicate requirement per annum

### Investment requirement – Rajnandgaon

	2003	2007	2010
Water supply	3.53	3.99	4.39
Sewerage & storm water drainage	3.35	3.79	4.16
City roads	0.49	0.55	0.60
Street lighting	0.90	1.02	1.12
Fire fighting	0.11	0.12	0.13
General Administration	1.08	1.22	1.34
<b>Total</b>	<b>9.45</b>	<b>10.70</b>	<b>11.75</b>

Note: Figures indicate requirement per annum

### Investment requirement – Bilaspur

	2003	2007	2010
Water supply	4.98	5.61	6.14
SWM & Storm water	4.73	5.33	5.83
City roads	0.69	0.77	0.85
Street lighting	1.27	1.43	1.57
Fire fighting	0.15	0.17	0.19
General Administration	1.53	1.72	1.88
<b>Total</b>	<b>13.35</b>	<b>15.04</b>	<b>16.44</b>

Note: Figures indicate requirement per annum

**Investment requirement – Bhilai**

<b>Table 14</b> (Rs. Crore)			
	<b>2003</b>	<b>2007</b>	<b>2010</b>
Water supply	11.52	12.27	12.86
SWM & Storm water	13.44	14.31	15.01
City roads	2.03	2.16	2.27
Street lighting	3.22	3.43	3.59
Fire fighting	0.45	0.48	0.50
General Administration	4.52	4.81	5.04
<b>Total</b>	<b>35.17</b>	<b>37.46</b>	<b>39.28</b>

*Note: Figures indicate requirement per annum*

**Investment requirement – Aggregate (service wise)**

<b>Table 14</b> (Rs. Crore)			
	<b>2003</b>	<b>2007</b>	<b>2010</b>
Water supply	41.54	46.54	50.72
SWM & Storm water	44.86	50.21	54.68
City roads	6.69	7.49	8.15
Street lighting	11.20	12.55	13.67
Fire fighting	1.49	1.66	1.81
General Administration	14.87	16.64	18.11
<b>Total</b>	<b>120.64</b>	<b>135.09</b>	<b>147.15</b>

*Note: Figures indicate requirement per annum*

