

# **South Africa Local Government Financial Reform Project**

**Final Report**

**10 September 2001**

**Task 4: Evaluation of Alternative Arrangements of Powers and  
Functions—Report on Financial Arrangements for Each  
Municipal Services Sector**

RTI Contract No. LAG-I-00-99-00009-00  
RTI Task Order No. LAG-I-807-99-00009-00  
RTI Project No. 07470-807



SA LOCAL GOVERNMENT FINANCIAL REFORM PROJECT:  
Task 4: Evaluation of Alternative Arrangements of Powers and Functions—Report on  
Financial Arrangements for Each Municipal Services Sector

---

Evaluation of Alternative Arrangements of Powers and Functions—  
Report on Financial Arrangements for Each Municipal Services Sector

**Final Report**

10 September 2001

---

Prepared by Palmer Development Group



## Table of Contents

<a href="#">Executive Summary</a> .....	xi
<a href="#">1 Introduction</a> .....	1
<a href="#">1.1 Document Context</a> .....	1
<a href="#">1.2 Purpose of This Document</a> .....	1
<a href="#">2 Factors Affecting Viability of Municipalities</a> .....	1
<a href="#">2.1 Identification of Factors</a> .....	1
<a href="#">2.2 Consumer Profile</a> .....	2
<a href="#">2.3 Strength of the Local Economy</a> .....	2
<a href="#">2.4 Settlement Density</a> .....	2
<a href="#">2.5 Management Capacity</a> .....	3
<a href="#">2.5.1 Current Situation (Local Councils)</a> .....	3
<a href="#">2.5.2 Future Capacity of Local Municipalities</a> .....	4
<a href="#">2.5.3 Historic Situation with District Local Government</a> .....	4
<a href="#">2.5.4 District Local Government: 1995 to 2000</a> .....	4
<a href="#">2.5.5 District Municipalities in the Future</a> .....	5
<a href="#">2.6 Existing Service Levels</a> .....	5
<a href="#">2.7 Access to Subsidies</a> .....	6
<a href="#">2.8 Classification of Local Municipalities</a> .....	6
<a href="#">3 Institutional and Organisational Issues Associated With Municipal Service Provision</a> .....	7
<a href="#">3.1 Authority vs. Service Provider Responsibility</a> .....	7
<a href="#">3.2 Settlement Level Responsibility</a> .....	7
<a href="#">3.3 Types of Service Provider</a> .....	8
<a href="#">3.4 Split Responsibility</a> .....	8
<a href="#">3.4.1 Support Style</a> .....	9
<a href="#">3.5 Internal Organisational Arrangements</a> .....	9
<a href="#">3.5.1 Centralised Service Provision Unit</a> .....	9
<a href="#">3.5.2 Centralised Management, Distributed Operations</a> .....	9
<a href="#">3.5.3 Specialised Service Nodes</a> .....	9
<a href="#">3.5.4 Area (Settlement) Based Management</a> .....	10
<a href="#">3.5.5 Separate Support Units</a> .....	10
<a href="#">4 Principles to be Applied in Re-Structuring Local Authorities</a> .....	10
<a href="#">4.1 Principles in Municipal Structures Act Revision</a> .....	10
<a href="#">4.2 Condensed Principles</a> .....	10
<a href="#">4.3 Interpreting the Principles</a> .....	12
<a href="#">5 Models for New Municipal Arrangements</a> .....	12
<a href="#">6 Generic Issues Associated With Revenue</a> .....	19
<a href="#">6.1 User Charges (Tariffs)</a> .....	19
<a href="#">6.2 Property Rates</a> .....	19
<a href="#">6.3 RSC Levies</a> .....	19
<a href="#">6.4 National Capital Grants</a> .....	19
<a href="#">6.5 National Operating Grants (Primarily the Equitable Share Grant)</a> .....	19
<a href="#">7 Water Supply</a> .....	20
<a href="#">7.1 Provisions of the Water Services Act</a> .....	20
<a href="#">7.2 Who is the Water Services Authority?</a> .....	20
<a href="#">7.3 Water Services Provider Options</a> .....	20
<a href="#">7.3.1 Current Situation</a> .....	20

	<a href="#">7.3.2 Role of Water Boards</a> .....	21
7.4	<a href="#">Management Arrangements</a> .....	21
	<a href="#">7.4.1 Medium or Large Town as Core</a> .....	21
	<a href="#">7.4.2 Small Town as Core</a> .....	21
	<a href="#">7.4.3 No Town as a Viable Core</a> .....	21
	<a href="#">7.4.4 Split Responsibility Options - Small Town and ‘No Town’ Options</a> .....	22
7.5	<a href="#">Technical Options</a> .....	22
7.6	<a href="#">Costs</a> .....	23
	<a href="#">7.6.1 Capital Costs</a> .....	23
	<a href="#">7.6.2 Operating Costs</a> .....	25
7.7	<a href="#">Revenue Options</a> .....	27
	<a href="#">7.7.1 Subsidies for Water Supply</a> .....	27
8	<a href="#">Sanitation</a> .....	28
	<a href="#">8.1 What is Included?</a> .....	28
	<a href="#">8.2 Policy and Legislation</a> .....	28
	<a href="#">8.3 Who is the Sanitation Services Authority?</a> .....	29
	<a href="#">8.4 Relationship Between Province and Local Government</a> .....	29
	<a href="#">8.5 Technical Options</a> .....	29
	<a href="#">8.6 Service Provider Options</a> .....	30
	<a href="#">8.6.1 Splitting Retail and Bulk Services</a> .....	30
	<a href="#">8.7 Costs</a> .....	30
	<a href="#">8.7.1 Capital Costs</a> .....	30
	<a href="#">8.7.2 Operating Costs</a> .....	32
	<a href="#">8.8 Revenue Options</a> .....	33
	<a href="#">8.8.1 Subsidy Arguments</a> .....	34
9	<a href="#">Electricity</a> .....	34
	<a href="#">9.1 Governing Legislation</a> .....	34
	<a href="#">9.2 Regulation and Governance</a> .....	35
	<a href="#">9.2.1 Regulation</a> .....	35
	<a href="#">9.2.2 Governance</a> .....	36
	<a href="#">9.3 Who is the Authority?</a> .....	37
	<a href="#">9.3.1 Authority Options</a> .....	37
	<a href="#">9.4 Provider Options</a> .....	38
	<a href="#">9.4.1 Local Municipality as the Service Provider</a> .....	38
	<a href="#">9.4.2 Local Municipality as a Retailer Only</a> .....	38
	<a href="#">9.4.3 Multi-Jurisdictional Municipal Service District</a> .....	39
	<a href="#">9.4.4 Third Party Provider</a> .....	39
	<a href="#">9.4.5 Eskom Distribution</a> .....	40
	<a href="#">9.4.6 Unknown Factors</a> .....	40
	<a href="#">9.5 Technical Options for Electricity Distribution</a> .....	40
	<a href="#">9.5.1 Reticulation - Level of Service Variability</a> .....	41
	<a href="#">9.5.2 Reticulation - Off-Grid Options</a> .....	41
	<a href="#">9.5.3 Transmission</a> .....	42
	<a href="#">9.5.4 Generation</a> .....	42
	<a href="#">9.6 Costs</a> .....	43
	<a href="#">9.6.1 Capital Costs</a> .....	43
	<a href="#">9.6.2 Operating Costs</a> .....	45
	<a href="#">9.7 Revenue Options</a> .....	48
	<a href="#">9.7.1 Municipal Levy</a> .....	49

<u>10</u>	<u>Solid Waste Services</u> .....	50
10.1	<u>Legislation and Policy Documentation</u> .....	50
10.2	<u>Who is the Authority?</u> .....	50
10.3	<u>Service Provider Options</u> .....	50
	10.3.1 <u>Scattered Settlements</u> .....	51
	10.3.2 <u>District Municipality</u> .....	51
	10.3.3 <u>Private-Public Partnerships</u> .....	51
10.4	<u>Service Levels</u> .....	51
	10.4.1 <u>Generation</u> .....	52
	10.4.2 <u>On-Site Storage</u> .....	52
	10.4.3 <u>Collection and Transport</u> .....	52
	10.4.4 <u>Street Cleaning</u> .....	53
	10.4.5 <u>Recycling</u> .....	54
	10.4.6 <u>Disposal</u> .....	54
10.5	<u>Management Arrangements</u> .....	55
	10.5.1 <u>Governance</u> .....	55
	10.5.2 <u>Administration of Refuse Removal</u> .....	55
	10.5.3 <u>Landfill Sites</u> .....	55
	10.5.4 <u>Public-Private Partnerships</u> .....	56
	10.5.5 <u>Support</u> .....	56
10.6	<u>Costs</u> .....	57
10.7	<u>Revenue Options</u> .....	58
<u>11</u>	<u>Roads, Traffic and Transport</u> .....	59
11.1	<u>Legislation/Policy Documentation</u> .....	59
	11.1.1 <u>Provincial</u> .....	60
11.2	<u>Transport and Roads Authority</u> .....	60
	11.2.1 <u>Transport</u> .....	60
	11.2.2 <u>Roads</u> .....	61
	11.2.3 <u>Streets</u> .....	62
	11.2.4 <u>Traffic</u> .....	63
11.3	<u>Provider Options</u> .....	63
	11.3.1 <u>Transport Provision</u> .....	63
	11.3.2 <u>Road Providers</u> .....	63
11.4	<u>Technical Options and Service Levels</u> .....	64
	11.4.1 <u>Public Transport</u> .....	64
	11.4.2 <u>Roads</u> .....	65
11.5	<u>Management Options</u> .....	66
	11.5.1 <u>National</u> .....	66
	11.5.2 <u>Provincial</u> .....	66
	11.5.3 <u>Municipal</u> .....	66
	11.5.4 <u>Recommendations</u> .....	67
11.6	<u>Costs</u> .....	68
	11.6.1 <u>Eastern Cape Example</u> .....	69
	11.6.2 <u>Metro Example</u> .....	69
	11.6.3 <u>National Picture: Road Maintenance</u> .....	70
	11.6.4 <u>National Picture: Road Construction and Rehabilitation</u> .....	71
11.7	<u>Revenue Options</u> .....	71
	11.7.1 <u>Uncertainty of Funding</u> .....	71
<u>12</u>	<u>Health Services</u> .....	73

12.1	<a href="#">Long Term Goals and Role of the District</a>	74
12.2	<a href="#">Legislation</a>	74
12.3	<a href="#">Service Levels</a>	74
	12.3.1 <a href="#">Type of Service Offered</a>	75
	12.3.2 <a href="#">Types of Facilities</a>	75
	12.3.3 <a href="#">Coverage of PHC Facilities</a>	78
	12.3.4 <a href="#">Utilisation Rate</a>	79
12.4	<a href="#">Service Provider Options</a>	79
	12.4.1 <a href="#">Private Sector and NGOs</a>	79
	12.4.2 <a href="#">Relative Roles of Provincial and Local Government</a>	79
	12.4.3 <a href="#">Relative Roles of District and Local Municipalities</a>	80
12.5	<a href="#">Costs</a>	80
	12.5.1 <a href="#">Cost by Facility</a>	80
	12.5.2 <a href="#">Costs by Visit</a>	81
	12.5.3 <a href="#">Costs per Household per Year</a>	82
	12.5.4 <a href="#">Overall Cost per Household</a>	83
12.6	<a href="#">Revenue Options</a>	83
12.7	<a href="#">Impact of Aids</a>	84
13	<a href="#">Emergency and Fire Services</a>	84
13.1	<a href="#">Emergency Services Overview</a>	84
13.2	<a href="#">Legislation and Policy</a>	85
13.3	<a href="#">Authority</a>	85
13.4	<a href="#">Provider Options</a>	86
	13.4.1 <a href="#">Combined Local Municipality and Province</a>	86
	13.4.2 <a href="#">Private Sector</a>	86
	13.4.3 <a href="#">Volunteers</a>	86
	13.4.4 <a href="#">South African National Defence Force &amp; Police</a>	87
	13.4.5 <a href="#">Private Motor Vehicle</a>	87
13.5	<a href="#">Technical Options</a>	87
	13.5.1 <a href="#">Metropolitan Areas</a>	87
	13.5.2 <a href="#">Rural Areas</a>	87
13.6	<a href="#">Management Arrangements</a>	88
13.7	<a href="#">Costs</a>	88
13.8	<a href="#">Revenue Options</a>	88
13.9	<a href="#">Fire Services Overview</a>	89
	13.9.1 <a href="#">Environment</a>	89
	13.9.2 <a href="#">Municipal Fire Services</a>	90
13.10	<a href="#">Legislation/Policy Documentation</a>	90
13.11	<a href="#">Authority</a>	90
13.12	<a href="#">Provider Options</a>	91
	13.12.1 <a href="#">Current Situation</a>	91
	13.12.2 <a href="#">Privatisation</a>	91
	13.12.3 <a href="#">Specialist Private Organisations</a>	91
	13.12.4 <a href="#">Volunteers</a>	91
13.13	<a href="#">Technical Options and Service Levels</a>	91
13.14	<a href="#">Management Arrangements</a>	92
13.15	<a href="#">Costs</a>	93
13.16	<a href="#">Revenue Options</a>	93
	13.16.1 <a href="#">Inter-Government Grants</a>	93

	<a href="#">13.16.2 User Charges</a>	93
<a href="#">14</a>	<a href="#">Amenities</a>	94
	<a href="#">14.1 Legislation</a>	95
	<a href="#">14.1.1 Constitution</a>	95
	<a href="#">14.1.2 Local Government Municipal Structures Act</a>	96
<a href="#">14.2</a>	<a href="#">Relationship Between Province and Local Government</a>	96
<a href="#">14.3</a>	<a href="#">Service Provider Options</a>	98
	<a href="#">14.3.1 Management Contracts</a>	98
	<a href="#">14.3.2 Privatisation</a>	98
	<a href="#">14.3.3 Corporatisation</a>	98
	<a href="#">14.3.4 Agency</a>	98
	<a href="#">14.3.5 Lease</a>	99
	<a href="#">14.3.6 Concession</a>	99
	<a href="#">14.3.7 Build/Operate/Transfer (BOT)</a>	99
	<a href="#">14.3.8 Outsourcing – Service Contracts</a>	99
	<a href="#">14.3.9 Entrepreneurial Close Corporation (CC) Model</a>	99
	<a href="#">14.3.10 Civil Society Partnerships</a>	100
<a href="#">14.4</a>	<a href="#">Management Arrangements</a>	100
<a href="#">14.5</a>	<a href="#">Technical Options</a>	101
	<a href="#">14.5.1 Defining Appropriate Service Levels</a>	101
	<a href="#">14.5.2 Monitoring and Evaluation</a>	102
<a href="#">14.6</a>	<a href="#">Costs</a>	103
	<a href="#">14.6.1 Capital Costs</a>	103
	<a href="#">14.6.2 Operating Costs</a>	104
	<a href="#">14.6.3 Costs in Smaller Towns</a>	105
	<a href="#">14.6.4 Libraries as an Illustrative Case</a>	105
<a href="#">14.7</a>	<a href="#">Revenue Options</a>	106

## List of Tables

<a href="#">Table 1: Models for a B1 Municipality</a>	14
<a href="#">Table 2: Models for a B2 or B3 Municipality</a>	15
<a href="#">Table 3: Models for a B4 Municipality</a>	16
<a href="#">Table 4: Organisational Arrangements for ‘Big 5’ Municipal Services</a>	17
<a href="#">Table 5: Organisational Arrangements for Other Municipal Services</a>	18
<a href="#">Table 6: Capital Costs of Water Services in Urban Areas (Rands/Household)</a>	23
<a href="#">Table 7: Capital Costs for a Yard Tank in Different Settlement Types (Rands/Household)</a>	24
<a href="#">Table 8: Recurrent Costs of Water Provision (Urban, Rands/Household/Month)</a>	25
<a href="#">Table 9: Recurrent Costs for a Yard-Tank in Different Settlements (Rands/Household/Month)</a>	26
<a href="#">Table 10: Capital Costs for a Various Sanitation Service Levels in Urban Areas (Rands/Household)</a>	31
<a href="#">Table 11: Capital Costs for Simple Waterborne Sanitation in Different Settlement Types (Rands/Household)</a>	32
<a href="#">Table 12: Recurrent Costs of Various Sanitation Service Levels in an Urban Area (Rands/Household/Month)</a>	32
<a href="#">Table 13: Recurrent Costs for Simple Waterborne Sanitation in Different Settlement Types (Rands/Household/Month)</a>	33
<a href="#">Table 14: Household Electrification, Cost Implications (Eskom Rural Programme)</a>	43
<a href="#">Table 15: Average Connection Costs-Municipal Electrification Programme-1999</a>	43
<a href="#">Table 16: Capital Cost Estimates for 20Amp Electricity Supply</a>	44
<a href="#">Table 17: Backlog and Electrification Programme</a>	45
<a href="#">Table 18: Recurrent Costs for a 20Amp Electricity Connection</a>	46
<a href="#">Table 19: Revenue and Expenditure of Distribution Industry</a>	46
<a href="#">Table 20: Household Electrification Programme (Rural ): Revenue Implications</a>	47
<a href="#">Table 21: 1998 Electricity Retail Sales Statistics</a>	49
<a href="#">Table 22: Refuse Disposal Levels of Service as a Percentage of Municipalities Within Provinces: 1996</a>	51
<a href="#">Table 23: Waste as a Percentage of Total Municipal Opex</a>	57
<a href="#">Table 24: Opex City of Cape Town Cleansing Department 1999/2000</a>	58
<a href="#">Table 25: Industrial Solid Waste Removal and Disposal Tariffs: Cape Town July 1999</a>	59
<a href="#">Table 26: Modal Share in Public Transport in Cape Metropolitan Area</a>	64
<a href="#">Table 27: Rural Population vs Rural Road Lengths</a>	65
<a href="#">Table 28: The Existing State of the Road Network in Mpumalamga Province</a>	66
<a href="#">Table 29: Capital and Maintenance Costs – Roads</a>	68
<a href="#">Table 30: Typical Road Maintenance Costs</a>	69
<a href="#">Table 31: Each Province’s Equitable Share and Bus Subsidy Allocation</a>	73
<a href="#">Table 32: PHC Services Provided by DHS and Relevant Personnel</a>	76
<a href="#">Table 33: Community Health Centre (CHC)</a>	77
<a href="#">Table 34: Clinics</a>	78
<a href="#">Table 35: Mobile Clinics</a>	78
<a href="#">Table 36: Costs of PHC Facilities in an Urban Area (2000 Rs)</a>	81
<a href="#">Table 37: Costs Associated with Running PHC Facility in a Rural Area (2000 Rs)</a>	81
<a href="#">Table 38: Average Cost per Consultation 1997-1998 in Metro Area</a>	81
<a href="#">Table 39: Average Cost per Consultation at NGO Clinic</a>	82
<a href="#">Table 40: Estimated Cost Range of Health Services per Household (Rands/Month)</a>	83

[Table 41: Relative Share of PHC Funding- Western Cape \(1997-1998\)](#)..... 84

[Table 42: Final Destinations of Patients Originating in Rural Areas Requiring Transfer](#) ..... 88

[Table 43: Western Cape Ambulance Emergency Services Tariffs for 2000/01](#) ..... 89

## List of Figures

<a href="#">Figure 1: Capital Costs of Water Services in Urban Areas</a> .....	23
<a href="#">Figure 2: Capital Costs for a Yard Tank in Different Settlement Types</a> .....	25
<a href="#">Figure 3: Recurrent Costs of Water Provision (Urban, Rands/Household/Month)</a> .....	26
<a href="#">Figure 4: Average price levels per Metro Area vs. Eskom – 1997</a> .....	36
<a href="#">Figure 5: Capital Cost Estimates for 20Amp Electricity Supply</a> .....	44
<a href="#">Figure 6: Cape Town Consolidated Metropolitan Transport Fund (1997 Rands)</a> .....	70
<a href="#">Figure 7: Modal Split of Transport to Hospital in the Cape Metropolitan Area</a> .....	87
<a href="#">Figure 8: Opex Budgets of Tygerberg and Cape Town</a> .....	93

## EVALUATION OF ALTERNATIVE ARRANGEMENTS OF POWERS AND FUNCTIONS—REPORT ON FINANCIAL ARRANGEMENTS FOR EACH MUNICIPAL SERVICES SECTOR

10 September 2001

### EXECUTIVE SUMMARY

Task 4 of the local government reform project deals with revenue assignment. In order to do this effectively it is necessary to understand the costs faced by local government at both the local and district level. To do this, in turn, requires an understanding of the powers and functions to be allocated to each sphere of local government. These issues are dealt with in the full report on the arrangements for each municipal services sector.

This document is a summary of the key issues contained in this full report. It is still at a preliminary stage as there has not been the opportunity for a full team interaction to discuss all the work done to date.

### Factors Affecting the Viability of Municipalities

Local government is currently in the process of transition and the proposals from this task of the project are intended to be used for the post-transition municipalities. At present these municipalities have not had powers and functions assigned to them. Therefore, as part of this task, it is necessary to make certain assumptions in this regard, based on a set of principles. As the over-riding principle needs to be that of achieving long term viability of local government it is important to consider the factors which influence viability. Six key factors have been identified:

- a. Consumer profile (essentially the ratio between poorer and wealthier consumers)
- b. Strength of local economy.
- c. Settlement density.
- d. Capacity of the municipality (primarily management capacity).
- e. Existing service levels.
- f. Access to subsidies.

In the short term it is only possible to influence the capacity of the municipality and access to subsidies. Therefore these factors are given primary attention in the full report and, in the latter case, in the study as a whole.

The issue of management capacity is particularly important at this stage of the transition in local government arrangements as it is something which can be influenced in the restructuring process. Further, in allocating powers and functions the ability of the municipalities to manage the functions allocated to them is a central consideration.

The key issue relating to management capacity is that this is presently located in the current transitional local councils (TLCs) which are primarily responsible for urban areas. Further, capacity is concentrated in the larger TLCs. With regard to district municipalities these have focused their attention to date primarily on resource allocation, planning, and contracting capital works. Current district municipalities have little service provider capacity.

## Key Institutional and Organisational Issues

The following are identified as key issues:

- a. Separate identity of functions of *service authority* (primarily governance, planning and regulatory aspects) and *service provision* (actual provision of the service).
- b. The importance of *settlement level responsibility*: a large component of service provider activity cannot be carried out remotely from consumers and needs to be based in settlements. As local authority structures are becoming geographically larger this places a new demand on new municipalities. For settlement level responsibility to be exercised effectively two options have been identified: use of *community based organisations* as service providers or use of *area based management*.
- c. *Types of service provider*: a range of service providers can be appointed, including other spheres of government, para-statal organisations, community based organisations and private sector bodies.
- d. *Split responsibility*: A single service (water supply, for example) may be run by two services providers, one providing bulk services and one retail. Another form of split responsibility occurs where a locally based service provider is provided with support from one based at regional level. (Support can include treasury functions, project implementation, procurement, mentoring or major maintenance).
- e. *Internal organisational arrangements*: As municipalities get larger both in terms of staff numbers and geographic areas, they will need to pay greater attention to organisational structure. Possible models dealing with different degrees of centralisation and separation of specialist support are identified in the full report.

## Principles to be Applied in Re-Structuring Local Authorities

In setting up new arrangements seven major principles aimed at promoting sustainable local government have been identified:

- a. Maximising access to services.
- b. Minimal cost.
- c. Management efficiency.
- d. Focus on customer service.
- e. Minimum disruption.
- f. Maximum accountability.
- g. Optimal cross-subsidy.

It is notable that these principles are often contradictory for a particular municipality and a balance needs to be reached. With regard to cross subsidies, it is suggested that, while cross subsidy at a local municipality level is appropriate, it should not be promoted at district level.

## Models for New Municipal Arrangements

The practical implementation of powers and functions involves the assigning of the following municipal responsibilities appropriately to local and district municipalities or to other services providers:

- Service authority, possibly separated for different services.
- Service provider, possibly separated into bulk and retail components.
- Support services.

A range of models are identified in the full report and each one is weighed up against the principles for different types of local municipality. In summary the following conclusions are drawn:

- a. In general, for a *local municipality with a large town as core*, the current arrangement where they retain full service authority and service provider functions is preferable, from their own perspective. The arguments for moving away from this relate primarily to the desire by districts and province to share the capacity of the existing TLCs over a wider area and cross-subsidise from large town cores over the whole district. Where there are some management efficiency arguments to run some services at a district level it will be best to do this with the service provider (perhaps a district municipality) contracted to the local municipality which will be the authority.
- b. From the perspective of a *local municipality with a small to medium sized town as core*, the arrangements need to be considered internally and externally. Internally it is considered best for retail service provider capacity to be located at local (settlement) level, as far as possible. However, such service providers need to be backed up with a good support and bulk service function. Often this is best located at the district level as capacity can be shared across the district. In balance it may be best for the authority function to rest at district level.
- c. With regard to *local municipalities with no town as core (all rural)* the conclusions are similar to that for the previous case. For the internal arrangements, a strong preference is indicated for services provider activity to be delegated to settlement level as far as possible. However the extent to which this is done is strongly dependent on the type of service. With regard to higher level skills, these are typically absent at local municipal level currently. It then becomes more obvious that these should be shared across the district.

## Organisational Arrangements for Particular Services

A summary of the proposals for each of the sectors investigated is given in the two tables on the following two pages below, with the codes used as follows:

Code	Description
B	Category B (local) municipality
B1	Category B municipality with a large town or small city as core.
B2	Category B municipality with a medium sized town as core.
B3	Category B municipality with a small town or group of small towns as core.

Code	Description
B4	Rural category B municipality with effectively no urban core.
C	Category C (district) municipality
L	Settlement level
a	<i>Service authority</i> : The ‘core functions’ of a local authority, including governance, regulation and planning.
p	<i>Service provider</i> : The organisation which actually provides the service and contracts with the consumer.
p1	<i>Retail service provider</i> : For many services the function can be split into bulk and retail services. Retail includes that part which requires the distribution of the service from a point of bulk supply (or bulk collection in the case of waste related services) to (or from) consumers.
p2	<i>Bulk service provider</i> : That part of the service which links the resource to the distribution (retail) service. This includes generation in the case of electricity, treatment in the case of water supply and wastewater and landfill in the case of solid waste services.
s	<i>Support</i> : Also part of service provider activity but can be contracted out. Support services are taken to include services required on a month-to-month basis associated with providing a service but outside the core activity of a service provider: treasury, human resources administration, information systems, mentoring of lower levels of management and operations staff, major maintenance, vehicle workshops, procurement etc.

### Organisational Arrangements for ‘Big 5’ Municipal Services

Service	Description	Favoured Model For:			Rationale
		B1	B2/3	B4	
Water supply	There are a variety of situations ranging from small local schemes, to large regional schemes. A feature of water supply arrangements is that there is often considerable settlement level activity.	Ba Bp	Ca Lp1 Cp2 Cs	Ca Lp1 Cp2 Cs	For a B1 municipality they have traditionally had the capacity to run their own systems, with or without bulk services. For B2 to B4 there is a strong argument for retaining as much service provider responsibility as possible a settlement level but backing this up with support at C level (or possible B level in the case of B2)
Sanitation	The sanitation service has different requirements for reticulated waterborne systems, on site sanitation and the ‘soft’ promotion elements.	Ba Bp	Ca Lp Cs	Ca Lp Cs	The rationale for the favoured models is similar to that for water supply. However, there is typically less argument for splitting the retail and bulk activities in B2 to B4 situations.
Electricity	In comparison to water supply, electricity is relatively easily managed as generation does not need to be considered and sales are more easily managed.	Ba Cp	Ca Cp	Ca Cp	Electricity models are strongly dependent on the findings of the current sector re-structuring initiative where REDs are being considered. However, it is likely that regional systems will be favoured, hence the Cp options given here. However, in B1 situations it is not certain that they will give up either or both of their authority and provider functions.
Solid Waste	The service can be considered separately from a collection and disposal (landfill) perspective. It also needs to be recognised that for smaller settlements informal arrangements will be required if the service is to be affordable.	Ba Bp1 Bp2	Ca Lp1 Cp2	Ca Lp	In all cases it is likely that collection (p1) activity should be located at settlement level. However, there may be circumstances where two places are close enough together to share vehicles. From the landfill point of view there are merits to both Bp2 and Cp2 options. However, district responsibility may have the edge. For rural settlements there is little argument to split service provider activity.
Roads	The roads system has a hierarchical nature and is suited to responsibilities matching the geographic hierarchy of government structures. In a local govt. context, ‘retail’ can be considered to be settlement level roads and ‘bulk’ district level roads.	Ba Bp1 Cp2	Ca Lp1 Cp2 Cs	Ca Lp1 Cp2 Cs	There are sound arguments for a strong district level roads authority and service provider to take responsibility for the district roads network. Local (settlement level) roads should have routine maintenance done locally. However, support from a district level unit will be important for major maintenance of settlement level roads in smaller settlements.

### Organisational Arrangements for Other Municipal Services

Service	Description	Favoured Model :			Rationale
		B1	B2/B3	B4	
Traffic and transport	Most traffic control functions are local level activities such as traffic control and regulation, vehicle licensing, and taxi ranks. Very few local authorities provide effective public transport	Ca Bp Cp2	Ca Cp2 Bp1	Ca Bp1 Cp2	These services are divided into those services, such as traffic control and taxi ranks, for which all except the smallest towns could assume provider responsibility. The more complex functions, such as public transport and vehicle licensing, could benefit from economies of scale and district level provision.
Primary health care	This consists of the operation of primary health care clinics, as well as other non-clinic health services such as health education, AIDS awareness, and others.	Ca Cp2 Bp1	Ca Cp	Ca Cp	Health care is a complex service requiring technical and managerial oversight. It is likely that only the large towns will have the capacity to provide this service themselves. In the smaller towns and rural areas the district will be best placed to provide both the 'hard' and 'soft' health care services. Provincial and national government will also have an important support and funding role.
Emergency services	Fire and emergency response is the main function, as well as ambulance services in some cases. Fire prevention is also an important area as is disaster management.	Ca Cp	Ca Cp	Ca Cp	These services are best provided at a district scale. There are large economies of scale and the services do not generally require settlement level or local management to a large degree. There are successful examples of private sector providers being contracted at a local and district level.
Community services (1)	For management purposes community services can be divided into those that can be provided regionally and those which can be provided locally. Regional services include libraries, cemeteries, museums, and regional sports facilities.	Ca Cp	Ca Cp	Ca Cp	By definition there are community services that can service a wide area or that can best be centrally provided. Although the large urban areas could provide these services, because of their regional character it is probably preferable to centralise the authority and provision of these services.
Community services (2)	Local community services include parks and local sportsfields, creches, and community halls.	Ba Bp	Ba Lp	Ba Lp	By definition these services are able to be provided and managed at the local municipality or even the settlement level. These services are meant to support community cohesion and local level needs and should be provided at the most local level possible.
Local economic development	Local government is meant to have a developmental focus including the development of the local economy. Possible activities include tourism promotion, small business centres, etc.	Ca Bp1 Cp2	Ca Bp1 Cp2	Ca Cp	The district should assume high level planning functions and district-wide LED functions and support. In municipalities with the capacity the actions required may be able to be provided locally, but rural municipalities will typically have inadequate capacity.

## Key Service Level Issues for Each Sector

A summary of the key issues faced by each sector is given below:

Overheads	This study has not dealt particularly with overheads. However, although it is not a 'sector' it has been found to be a major driver of municipal costs, particularly in rural areas. It is clear that considerable work needs to be done to understand overheads and to look at ways of containing costs.
Water supply	Water supply in urban areas is generally adequately managed, although there are significant backlogs. In rural areas there has been considerable progress with the implementation of projects over the last 6 years. However, service provider arrangements are still poor, meaning that rural schemes often fail. The role of community based organisations and private sector support need be given strong emphasis.
Sanitation	In urban areas the trend has been to provide everyone with waterborne sanitation. However, this can not be sustained as it is not affordable to poorer communities, even less so if they live in low density settlements. In rural areas the funding and establishment of sanitation promotion programmes is of primary importance.
Electricity	The major issues are in rural areas where coverage is still low, despite Eskom's success with its rural electrification programme. While much work has been done on 'off grid' options for scattered rural areas, households in these areas remain with poor access to energy.
Solid waste	Better management of landfills and improvement of the 'softer' elements of the service (litter control) are important. In rural areas innovation with regard to informal arrangements needs attention.
Roads	The declining quality of the roads network, particularly at levels 3 and 4 is extremely serious. This is the result of poor allocation of responsibilities and substantial under-funding.
Health services	There is confusion relating the allocation of responsibilities for primary health care between province, district and local municipalities. The service is generally under-provided in rural areas and this is a growing concern due to the spread of Aids .
Emergency services (incl fire)	These services are generally well suited to district scale management and new arrangements for improving coverage, particularly in rural areas, need attention. Province is taking increasing responsibility of emergency services.
Amenities	Many urban local authorities are spending substantial proportions of the their budgets on amenities, possibly as this is a high priority for councillors due to the visibility of amenities. In rural areas amenities are largely absent.

## Operating Costs

A summary of operating costs, separated for urban and rural conditions and with a range of service levels is given in the following table. They represent idealised budgets for different circumstances.

It should be noted that some of the figures in this table are speculative at this stage. The figures are based on the provision of residential services only at this stage. They are for operating costs only and do not include debt servicing. In the case of the basic services this will not change the situation much as the capital cost of this service is largely grant funded. However, as the service level increases the provision for debt servicing needs to increase.

Service	Average Cost (Rands per Household per Month)											
	Service Level - B1 (Urban) Type						Service Level - B4 (Rural) Type					
	Low		Moderate		High		Low		Moderate		High	
	R/m	%	R/m	%	R/m	%	R/m	%	R/m	%	R/m	%
Overheads	30	20%	40	13%	60	11%	50	36%	100	25%	150	21%
Water Supply	12	8%	27	9%	65	11%	15	11%	30	8%	50	7%
Sanitation	4	3%	35	11%	50	9%	6	4%	45	11%	80	11%
Electricity	25	17%	62	20%	150	26%	15	11%	88	22%	180	26%
Solid waste (incl streets)	15	10%	25	8%	35	6%	2	1%	15	4%	45	6%
Roads and stormwater	17	11%	20	6%	30	5%	20	14%	20	5%	20	3%
Health	15	10%	35	11%	75	13%	15	11%	35	9%	75	11%
Emergency services (incl fire)	5	3%	7	2%	10	2%	5	4%	15	4%	25	4%
Amenities	20	14%	55	18%	85	15%	10	7%	45	11%	70	10%
Other services	5	3%	8	3%	10	2%	2	1%	5	1%	8	1%
Total	148	100%	314	100%	570	100%	140	100%	398	100%	703	100%
Per capita figure (5 per hh)	30		63		114		28		80		141	
Per capita per annum (x12)	355		754		1368		336		955		1687	

Capital costs are dealt with under each sector in the full report.

### Key Issues Relating to Revenue

Key issues are summarised in the following table:

Overheads	Currently funded from rates income, equitable share and trading services surpluses. The current use of large proportions of equitable share funding to cover overheads, particularly in rural areas, is a major concern.
Water supply	Service in urban areas is generally funded from tariffs. In rural areas DWAF funds a large proportion of operating costs of large schemes. What little funding is raised for local retail activity is raised by communities themselves. The current political initiative to provide 'free water up to 6kl a month' is a concern from a sustainability point of view.
Sanitation	In urban areas funded through a mix of rates and tariffs. In rural areas largely un-funded.
Electricity	Costs covered by a mix of tariffs and national scale sectoral cross subsidies. With the restructuring of the sector the cross subsidy options is being reviewed, possibly to be replaced by a grant per household.
Solid waste	In urban areas either run as a trading service with tariffs or funded from rates account. Largely unfunded in rural areas.

Roads	In urban areas funded from rates account. In rural areas there is a serious lack of funding. Not only does the level of funding need attention but the mechanism needs review. At the moment funds flow through the province for rural roads but the province plays little direct role in providing roads.
Health services	This service is funded through a mix of provincial equitable share and local government rates account (75/25 split in Western Cape). In rural areas the province is typically sole funder. Funding levels and mechanism needs review.
Emergency services (incl fire)	Funded by province (medically related emergency service), RSC levies and municipal rates account. Needs attention.
Amenities	Certain amenities (libraries and museums for example) partially funded by province. Balance funded largely through rates account.

Capital funding issues are not dealt with here as this has not been part of the brief. However, the need for innovative new grant mechanisms needs to be stressed.

## 1 INTRODUCTION

### 1.1 Document Context

The Department of Provincial and Local Government (DPLG) have appointed Research Triangle Institute (RTI) to investigate options and make recommendations relating to local government financial reform in South Africa. Palmer Development Group (PDG) have been contracted by RTI to assist them with ‘Task 4’ which deals with the powers and functions of the various spheres of local government and with the costs and revenue options for each of the services provided by local government.

The input of PDG into the project has been divided into two components:

- A review of the activities of local government relating to each service or group of services they provide (sector review) (this document).
- Case studies of three district municipalities and 10 local municipalities within them. (3 separate reports).

The above two components of the work will form the basis for an analysis of revenue options, to be carried out by the RTI team.

### 1.2 Purpose of This Document

This document is intended to:

- Identify common issues faced by local governments both currently and after the new local authorities have been established.
- Investigate the *status quo* relating to individual sectors to determine the nature of services being provided, how they are run, their costs, and current arrangements for financing the service.
- Identify options for providing the services under the new local authority structures (powers and functions in the future).

This is a document is not aimed at making firm proposals. It is intended to provide background information and ideas which can be used in later phases of the project.

## 2 FACTORS AFFECTING VIABILITY OF MUNICIPALITIES

### 2.1 Identification of Factors

It is proposed that the following are the main factors affecting the viability of municipal services.

- a. Consumer profile (essentially the ratio between poorer and wealthier consumers)
- b. Strength of local economy.
- c. Settlement density.

- d. Capacity of the municipality (primarily management capacity).
- e. Existing service levels.
- f. Access to subsidies.

Each of these factors is discussed in the following sections.

## 2.2 Consumer Profile

Probably the strongest measure of the viability of a municipality is the mix of consumers it has to serve. The consumer profile can be represented by two indicators:

- *Ratio of non-residential to residential consumers:* businesses and institutions typically consume relatively large amounts of municipal services and have a high propensity to pay their bills. There is a high degree of variability in the ‘non-residential’ category as businesses, for example, range from small commercial operations to large industries. Therefore a better measure would be the relative consumption of a package of services. However, for the sake of simplicity, the relative number of consumers is used.
- *Ratio of high income to low income residential consumers:* The number of high income consumers (household income >R3 500 per month) to low income consumers (household income <R800 per month) is a good indicator of viability. The former group consume larger quantities of services and, assuming they pay their bills, generate greater income to the municipality per unit served.

## 2.3 Strength of the Local Economy

Possible indicators of economic strength are:

- Ratio of low income households to total number of households.
- Average household income
- Measures of ability to raise income from business:
  - Ratio of residential units to commercial and industrial units (probably difficult to get)
  - Volume of sales of water and electricity (often not available)
  - GGP per capita: can be obtained from Statistics South Africa; possibly only for current municipal boundaries;
  - RSC levies per capita; good indicator but applicable to district; figures generally not available at local level.

It is evident that there are overlaps with the ‘consumer profile’ viability factor. Nevertheless, some separate indicator of business activity has merit. If a single indicator was used to be used the RSC levy per capita is proposed.

## 2.4 Settlement Density

The national census identifies a range of settlement conditions. For the purposes of analysis for this study these categories have been simplified into the following types:

- *Urban:* Typically densities of >15 households per hectare, often higher in the business districts. Relatively large proportion of multi-story development.

- *Dense settlements*: Large settlement size (over 5 000 people). Densities generally above 10 households per hectare. Generally no business district.
- *Villages*: Settlement size in range of 5 000 to 500 people. Densities within settlements typically >2 households per hectare.
- *Scattered settlements*: Households in small groups. Density below 2 households per hectare; often much less . Little commercial activity
- *Farmland*: Low density (below 1 household per hectare). Associated with commercial farming activity.

## 2.5 Management Capacity

### 2.5.1 Current Situation (Local Councils)

In looking towards the future management options for service provision it is useful to understand the current situation. Presently capacity is located largely in the transitional local councils (TLCs) which are typically urban centres, although some of the TLCs have had substantial rural fringes incorporated into their boundaries in 1995.

The current capacity of TLCs is variable, with the size of the TLC being a key indicator: large TLCs have typically been able to attract high level staff and generate the income to enable them to pay such staff. There are obviously exceptions with lower than typical capacity relating to:

- *Homeland history*: where ‘apartheid’ government left many centres without the ability to retain good management.
- *Poor financial status*: of the local authority due to inability to raise income and hence pay high level staff competitive salaries. This is often related to consumer profile.
- *Rapid change*: leading to loss of morale and subsequent loss of staff.

It is helpful to assess management capacity under the following categories:

- *Support to councils*: With the large number of new councillors in local authorities after the 1995 elections a great obligation has been placed on senior officials to support these councils.
- *Planning and regulation*: This function requires highly skilled professional staff. Often smaller municipalities are not able to recruit such people.
- *Treasury*: Many of the recent failures of local municipalities relates to the failure of treasuries who have not had the ability to manage finances; carry out sound tariff setting, send out accurate accounts regularly; or carry out credit control.

- *Operation and maintenance:* If the money has been there to fund this activity the operation and maintenance of services in urban areas has generally been adequate, even in relatively small towns. The situation in rural areas is far worse.

### **2.5.2 Future Capacity of Local Municipalities**

The fact that it is in the TLCs where capacity is currently located that has probably been the main factor which has driven the new boundary demarcation process, where urban areas are being ‘attached’ to neighbouring rural areas in order to share capacity. The merit of this needs to be seen separately from the point of view of finance (ability to cross-subsidize) and management (ability to share management capacity). This section only deals with the latter.

The transition facing local municipalities typically means that existing (largely urban) management takes added responsibilities for surrounding rural areas. The extent to which this is successful depends primarily on the existing capacity of such authorities. If they are already stretched, which is often the case, adding greater responsibilities will probably mean a net decline in the quality of the services provided. Mitigating factors include:

- The possibility of sharing capacity between a number of urban centres within one new local municipality, if such a situation exists.
- Good design of new organisational arrangements which can optimize use of limited capacity.
- Access to support from district level.

### **2.5.3 Historic Situation with District Local Government**

Considering historic capacity, the district municipalities can be divided into three groups:

- Old Cape Province (excluding homelands) where divisional councils were established decades ago. These have traditionally had some service provider responsibilities which have been maintained as they evolved through regional services councils (RSCs) to present district municipalities.
- Former RSCs in what was the Orange Free State and Transvaal. These bodies were established in 1985 and did not serve homeland areas until their transformation to district councils in 1995. In their RSC guise they had no (or little) service provider function and acted primarily as a vehicle for channeling funds raised through levies on businesses to capital projects, often in former ‘black local authorities’ (urban areas attached to towns and cities but outside the homelands).
- Former joint services boards (JSBs) in KwaZulu/Natal: these are similar to the RSCs but were established to include the KwaZulu homeland areas.

### **2.5.4 District Local Government: 1995 to 2000**

After the 1995 local authority elections, new district municipality boundaries were drawn. Those district councils which had boundaries similar to old RSCs and JSBs and which did not

include former homeland areas continued to function much as they did in the past, again with little service provider activity but with some increase in management support to TLCs. At the other extreme there is a grouping of district councils with large proportions of their areas within former homelands. These councils have faced huge difficulties in that they have few strong TLCs in their areas, large service demands and little capacity. In the Northern Province there has also been a serious problem with boundary demarcation with one district, the Northern District Council, responsible for about 4 million largely rural people.

### ***2.5.5 District Municipalities in the Future***

For practical purposes it can be assumed that new district municipalities will start with little or no service delivery capacity. Some of them will have financial management capacity but typically this will not include systems to bill and manage payments from consumers. Some will have capacity to plan and enter into contracts for capital works, which has been the traditional business of their forerunners.

In fact it could be argued that new district municipalities will start a step back from where they are now as they will be faced with new boundaries and new relations with local councils.

It can be speculated that their position will be improved through the following:

- Better boundaries (primarily in the Northern Province).
- New urban centres within their boundaries (but in balance the net effect is obviously zero).
- Transfer of management from former TLCs.

With regard to this last option much will depend on where service provider capacity is to be located, something which is discussed in following sections.

## **2.6 Existing Service Levels**

For a municipality to be viable, it is essential that the services it provides are affordable to its consumers, within a given subsidy framework. If, as a starting point, no cross-subsidy within the municipality is assumed, this means that the level of service provided to a consumer must match their willingness to pay: poorer households can only afford lower service levels. Improved consumer profile (more higher income households and businesses) does allow for cross subsidy and options for providing the poor with higher service levels.

The current situation is that there are many local authorities which have a serious service level mismatch, meaning that consumers have been provided with a higher level of service than they can afford, taking the cross-subsidy capacity of the local authority into consideration. This situation has been driven by political factors both at national and local government level. Currently it remains common for service level decisions to be taken without an analysis of the financial implications of doing this.

## 2.7 Access to Subsidies

It is obvious that the viability of a local authority can be improved if subsidies – either capital or operating subsidies – are received from the national fiscus. However, this needs to be qualified in that:

- The subsidy must be dependable.
- There must be a sound local policy for allocating the subsidy.

At present neither of these pre-conditions is properly in place in South Africa. This aspect will be dealt with later in this study.

## 2.8 Classification of Local Municipalities

The relative proportion of urban to rural settlement is a good indicator for the six factors affecting viability identified above, as in general:

- Wealthier consumers (both households and businesses) are located in urban areas.
- Economic activity is typically concentrated in urban areas.
- Urban areas have relatively high settlement densities which makes them more economical to service.
- Existing management capacity is concentrated in urban areas.
- Service level issues are strongly linked to urban and rural contexts.
- Urban areas have traditionally been allocated greater levels of subsidy on a per capita basis. This relates partly to former policies and partly to ‘grantsmanship’ (skill in negotiating with central government).

Given the importance of the strength of an urban core as a viability indicator, it is proposed that this be used as a primary basis for classifying the new local (category ‘B’) municipalities. Four types of local municipality are proposed:

- a. Large town (>250 000 people) or small city as core (Type B1).
- b. Medium sized town (>50 000 people) as core (Type B2).
- c. Small town (<50 000 people) or group of small towns (Type B3).
- d. No town of any substance (very limited urban economy) (Type B4).

This approach of categorizing towns by population size has its shortcomings and should, ideally, be supplemented by a measures of the 6 identified viability factors. However, for the purposes of this study this simplified classification is used.

### **3 INSTITUTIONAL AND ORGANISATIONAL ISSUES ASSOCIATED WITH MUNICIPAL SERVICE PROVISION**

The term ‘institutional’ is taken here to mean the functions of organisations and the relationships between them. The term ‘organisational’ is taken to cover the arrangements within an organisation, including the structure of the organisation and internal functions.

#### **3.1 Authority vs. Service Provider Responsibility**

The current draft of the Municipal Systems Bill (Sept. 2000) identifies the function of service authority separately from service provider. The authority means ‘ the power of a municipality to regulate the provision of a municipal service by a service provider’. The provider is any ‘person or institution or any combination’ which actually provides the service to a consumer.

The Water Services Act is more specific about this split between service authority and provider but the basic tenet is the same.

Although it is not explicitly stated in the legislation, for this arrangement to be workable, it is necessary that there be a rule that there is only one service authority for any area for a particular service. This is the local authority which takes statutory responsibility for ensuring that the service is provided to the consumers in their area of jurisdiction. The authority could probably be different for different services but it would be better for the role to be unified for all services.

#### **3.2 Settlement Level Responsibility**

It could be argued that the new local government legislation takes local government further away from the majority of consumers as there are fewer local governments, with wider geographic areas of responsibility, and fewer councillors. This has two disadvantages:

- Accountability is reduced as there is less communication between council and consumers.
- For many services the actual service provision activity is often settlement bound, for three main reasons:
  - It is not viable for staff operating the system to travel to the settlement from elsewhere on a daily basis.
  - Many of the decisions relating to the service need to be taken at settlement level.
  - With smaller settlements the risks of running them from a remote location are high and, therefore, risk (with the associated responsibility) needs to be delegated to the settlement

In order to overcome some of the difficulties associated with remote local government, settlement level service provider options need to be considered. The best illustration of such an arrangement can be found in the water sector where village water committees take responsibility for operating the local system (including the collection of income sufficient to cover operating costs). In terms of the Water Services Act such committees, if constituted as legal entities, can be appointed as water services providers (WSPs). They are then referred to as community based water services providers or CBO type WSPs.

To date there has not been the need to consider non-municipal settlement level organisations in urban areas as the great majority of urban settlements have had their own local governments. However, in the future (post 2000) urban-centred settlement based service providers may need to be considered, based on models such as:

- Arrangements similar to those used presently in rural areas (*community based organisations* elected locally and appointed by local government as a service provider).
- *Area based management* which is an internal organisational arrangement with substantial delegation of responsibility to area (settlement based) management. Ways of structuring accountability of such management units separate from councils can be devised.

The second option is not strictly speaking a service provider option but it comes close to one.

### 3.3 Types of Service Provider

A range of service provider types can be identified:

- a. Municipal at the local level.
- b. Municipal at the district level.
- c. Provincial: Although currently rare this could occur where the province undertakes to provide a service which is, in terms of the constitution, a local government responsibility. It may be that some of the current arrangements, mostly in the health and transport sectors, where province appoints local government as an agent, could be reversed in future.
- d. National government: Department of Water Affairs and Forestry, for example, acts as the de facto water services provider for many schemes inherited from former homeland governments.
- e. Para-statals: Water boards and Eskom are widely used as services providers.
- f. Community-based organisations: The example of water committees has been quoted in the previous sub-section.
- g. Private sector organisations.

### 3.4 Split Responsibility

It has been mentioned that there cannot be split service authority responsibility for a particular service. This creates ambiguity and uncertainty.

With regard to service provision activities there are two styles of arrangements; *Style involving physical exchange of service*:  
For example:

- Bulk and retail water services.

- Solid waste collection and disposal (typically landfill).

If the municipalities are the service provider in both cases – say retail and bulk water – then the retailer (category B municipality) would be the authority and the bulk supplier (category C municipality) would have only a service provider function preferably under contract to the retailer.

### **3.4.1 Support Style**

An important style of split responsibility occurs where a local service provider (perhaps a category B municipality or a community based service provider) gets a support service from a regional body (say a category C municipality). This could be equated to a *franchise model* where the regional (supporting) body provides services such as:

- Project implementation.
- High level management expertise.
- Procurement.
- Major maintenance.

The local body focuses on the day to day running of the service, minor maintenance, and selling of the service to consumers (including the raising of income from consumers into its own account). This type of arrangement is discussed in more detail in the following section.

## **3.5 Internal Organisational Arrangements**

Although not strictly speaking part of the brief for this task, it is important to identify organisational options before dealing with the allocation of powers and functions. A number of different organisational styles are discussed below:

### **3.5.1 Centralised Service Provision Unit**

Under this option the entire service provider activity for a particular service is located at one point within the local authority boundary. This includes all management and operational staff. It may include assets, more typically movable assets, but this is not necessarily the case.

### **3.5.2 Centralised Management, Distributed Operations**

Under this style the management is located in one centre but operational staff (typically below professional level) are geographically distributed in various settlements.

### **3.5.3 Specialised Service Nodes**

In a local authority which has several obvious nodes (typically associated with larger settlements) a particular service could be run from certain nodes. This is essentially a type of centralised management option.

### 3.5.4 *Area (Settlement) Based Management*

In this case management is delegated to the lowest possible level and located in particular settlements which serve sub-areas of the local authority. There may be one centre where top management is located. Under this model top management would be responsible for high level tasks such as planning and monitoring.

### 3.5.5 *Separate Support Units*

There may be benefits to separating core activities from support activities. The latter could include treasury, vehicle and plant pool, workshops, and scientific (laboratory) services. Each of these support services can then be run as separate business units with area based service providers contracting the service from them. This promotes a bottom-up type of organisation with incentives for support service units to perform well.

The use of this type of arrangement could create an easy transition from existing arrangements, leaving the operations and management capacity in place in existing centres and sharing support activities within local municipal boundaries or even within district boundaries. It is most obviously applicable to the treasury function.

## 4 PRINCIPLES TO BE APPLIED IN RE-STRUCTURING LOCAL AUTHORITIES

### 4.1 Principles in Municipal Structures Act Revision

A revision currently proposed to the Municipal Structures Act identifies the following principles to be applied in allocating powers and functions to new local authority structures. The new structures should optimise:

1. *Access:* Equitable, efficient, affordable, economical and sustainable access to basic municipal services by all consumers.
2. *Delegation:* The placement of responsibility for providing the services as close as possible to the communities the services are meant to serve.
3. *Minimal cost:* Minimizing cost of services to consumers or customers.
4. *Economy of scale:* Achieving economies of scale in the delivery of services.
5. *Jurisdictional spillover:* Minimizing jurisdictional spillover.
6. *Maximum benefit:* Benefiting the greatest number of residents.
7. *Minimal disruption:* Causing the least disruptive effect on the delivery of services.
8. *Health and safety:* Promoting a safe and healthy environment.
9. *Efficient and accountable administration:* Promoting efficient, effective and accountable public administration.
10. *Co-operative government:* Promoting co-operative government.
11. *Equity:* Addressing the historical inequities in society.

### 4.2 Condensed Principles

The above list of principles is quite difficult to work with in comparing options and it is proposed that, for the purposes of this study they be condensed as follows:

1. *Access*: Service provision arrangements must promote maximum coverage of basic services to all, with an emphasis on the poor. (This contains the principle of equity. It also contains the principle of health and safety as the term ‘basic services’ is intended to provide for adequate public health and safety. Further, it also contains within it the principles of maximum benefit).
2. *Minimal cost*: Services should be provided at minimum cost. (This contains within it the principle of economy of scale).
3. *Management efficiency*: The organizational arrangements should provide for the most efficient management arrangements. (While the term ‘management’ is not in the proposed structures act revision it is proposed that it is a better word than ‘administration’. It is further proposed that efficiency and accountability should be dealt with separately. The principle includes the concept of delegation, as efficient management implies sound delegation of responsibilities. It is also held to include the principle of co-operative governance: if it is more effective for a service to be provided by provincial or national government then this option should be applied).
4. *Customer service*: Service provision arrangements should focus on providing the best possible service to customers, both those who currently use the service and those who are currently un-served. (This principle is missing from the Structures Act list, although the delegation principle in former list carries some customer service implication. However, it is proposed that this is a key principle and should stand on its own).
5. *Minimum disruption*: The arrangements should minimize the disruptions to the service. (As the municipal transition is really about institutional and organisational change, this principle implies minimizing change to systems that are working satisfactorily. This principle may seem like a relatively unimportant one, but the impact of change on the morale of organizations is in fact of great importance).
6. *Accountability*: Arrangements should promote an appropriate level of participation in decision making by consumers. (To some extent this implies customer service. However, in a local government context it implies more than this: consumers must be involved in decision making through their elected representatives. These representatives must then ensure that consumer preferences are taken into account in setting up and managing service providers, whether these be within local government or based on a partnership. It is assumed in this study that the principle of accountability includes that of jurisdictional spillover: greater accountability implies that your own local authority has control over the service provider serving you).
7. *Optimal cross-subsidy*: Financial arrangements should provide for optimum levels of cross-subsidy between rich and poor consumers. (This principle is not contained in the Structures Act list. However, it is perhaps the one which has the most impact on sustainability. If the cross subsidy levels are too high then higher income households and businesses move out, take political action or, in the case of businesses, under-perform).

It should be noted that ‘overall sustainability’ is excluded from this list as essentially it is a ‘catch all’ principle.

### 4.3 Interpreting the Principles

It is generally not possible to achieve a situation where all the principles can be applied fully. In general compromises need to be made. For example, achieving economies of scale (management efficiency) may well be contradictory with the principle of accountability, with managers being further removed from customers).

*Argument for larger areas of jurisdiction:* The new local government boundary demarcations seem to have been made largely with access and management efficiency principles in mind. Two potential benefits would seem to have been given priority: (1) the ability to cross-subsidize poorer rural areas from richer urban areas and (2) the ability to share management capacity, which typically has been located in TLCs. In doing this the principles of accountability and minimum disruption have been compromised.

*Cross-subsidy debate:* With expanding areas of jurisdiction the increase in cross-subsidy from urban core to rural periphery needs careful consideration. Overdoing this could lead to a crippling of nascent urban economies. Much depends on the relative scale of the urban economy in relation to the rural demand for services.

While it can be accepted that cross-subsidy occurs within local municipalities, the merit of doing this over a district is debatable. It is proposed here that, considering the scale of local municipalities and the inequity of consumer profiles across the districts in the country, that no district level cross subsidy should be undertaken. Subsidies should rather be applied nationally to each local municipality, as is conceived through the ‘equitable share’ arrangements.

## 5 MODELS FOR NEW MUNICIPAL ARRANGEMENTS

Based on the types of institutional arrangements identified and the principles to be applied, generic models for new local government structures have been identified as part of this study. The models are given in Tables 1 through 5, dealing separately with specific classifications of local municipalities, as described earlier in this report.

It should be noted that the rating of the applicability of the principles is done from the perspective of the local municipality concerned. The other local municipalities or the district may well have a different perspective on the principles. This conflict will have to be mediated within the new local government arrangements.

The definitions and codes used are described in the chart below.

Code	Description
B	Category B (local) municipality
B1	Category B municipality with a large town or small city as core.
B2	Category B municipality with a medium sized town as core.
B3	Category B municipality with a small town or group of small towns as core.
B4	Rural category B municipality with effectively no urban core.

Code	Description
C	Category C (district) municipality
L	Settlement level
WB	Water board
PG	Provincial government
a	<i>Service authority:</i> The ‘core functions’ of a local authority, including governance, regulation and planning.
p	<i>Service provider:</i> The organisation which actually provides the service and contracts with the consumer.
p1	<i>Retail service provider:</i> For many services the function can be split into bulk and retail services. Retail includes that part which requires the distribution of the service from a point of bulk supply (or bulk collection in the case of waste related services) to (or from) consumers.
p2	<i>Bulk service provider:</i> That part of the service which links the resource to the distribution (retail) service. This includes generation in the case of electricity, treatment in the case of water supply and wastewater and landfill in the case of solid waste services.
m	<i>Management:</i> Part of service provider activity: application of higher level skills to the overall running of a service.
o	<i>Operations:</i> Part of service provider activity: the day to day operation and maintenance of the service, generally accepted to be under the guidance of staff up to foreman level, and for the purposes of this analysis, excluding management.
s	<i>Support:</i> Also part of service provider activity but can be contracted out. Support services are taken to include services required on a month-to-month basis associated with providing a service but outside the core activity of a service provider: treasury, human resources administration, information systems, mentoring of lower levels of management and operations staff, major maintenance, vehicle workshops, procurement etc.

**Table 1:  
Models for a B1 Municipality**

Type	Description	Application	Applicability of Principles from B1 Perspective (Rating 1 to 5)	
BaBp	Local municipality is service authority and service provider. (Typical arrangement for current TLCs). Little or no role for C.	Most widely used model for all services. However, less suited to emergency services where wide coverage, beyond municipal boundaries is required.	Access	5
			Cost	5
			Management eff	5
			Customer service	5
			Disruption	5
			Accountability	5
			Cross-subsidy	5
CaBp	District municipality is service authority, local municipality is service provider.	Suited to a situation where a strong planning and regulatory role is seen for the C municipality. Generally not positive for the B as they lose autonomy. But may be suited for situations where the B is at the smaller end of the size range.	Access	4
			Cost	4
			Management eff	4
			Customer service	4
			Disruption	4
			Accountability	3
			Cross-subsidy	3
BaBp1Cp2	Situation where the district municipality undertakes to provide bulk service or services as it can best run a regional system.	May be applicable to water supply if there is a large regional scheme and no WB. Possibly, but less likely, to be applicable to wastewater services. Possible application to electricity although arguments for splitting bulk and retail thin. Some application in the case of solid waste service (C runs landfill)	Access	5
			Cost	5
			Management eff	4
			Customer service	5
			Disruption	4
			Accountability	5
			Cross-subsidy	4
CaBp1Cp2	In this case the local municipality runs the retail service only and is not the authority.	This model may be suitable for situations where there are obvious benefits to running bulk services at a regional scale and where a strong planning and regulatory role is seen for the 'C'. While it may be applicable for certain individual services, for combined services it is probably too fragmented.	Access	4
			Cost	3
			Management eff	3
			Customer service	4
			Disruption	3
			Accountability	3
			Cross-subsidy	2
CaCp	This model sees a strong role for the district municipality with no service provider role for the B, which becomes only representative.	The argument for this model would be to shift all the capacity in current TLCs to district level with a view to sharing capacity across the district. It may benefit the district periphery but it has major disadvantages for the core.	Access	2
			Cost	2
			Management eff	2
			Customer service	3
			Disruption	2
			Accountability	2
			Cross-subsidy	2
CaCpBo	Really a sub-set of CaCp but with operations capacity left in the B and management moved up to the C.	This could be applied where there are benefits to splitting management into a routine operational function and a higher level strategic function. It could be applicable to services such as primary health care and libraries.	Access	2
			Cost	2
			Management eff	3
			Customer service	2
			Disruption	2
			Accountability	2
			Cross-subsidy	2
<p><i>Summary:</i> In general, for a B1 (large town as core) situation, model BaBp is by far the most favourable for most services. The arguments for moving away from this relate primarily to the desire by districts and province to share the capacity of the existing TLCs over a wider area and cross subsidize from large town cores over the whole district. However, there are some management efficiency arguments to run some services at a district level. But it would be best to do this with the service contracted to the B as authority.</p>				

**Table 2:  
Models for a B2 or B3 Municipality**

Type	Description	Application	Applicability of Principles from B2/3 Perspective (Rating 1 to 5)	
BaBp	Local municipality is service authority and service provider. It is assumed that management is centralized in a single centre at B level.	Existing capacity in TLCs is combined into a single unit. Compared with B1 municipalities, the smaller towns have less management capacity to share across the B municipality. With the little capacity that there is centralized, accountability and efficiency are compromised.	Access	3
			Cost	3
			Management eff	2
			Customer service	2
			Disruption	2
			Accountability	3
			Cross-subsidy	2
CaBp	District municipality is service authority, local municipality is service provider.	This model offers benefits as the regulatory and planning capacity is better located at the C level where it can be shared from other parts of the district. From the service provision point of view it is similar to BaBp.	Access	3
			Cost	2
			Management eff	3
			Customer service	2
			Disruption	1
			Accountability	2
			Cross-subsidy	3
BaBp1Cp2 Cs	Situation where the district municipality undertakes to provide bulk services and support services to the B municipality. C is a service provider to B.	This model keeps the control and retail function at B level, still assuming a centralized B administration. But specialized support is provided by the C.	Access	3
			Cost	3
			Management eff	3
			Customer service	2
			Disruption	2
			Accountability	3
			Cross-subsidy	3
CaCp	This model sees a strong role for the district municipality with no service provider role for the B, which becomes only representative.	With all the authority and service provider functions located at the C level, consumers may benefit from the sharing of capacity across the district, particularly if the district has a large town or small city within it. However, it is not a good model from the point of view of accountability and customer service.	Access	2
			Cost	4
			Management eff	2
			Customer service	1
			Disruption	1
			Accountability	1
			Cross-subsidy	4
CaLp1Cp2 Cs	In this case the emphasis is placed on settlement level (local) service provider responsibility with regulation, planning, bulk & support from C	With retail services provider activity being closer to communities and local management supported by C municipality, this model promotes good customer service and accountability. The high level regulatory responsibilities support services are shared across the district.	Access	4
			Cost	3
			Management eff	5
			Customer service	5
			Disruption	4
			Accountability	4
			Cross-subsidy	3
BaLp1Bp2 Bs	Similar to the previous option but with the authority, bulk and support functions located in a centralised administration at B level.	This brings maximum local autonomy and does not rely on district level capacity. It could be a good model if the capacity of the current TLCs is relatively large. However, often there may not be the capacity at B level to provide the higher level regulatory, bulk and support activities.	Access	4
			Cost	4
			Management eff	4
			Customer service	5
			Disruption	5
			Accountability	5
			Cross-subsidy	2
<p><i>Summary:</i> From a B2 or B3 perspective the arrangements need to be considered internally and externally. Internally it is considered best for retail service provider capacity to be located at local (settlement) level, as far as possible. However, such service providers need to be backed up with a good support and bulk service function. Often this is best located at the C level as capacity can be shared across the district.</p>				

**Table 3:  
Models for a B4 Municipality**

Type	Description	Application	Applicability of Principles from B4 Perspective (Rating 1 to 5)	
BaBp	Local municipality is service authority and service provider. It is assumed that management is centralized in a single centre at B level.	The difficulty with this model is that there is currently little authority and service provider capacity in the local municipality. Typically it assumes building this from scratch into a centralized 'B' administration.	Access	2
			Cost	3
			Management eff	2
			Customer service	2
			Disruption	3
			Accountability	3
			Cross-subsidy	2
CaBp	District municipality is service authority, local municipality is service provider.	In relation to the BaBp model this starts to provide for some high skill capacity at the C level.	Access	2
			Cost	3
			Management eff	3
			Customer service	2
			Disruption	4
			Accountability	2
			Cross-subsidy	3
BaBp1Cp2 Cs	Situation where the district municipality undertakes to provide bulk services and support services to the B municipality. C is a service provider to B.	This model keeps the control and retail function at B level, still assuming a centralized B administration. But specialized support is provided by the C.	Access	3
			Cost	3
			Management eff	3
			Customer service	2
			Disruption	4
			Accountability	3
			Cross-subsidy	4
CaCp	This model sees a strong role for the district municipality with no service provider role for the B, which becomes only representative.	With all the authority and service provider functions located at the C level, consumers may benefit from the sharing of capacity across the district, particularly if the district has a large town or small city within it. However, it is not a good model from the point of view of accountability and customer service.	Access	2
			Cost	3
			Management eff	2
			Customer service	1
			Disruption	3
			Accountability	1
			Cross-subsidy	4
CaLp1Cp2 Cs	In this case the emphasis is placed on settlement level (local) service provider responsibility with regulation, planning, bulk & support from C	With retail services provider activity being closer to communities and local management supported by C municipality, this model promotes good customer service and accountability. The high level regulatory responsibilities support services are shared across the district.	Access	4
			Cost	4
			Management eff	5
			Customer service	5
			Disruption	4
			Accountability	4
			Cross-subsidy	4
BaLp1Bp2 Bs	Similar to the previous option but with the authority, bulk and support functions located in a centralised administration at B level.	This brings maximum local autonomy and does not rely on district level capacity. It could be a good model if the capacity of the current TLCs is relatively large. However, often there may not be the capacity at B level to provide the higher level regulatory, bulk and support activities.	Access	4
			Cost	4
			Management eff	3
			Customer service	5
			Disruption	3
			Accountability	5
			Cross-subsidy	2
<p><i>Summary:</i> The conclusions in this regard are similar to that for B2. With regard to the internal arrangements, a strong preference is indicated for services provider activity to be delegated to settlement level as far as possible. However the extent to which this is done is strongly dependent on the type of service. With regard to higher level skills, these are typically absent at B level currently. It then becomes more obvious that these should be shared across the district, at C level.</p>				

**Table 4:  
Organisational Arrangements for ‘Big 5’ Municipal Services**

Service	Description	Favoured Model For:			Rationale
		B1	B2/3	B4	
Water supply	There are a variety of situations ranging from small local schemes, to large regional schemes. A feature of water supply arrangements is that there is often considerable settlement level activity.	Ba Bp	Ca Lp1 Cp2 Cs	Ca Lp1 Cp2 Cs	For a B1 municipality they have traditionally had the capacity to run their own systems, with or without bulk services. For B2 and B3 there is a strong argument for retaining as much service provider responsibility as possible a settlement level but backing this up with support at C level (or possible B level in the case of B2)
Sanitation	The sanitation service has different requirements for reticulated waterborne systems, on site sanitation and the ‘soft’ promotion elements.	Ba Bp	Ca Lp Cs	Ca Lp Cs	The rationale for the favoured models is similar to that for water supply. However, there is typically less argument for splitting the retail and bulk activities in B2 and B3 situations.
Electricity	In comparison to water supply, electricity is relatively easily managed as generation does not need to be considered and sales are more easily managed.	Ba Cp	Ca Cp	Ca Cp	Electricity models are strongly dependent on the findings of the current sector re-structuring initiative where REDs are being considered. However, it is likely that regional systems will be favoured, hence the Cp options given here. However, in B1 situations it is not certain that they will give up either or both of their authority and provider functions.
Solid Waste	The service can be considered separately from a collection and disposal (landfill) perspective. It also needs to be recognised that for smaller settlements informal arrangements will be required if the service is to be affordable.	Ba Bp 1 Bp 2	Ca Lp1 Cp2	Ca Lp	In all cases it is likely that collection (p1) activity should be located at settlement level. However, there may be circumstances where two places are close enough together to share vehicles. From the landfill point of view there are merits to both Bp2 and Cp2 options. However, district responsibility may have the edge. For rural settlements there is little argument to split service provider activity.
Roads	The roads system has a hierarchical nature and is suited to responsibilities matching the geographic hierarchy of government structures. In a local govt. context, ‘retail’ can be considered to be settlement level roads and ‘bulk’ district level roads.	Ba Bp 1 Cp 2	Ca Lp1 Cp2 Cs	Ca Lp1 Cp2 Cs	There are sound arguments for a strong district level roads authority and service provider to take responsibility for the district roads network. Local (settlement level) roads should have routine maintenance done locally. However, support from a district level unit will be important for major maintenance of settlement level roads in smaller settlements.

**Table 5:  
Organisational Arrangements for Other Municipal Services**

Service	Description	Favoured Model For:			Rationale
		B1	B2/ B3	B4	
Traffic and transport	Most traffic control functions are local level activities such as traffic control and regulation, vehicle licensing, and taxi ranks. Very few local authorities provide effective public transport	Ca Bp Cp2	Ca Cp2 Bp1	Ca Bp 1 Cp 2	These services are divided into those services, such as traffic control and taxi ranks, for which all except the smallest towns could assume provider responsibility. The more complex functions, such as public transport and vehicle licensing, could benefit from economies of scale and district level provision.
Primary health care	This consists of the operation of primary health care clinics, as well as other non-clinic health services such as health education, AIDS awareness, and others.	Ca Cp2 Bp1	Ca Cp	Ca Cp	Health care is a complex service requiring technical and managerial oversight. It is likely that only the large towns will have the capacity to provide this service themselves. In the smaller towns and rural areas the district will be best placed to provide both the 'hard' and 'soft' health care services. Provincial and national government will also have an important support and funding role.
Emergency services	Fire and emergency response is the main function, as well as ambulance services in some cases. Fire prevention is also an important area as is disaster management.	Ca Cp	Ca Cp	Ca Cp	These services are best provided at a district scale. There are large economies of scale and the services do not generally require settlement level or local management to a large degree. There are successful examples of private sector providers being contracted at a local and district level.
Community services (1)	For management purposes community services can be divided into those that can be provided regionally and those which can be provided locally. Regional services include libraries, cemeteries, museums, and regional sports facilities.	Ca Cp	Ca Cp	Ca Cp	By definition there are community services that can service a wide area or that can best be centrally provided. Although the large urban areas could provide these services, because of their regional character it is probably preferable to centralise the authority and provision of these services.
Community services (2)	Local community services include parks and local sportsfields, creches, and community halls.	Ba Bp	Ba Lp	Ba Lp	By definition these services are able to be provided and managed at the local municipality or even the settlement level. These services are meant to support community cohesion and local level needs and should be provided at the most local level possible.
Local economic development	Local government is meant to have a developmental focus including the development of the local economy. Possible activities include tourism promotion, small business centres, etc.	Ca Bp1 Cp2	Ca Bp1 Cp2	Ca Cp	The district should assume high level planning functions and district-wide LED functions and support. In municipalities with the capacity the actions required may be able to be provided locally, but rural municipalities will typically have inadequate capacity.

## 6 GENERIC ISSUES ASSOCIATED WITH REVENUE

*Note:* it is not part of the PDG terms of reference to gather detailed information on revenue sources. This is being done by other team members. However, an indication of the range of revenue options, at a broad level, is give below.

### 6.1 User Charges (Tariffs)

This is fairly well understood for trading services. For other services the options for charging consumers for the service are sometimes not certain.

### 6.2 Property Rates

At the moment this applies primarily in urban areas and is an important source of revenue for covering overheads of local councils as well cost of providing roads and a range of minor services. The possibility also exists of levying rates on commercial farmland, which will now fall within local municipality boundaries.

### 6.3 RSC Levies

RSC levies are a levy on businesses based on their turnover and wage payments. The levy was introduced in 1985 as a way of funding capital projects primarily in the former black local authority areas. Recently they have been used to cover operating losses in some TLCs.

The levy is raised by the district municipality (metro councils in the case of metros) and they distribute it to projects. There is evidence of urban bias in the case of districts with large rural populations. This is shown in the accompanying case studies.

### 6.4 National Capital Grants

There are a number of national grants relating to infrastructure support. This includes the housing grant, the consolidated municipal infrastructure programme (CMIP), community water supply and sanitation (CWSS) grants, and land and public works grants. The situation with other sector related grants is less certain (for example clinic building).

### 6.5 National Operating Grants (Primarily the Equitable Share Grant)

The general impression, borne out in the case studies, is that the equitable share allocations are:

- a. Falling way below the expectation of local authorities.
- b. Seldom applied to basic service delivery.

With regard to other inter-governmental grants (IGGs) the most notable is that applied to former 'R293 towns'. This is a grouping of towns which were formerly located in the 'homelands', often constructed the border with formerly 'white' South Africa opposite an established town. These have been categorized by government at the time as 'R293 towns'. They received a high service level but little income was collected from users and they therefore became a financial burden to the former 'homeland' governments. This burden has

been passed on the current national government which has continued to apply a ‘special’, unstructured operating subsidy to these areas.

## **7 WATER SUPPLY**

### **7.1 Provisions of the Water Services Act**

The Water Services Act introduces a distinction between a water services authority (WSA) and water services provider (WSP). It is the WSA which takes statutory responsibility for providing services. The WSP is the entity which delivers the service and, strictly speaking, collects the money. In a traditional municipality both functions are performed by the same organization but the WSA function can be seen as the council acting with the town clerk’s department while the WSP function is undertaken by the water supply department.

If the WSP function is contracted out there is a clear division between WSA as representative of the interests of the community and as regulator and the WSP as the body which delivers the service.

### **7.2 Who is the Water Services Authority?**

In considering the allocation of the WSA function between local (B) and district (C) category municipalities, there is currently little to go on and, unfortunately DWAF has not provided any guidance in this regard. One thing seems clear: there can only be one WSA. Making both the local and district municipality a WSA would be extremely unwise as then there is no clear responsibility as to who carries statutory responsibility for providing the service to consumers.

It seems advisable for the WSA function to be delegated to the level where there is the greatest capacity to undertake the responsibilities. This implies that high capacity local municipalities could be WSAs. For the rest the WSA function would rest with the district municipality.

The other option of ‘wall-to-wall’ district municipalities as WSAs is conceptually neat but the situation of a relatively low capacity district municipality (most will not have much capacity) regulating a high capacity local municipality would be unworkable.

### **7.3 Water Services Provider Options**

In the water sector there are a range of water service provider options:

- Municipality itself (either local or district)
- Water board, typically, but not exclusively, for bulk infrastructure.
- Community based organization, often best for local schemes.
- Private company on a lease or concession contract.

#### **7.3.1 Current Situation**

For urban areas the most common situation currently is that the WSP will be the former TLC (new category B local municipality). If this has been viable it is unwise to change it.

However, the new demarcations mean that in many cases the town will inherit a larger rural periphery than it had before. In these cases capacity will be stretched.

For rural areas the most appropriate approach has been to use community based WSPs for smaller settlements (<5 000 people). However, relatively few of these have been formally established. For larger (dense) settlements there is no commonly accepted best practice and it is likely that local government will have to undertake the service provider role. This will represent a major expansion of their activities as, in most cases, these settlements are seriously under-managed at present.

### **7.3.2 *Role of Water Boards***

Water boards are bulk suppliers, traditionally to large urban centres but they have been taking on greater responsibility in rural areas (with some retail). Some boards also provide a bulk wastewater service.

The overall viability of many of the water boards is declining at present as they move from their traditional role as large scale bulk water supply.

## **7.4 Management Arrangements**

### **7.4.1 *Medium or Large Town as Core***

Urban systems are often straightforward, particularly with a large town as the core. The towns have traditionally managed the complete system, including bulk supply arrangements where there is no water board. All staff, bar operating staff at a remote treatment works, would be located within the town and the scale of the operation allows for formal employment contracts to be used. Management is within easy range of staff they have to manage.

### **7.4.2 *Small Town as Core***

In this case the viability of the core is less certain. Ability to manage bulk systems is probably reduced to operating activities only. Here split responsibility needs to be considered, perhaps with a district municipality providing a bulk service and support function.

There will also be many local municipalities with a number of small towns (former TLCs) within the municipal boundary. Appropriate management arrangements will need to be made to coordinate service delivery across these settlements. In many cases an area based provider approach will make the most sense from a management perspective, although some functions may be able to be shared across the local municipality (such as planning).

### **7.4.3 *No Town as a Viable Core***

In this case there is probably a strong role to be played by settlement based organizations. They need support with high level activities and the big question is whether this should be provided by local or district municipalities. Assuming that district municipalities have the greater capacity, support should come from them. The local municipality will thus have no role to play, other than one of representation.

#### **7.4.4 *Split Responsibility Options - Small Town and 'No Town' Options***

The option of dividing responsibilities between the local and district municipality may also be viable in some instances. Local municipality (for urban settlements) and settlement based organizations (for rural settlements) would manage distribution (including retail relationship with consumers) and local bulk systems. This involves managing:

- Operating (including minor maintenance) staff
- Meter reading and pay points
- Managing local account

Bulk system (schemes) and support services would be provided by district municipalities who would provide:

- Support
  - Management (including planning and mentoring)
  - Major maintenance staff
- Schemes for bulk water supply (excluding local sources)

#### **7.5 Technical Options**

The delegation of powers in the case of water supply is strongly linked to the technical options which are applied to supply water. The following range of options can be identified:

- Non-reticulated sources (wells, boreholes or springs with pumps – often hand pumps – but no reticulation).
- Local sources (such as a borehole or river) serving only one settlement or group of settlements.
- Local schemes where the scheme serves several settlements relatively far apart. Typically the source would be a river, and treatment works would be included.
- Regional schemes where the bulk supply arrangement covers a wide area, typically crossing local authority boundaries.

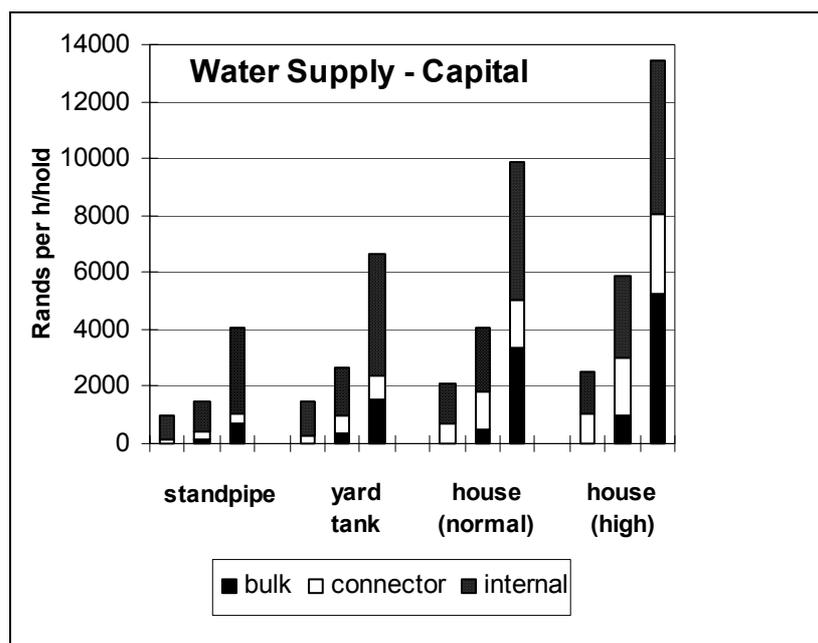
These options are important when considering the allocation of powers. In the case of water supply it is generally best for the infrastructure to be managed locally if this is possible. However, once larger bulk schemes are required greater capacity is required and the bulk system, at least, could be managed at district level either by a municipality or a water board or some other large WSP.

## 7.6 Costs

### 7.6.1 Capital Costs

A comprehensive analysis of costs was carried out for the second national municipal infrastructure investment framework, in 1997. The results from this analysis have been updated to year 2000 cost levels and are summarized in Figure 1 and Table 6.

**Figure 1:**  
**Capital Costs of Water Services in Urban Areas**



**Table 6:**  
**Capital Costs of Water Services in Urban Areas (Rands/Household)**

	Cost Range	Bulk	Connector	Internal	Total
Standpipe	low	0	144	840	984
	medium	132	276	1080	1488
	high	696	360	3000	4056
Yard Tap	low	0	300	1200	1500
	medium	384	600	1680	2664
	high	1560	792	4320	6672
House Connection (normal use)	low	0	672	1440	2112
	medium	480	1320	2280	4080
	high	3360	1680	4800	9840
House Connection (high use)	low	0	1080	1440	2520
	medium	960	2040	2880	5880
	high	5280	2760	5400	13440

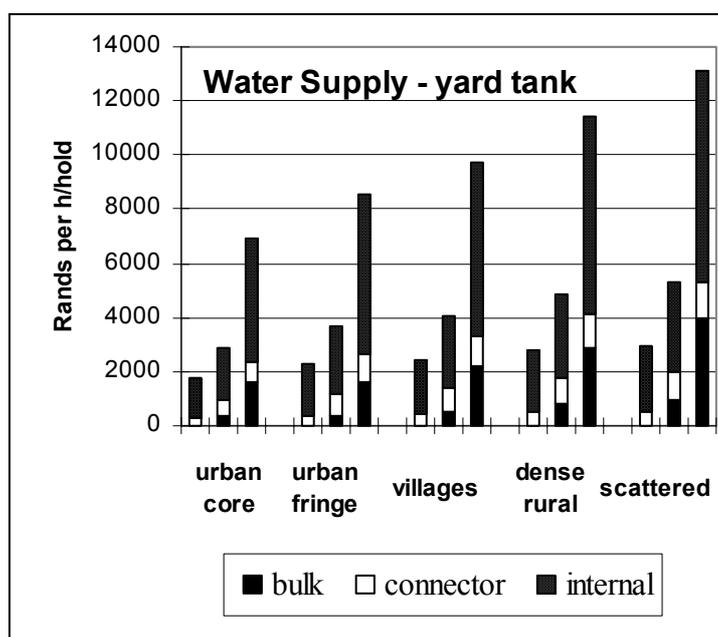
The table gives average costs in urban areas for each of the typical service levels applied and the range of costs which can be expected. The costs are divided between bulk, connector and internal infrastructure and are typically those costs that would be borne by local government.

An important issue driving costs of water provision is the settlement type, with less dense settlements tending to have correspondingly higher costs of provision. Table 7 indicates the kind of variability that can be expected in the provision of water services. It shows the range of costs that can be expected for the provision of the same level of service, a yard tank, in different types of settlements. The same figures are shown in Figure 2.

**Table 7:  
Capital Costs for a Yard Tank in Different Settlement Types (Rands/Household)**

	<b>Cost Range</b>	<b>Bulk</b>	<b>Connector</b>	<b>Internal</b>	<b>Total</b>
Urban Core	Low	0	302	1440	1742
	Medium	360	618	1920	2898
	High	1585	807	4560	6952
Urban Fringe	Low	0	391	1872	2263
	Medium	360	805	2496	3661
	High	1585	1051	5928	8564
Dense Rural	Low	0	420	2016	2436
	Medium	504	863	2688	4055
	High	2219	1124	6384	9728
Villages	Low	0	484	2304	2788
	Medium	780	991	3072	4843
	High	2853	1295	7296	11445
Scattered Settlements (incl farms)	Low	0	519	2448	2967
	Medium	960	1049	3264	5273
	High	3963	1369	7752	13084

**Figure 2:**  
**Capital Costs for a Yard Tank in Different Settlement Types**



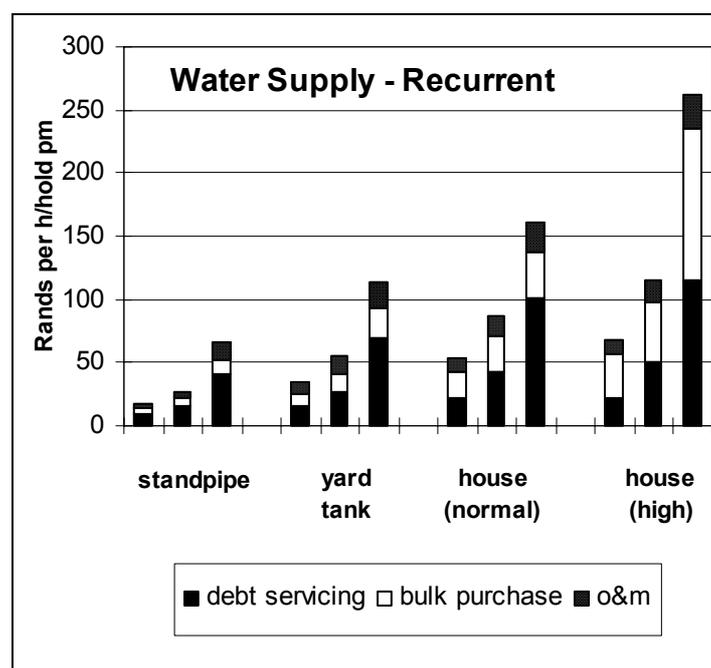
### 7.6.2 Operating Costs

It is important to differentiate between costs incurred locally from those associated with higher level activities such as major maintenance planning and regulatory costs. An indication of recurrent costs, drawn from the municipal infrastructure investment framework, is given in Table 8 for various levels of service provision in an urban setting. The same figures are represented in the graph in Figure 3.

**Table 8:**  
**Recurrent Costs of Water Provision (Urban, Rands/Household/Month)**

Service Level	Cost Range	Debt servicing	Bulk purchase	O&M	Total
Standpipe	low	10	4	4	17
	medium	15	6	6	27
	high	42	10	14	66
Yard Tap	low	15	10	10	35
	medium	27	13	14	55
	high	69	24	22	114
House (normal use)	low	22	22	11	54
	medium	42	29	16	86
	high	101	36	24	161
House (high use)	low	22	36	11	68
	medium	50	48	17	115
	high	115	120	26	262

**Figure 3:**  
**Recurrent Costs of Water Provision (Urban, Rands/Household/Month)**



As with capital costs there is significant variability by settlement type. This is shown by the comparative recurrent costs for a yard tank in various settings (see Table 9).

**Table 9:**  
**Recurrent Costs for a Yard-Tank in Different Settlements (Rands/Household/Month)**

	Cost Range	Debt Servicing	Bulk Purchase	O&M	Total
Urban Core	Low	15	8	8	30
	Medium	25	11	12	47
	High	60	19	17	96
Urban Fringe	Low	19	8	8	35
	Medium	31	11	12	54
	High	73	19	18	111
Dense Rural	Low	21	8	8	37
	Medium	35	11	13	58
	High	83	19	18	121
Villages	Low	24	8	10	42
	Medium	42	12	14	67
	High	98	21	20	139
Scattered Settlements (incl farms)	Low	25	9	12	47
	Medium	45	13	16	74
	High	112	23	22	157

## 7.7 Revenue Options

In urban areas water services are currently financed by local authorities through income received from consumers of the service. DWAF has established tariff guidelines which contain principles for tariff setting. The most common approach at the moment is a rising-block tariff, with the lowest block equal to the recurrent costs of supply. However tariffs consistent with this approach are not yet applied in all areas.

A constraint to cost recovery is that not all residential consumers have water meters, and in some cases there are failures of water meters or of meter reading and billing functions. High levels of non-payment remain an issue of concern – some of this non payment is structural (i.e. consumers have been provided with service levels that they cannot afford), while some is related to poor billing and enforcement.

In the case of water supplied through communal standpipes generally a component of the rates and services bill will be meant to cover water costs. In some case pre-paid water meters have been installed at standpipes which control water dispensing by means of an electronic key.

In the larger urban areas there is generally the scope for cross-subsidisation across the water account from high income and non-residential consumers to lower income consumers. However there are limits to the scope of local or district level cross-subsidies, particularly in the case where urban areas have large rural hinterlands included in their new local municipality, or where the urban areas themselves have only marginally viable water supply services. There are clearly upper limits to water charges for high income and commercial and industrial consumers.

In rural areas what little funding is raised for local retail activity is raised by communities themselves. When settlement level water supply providers are part of the local municipality water supply system an appropriate financial arrangement of both subsidies and revenue collection will need to be developed.

### 7.7.1 *Subsidies for Water Supply*

#### *Capital Subsidies*

At the level of bulk water supply in urban areas the CMIP funds municipal water supply infrastructure projects. A portion of the housing subsidy is also often used for internal water connections. In rural water supply the CWSS provides grants for bulk, connector and internal infrastructure.

#### *Operating Subsidies*

In rural areas DWAF funds a large proportion of operating costs of large schemes. A portion of the equitable share grant is also meant to support water services but it is not certain that this grant is always used appropriately.

There is currently some discussion on the possibility of the free provision of 6kl of water per household per month. The mechanism of this subsidy is unclear at present. If the financial burden of this subsidy is expected to be borne by local government it raises concerns about the financial sustainability of municipal water services.

A possible option with regards to domestic water subsidies is the introduction of demand side subsidies where poor consumers are provided with water coupons. This would allow the subsidy to be transparent, funded from the national fiscus, and well targeted.

## **8 SANITATION**

### **8.1 What is Included?**

In terms of the Water Services Act the term ‘sanitation services’ refers to the collection, removal, disposal or purification of human excreta, domestic wastewater, sewage, and effluent arising from the use of water for commercial purposes. There are problems with this definition both in terms of the wording and in that it leaves out industrial effluent. This report is not the place to address the former problem but it is necessary to add industrial effluent for the purposes of this study: municipalities typically collect industrial effluent in common sewer reticulation systems and treat it as a combined flow.

The above definition of sanitation services deals primarily with technical aspects. However, it is important to note that there is an important ‘soft’ element to sanitation services. These include the elements of sanitation promotion and the link to primary health care activities.

### **8.2 Policy and Legislation**

Sanitation services are included as part of water services and are covered under the Water Services Act which has been described briefly in Section 0.

With regard to policy, sanitation is also included under the White Paper on Community Water Supply and Sanitation which was published in 1994. Policy with regard to sanitation was taken further with a Draft White Paper produced specifically for sanitation in 1996.

Sanitation policy has evolved separately for urban and rural areas. This relates to the historic situation where sanitation in urban areas has been equated with the ‘full waterborne’ level of service which has been provided to consumers as a part of a package of municipal services. In contrast sanitation in rural areas has been largely neglected historically and initiatives to provide sanitation services have been driven primarily by NGOs with the favoured technical option being a ventilated improved pit (VIP) latrine.

The funding arrangements in urban and rural situations have also been different:

- In urban areas capital finance has been provided together with housing finance and related combined infrastructure grants. Operating finance has been raised largely through tariffs or property rates.
- In rural areas capital finance has been left to the individual households, although in 1997 a sanitation specific subsidy of R600 per household was introduced. However, while this

subsidy remains applicable in principle it has not been matched with adequate budget allocations to make it effective. Therefore the *de facto* situation remains that rural households need to finance their own latrine costs. This may change if proposed new combined infrastructure grants are introduced.

### 8.3 Who is the Sanitation Services Authority?

The situation with sanitation parallels that with water supply. In terms of legislation it is not possible to separate the authority function for water supply and sanitation.

### 8.4 Relationship Between Province and Local Government

As with water supply, the provincial government does not have a direct role to play with regard to sanitation services, other than supervising municipalities. However, they can play an indirect role in promoting sound sanitation practice, through the primary health care system.

### 8.5 Technical Options

There are a fairly well defined and understood hierarchy of sanitation service levels:

- *Basic level*: ventilated improved pit latrine or equivalent.
- *Intermediate level*: simple water borne sanitation systems, including shallow sewers and septic tanks.
- *High service level*: full waterborne sanitation (fully sewerred systems).

At the basic level there is no reticulation system although there needs to be an arrangement to empty pits in all but the most scattered settlements. (In the latter case householders typically rebuild their privies over a new pit).

For sewerred options there are various technical options for treating the wastewater flow. These range from simple pond systems, applicable to small settlements, to large and complex activated sludge treatment works.

Although not strictly ‘technical’ the soft elements of sanitation are an essential part of the service. Primarily this includes a sanitation support service which involves:

- Stimulating demand for sanitation services.
- Promoting sound practice with regard to the way water supply and sanitation systems are used.
- Promoting sound household hygiene practice.
- Educating children at schools.
- Promoting school and clinic sanitation improvement.
- Running toilet building programmes.
- Training small builders in toilet construction techniques.

The softer elements of the sanitation service become more important in rural and peri-urban areas.

## 8.6 Service Provider Options

In urban areas sanitation services have traditionally been provided by municipalities which run both the retail (collection) and the bulk (transfer, treatment and return) service. There have been some situations recently where the sanitation service has been taken over by private companies. The best known examples of this are the concession contracts entered into with Nelspruit and Dolphin Coast municipalities. There is also a trend towards the ‘corporatisation’ of the service, together with water supply. For example, Johannesburg metro is setting up a utility to run its water supply and sanitation service.

In the case of bulk sanitation services in urban areas there is more variety. Certain water boards run wastewater treatment works (for example, Umgeni Water runs the Darvill works for Pietermaritzburg). There is also an example on the East Rand in Gauteng of a regional utility (ERWAT) running the bulk wastewater system for several neighbouring municipalities.

In rural areas the situation is somewhat different. The technology used is generally simple with most people using pit latrines. The drive at the moment is to facilitate the improvement of these latrines to ventilated improved pit (VIP) latrines. Local authorities have a role to play here as facilitators, and in running pit emptying programmes. However, in fact much of the promotion activity is undertaken by national government and NGOs (notably Mvula Trust).

With regard to promotion activity the current approach is for this to be handed to district municipalities and efforts are being made to build their capacity to do this.

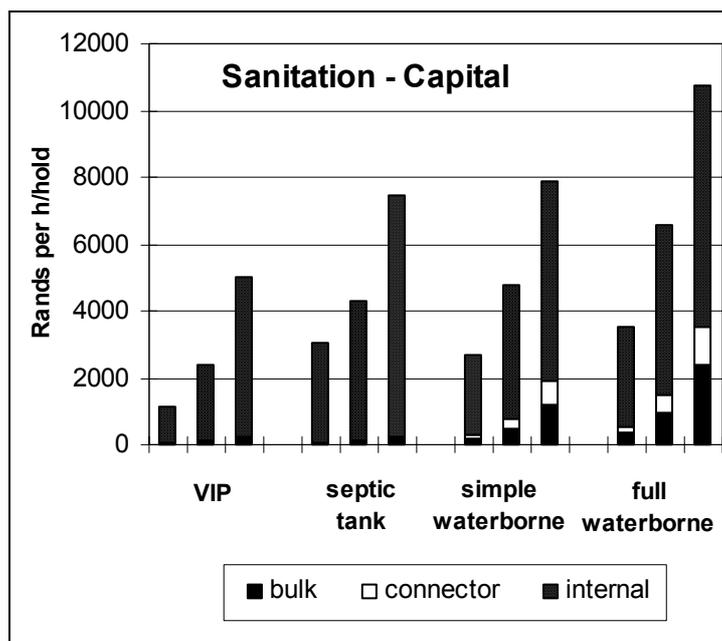
### 8.6.1 *Splitting Retail and Bulk Services*

At present in South Africa most of the wastewater systems are ‘vertically integrated’ in that the service is run by the same organisation from consumer to resource. Some exceptions have been mentioned above: ERWAT and some water boards run only bulk services. The one argument for splitting the service is where a number of local authorities discharge wastewater to shared works. However, particularly with new and wider local authority boundaries this situation will be less likely to occur. In general the arguments favour vertical integration.

## 8.7 Costs

### 8.7.1 *Capital Costs*

As with water the cost analysis carried out for the second national municipal infrastructure investment framework updated to year 2000 cost levels have been used to provide typical costs of sanitation service provision. The capital costs (low, medium and high estimates for four service levels in an urban setting) are summarized in the following graph and Table 10.



**Table 10:**  
**Capital Costs for a Various Sanitation Service Levels in Urban Areas**  
**(Rands/Household)**

Service Level	Cost Range	Bulk	Connector	Internal	Total
VIP	low	60	0	1080	1140
	medium	120	0	2280	2400
	high	240	0	4800	5040
Septic Tank	low	60	0	3000	3060
	medium	120	0	4200	4320
	high	240	0	7200	7440
Simple Waterborne	low	180	108	2400	2688
	medium	480	300	4020	4800
	high	1200	684	6000	7884
Full Water Borne	low	336	204	3000	3540
	medium	960	540	5040	6540
	high	2400	1140	7200	10740

As with other services there is significant variability in cost by settlement type. With sanitation for the higher level waterborne services the increase in costs associated with providing the service to dispersed settlements and households can become prohibitive. This is shown in Table 11.

**Table 11:  
Capital Costs for Simple Waterborne Sanitation in Different Settlement Types  
(Rands/Household)**

Settlement Type	Cost Range	Bulk	Connector	Internal	Total
Urban Core	low	180	108	2400	2688
	medium	480	300	4020	4800
	high	1200	684	6000	7884
Urban Fringe	low	180	140	3120	3440
	medium	480	390	5226	6096
	high	1200	889	7800	9889
Dense Rural	low	252	151	3360	3763
	medium	672	420	5628	6720
	high	1680	958	8400	11038
Villages	low	324	173	3840	4337
	medium	864	480	6432	7776
	high	2160	1094	9600	12854
Scattered Settlements (incl farms)	low	450	184	4080	4714
	medium	1200	510	6834	8544
	high	3000	1163	10200	14363

### 8.7.2 Operating Costs

Recurrent costs show a similar trend to capital costs. These are shown for the various settlement levels in Table 12 below. In Table 13 the differences in recurrent costs associated with providing services in various settlement types are shown. Again these figures have been updated from the municipal infrastructure investment framework analysis. Again, the high cost estimates of recurrent costs at the infrastructure level shown (simple waterborne) will be well beyond the ability to pay of most consumers in rural areas.

**Table 12:  
Recurrent Costs of Various Sanitation Service Levels in an Urban Area  
(Rands/Household/Month)**

Service Level	Cost Range	Debt Servicing	Bulk Purchase	O&M	Total
VIP	low	10	0	1	11
	medium	21	0	4	25
	high	43	0	3	46
Septic Tank	low	26	0	1	27
	medium	37	0	8	45
	high	64	0	3	67
Simple Waterborne	low	23	0	27	50
	medium	41	0	35	76

Service Level	Cost Range	Debt Servicing	Bulk Purchase	O&M	Total
	high	68	0	53	121
Full Water Borne	low	25	0	26	51
	medium	47	0	35	82
	high	77	0	55	132

**Table 13:**  
**Recurrent Costs for Simple Waterborne Sanitation in Different Settlement Types**  
**(Rands/Household/Month)**

Settlement Type	Cost Range	Debt Servicing	Bulk Purchase	O&M	Total
Urban Core	low	33	0	39	72
	medium	59	0	50	110
	high	97	0	76	174
Urban Fringe	low	43	0	41	83
	medium	75	0	53	128
	high	122	0	80	202
Dense Rural	low	46	0	43	89
	medium	83	0	55	138
	high	136	0	84	220
Villages	low	54	0	51	104
	medium	96	0	66	162
	high	159	0	99	258
Scattered Settlements (& farms)	low	58	0	56	115
	medium	106	0	73	179
	high	177	0	111	288

## 8.8 Revenue Options

In urban areas sanitation services are currently financed by local authorities through income received from consumers of the service. The options most widely applied are:

- Fixed monthly charge with no variation between residential consumers.
- Fixed monthly charge with variation between residential consumers based on location, plot size or number of toilets.
- Funded from property rates income.

There are strong arguments in favour of flow based charges, with flows estimated from water consumption figures. This is promoted as an option in draft regulations published by the Department of Water Affairs and Forestry (DWAF) and it is consistent with tariff policy of the Department of Provincial and Local Government Affairs. However, currently it is not widely applied in South Africa for residential consumers. There remains a school of thought (driven by the Cape Town director of finance) that sanitation services should be funded from the rates account.

In rural areas households cover their own costs, however, the promotion service is grant funded largely from DWAF budgets.

### **8.8.1 Subsidy Arguments**

Sanitation services have a strong public benefit component to them. It is generally considered that this benefit is brought substantially in the first step of upgrading: from an unimproved pit to an improved pit or other ‘on-site’ sanitation option. Higher levels of service bring steeply declining *public* benefits.

There is currently little funding from the national fiscus used for sanitation, although the new CMIP grant arrangements do allow for waterborne sanitation to be funded. Therefore any public benefits are not catered for through a national scale subsidy at the moment.

From a local authority point of view public benefit analysis should be used in setting up tariff policy. This should recognise the declining public benefit of higher service levels and relative merits of cross-subsidising from the rates account or internally within a sanitation account.

## **9 ELECTRICITY**

### **9.1 Governing Legislation**

The structure and legal parameters of the Electricity Distribution Industry (EDI) are presently under review. The Department of Minerals and Energy has appointed a consortium to assist with the restructuring of the EDI from its present structure, a combination of municipal distributors and Eskom, to a more consolidated structure consisting of a number of yet to be determined Regional Electricity Distributors (REDs). Consisting of 60% of the customer base and 40% of the sales volume municipal distribution is currently carried out by 368 local authorities.

The decision to restructure the EDI will have a profound effect on local government finances. The historical dependence of many local authorities on electricity revenues and surpluses, together with the generally fragile state of local government finances, require that this issue be sensitively and constructively resolved.

The proposals under investigation arise out of a number of policy documents and enacted legislation:

- *The South Africa Constitution*, Act 108 of 1996
- White paper on the *Energy Policy of the Republic of South Africa*, December 1998
- *Electricity Act*, Act No. 41 of 1987
- ERIC Report, *Meeting South Africa’s electricity distribution challenges*, 1997
- *Municipal Structures Act*, No. 117 of 1998
- *Local Government: Municipal Systems Bill*
- *Electricity Working Group Report on Meeting South Africa's Electricity Distribution Challenges*, 1996
- *Financial Benchmarks & Tariff Rationalisation for SA*: NER: 1997

The restructuring proposal under investigation was initiated by a desire to provide low-cost electricity and high quality service to all South Africa's citizens and to support industry's competitiveness internationally. The difficulty in arriving at consensus is due to the vast disparity between stakeholders of the industry consisting of:

- The two prime service providers: municipal distributors, benefiting from an annual surplus of R2.4 billion (NER, 2000) and Eskom, the giant para statal with a monopoly on generation and transmission, and distribution to major mining and industrial customers.
- Domestic customers, including very poor consumers, many of whom are unable to afford cost reflective tariffs.
- Industrial customers, struggling to remain competitive in a global market.
- Industrial suppliers, who benefit directly and indirectly from expenditure in the sector resulting from the R300 million spent annually on the electrification programme (such as cables, transformers, poles, lamps, domestic appliances, and televisions).
- Labour, with large numbers of both skilled and unskilled labour employed in the industry.

Consensus that has been reached is that the distribution industry should be rationalised into a number of regional distributors (REDs). The number of the REDs, their governance and their definition or scope of operation is as yet undefined. Eskom sees the REDs as a natural extension of their existing regional structure while the South African Local Government Association (SALGA) would like to hold onto their right, in terms of the Constitution, to exercise authority over the delivery of the service to its constituency. SALGA has a fear too of losing the surplus paid into the municipal fiscus.

Major industry fears control of tariffs being held in the political domain. They do not wish to sacrifice low cost electricity to the social need for cross-subsidisation of indigent consumers. Clarity on the process to be followed should be reached this year (2000), with an added period required for the necessary enabling legislation to be enacted.

## **9.2 Regulation and Governance**

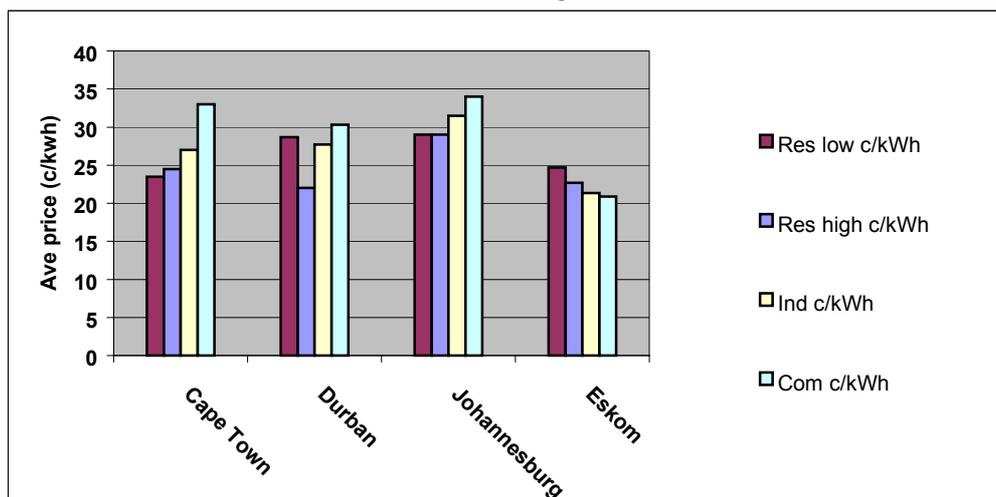
### **9.2.1 Regulation**

The National Electricity Regulator (NER) was established in 1995, as a result of recommendations by the National Electricity Forum (NELF), itself established by public and stakeholder pressure. The cabinet appointed NER was required to independently regulate the industry and oversee the electrification process. The first problem encountered by the NER was a lack of cohesive policy by which to regulate the industry. The legislation (Act 41 of 1987) is clearly outdated and it is hoped the current study into restructuring will assist in its re-drafting.

Where the NER has demonstrated some success is in the rationalisation of the 2 500 different tariffs then existing (*Financial benchmarks and tariff rationalisation of local authorities in South Africa: 1997*). It has done this through setting bench-marks within three bands of

distributor size (0-10 000; 10 001-25 000; and 25 001-100 000 MWh per annum) Since then the approval process of tariff increase proposals has enabled the NER to arrange the different categories into a measure of rationality. For example, the ratio in 1997 of Cape Town's average commercial to residential tariff was 33:24.5 (equivalent to 1:1.35) see Figure 4. As a result of regulation, as described above, the ratio is now 37.1:32.9 (equivalent to 1:1.12) (CCC electricity tariffs, July 2000).

**Figure 4:**  
Average price levels per Metro Area vs. Eskom – 1997  
Financial Benchmarking: NER: 1997



The aim of the pricing policy is to achieve 'cost-reflective tariffs' and in so doing make any proposed cross-subsidisation transparent. The difficulty is in the definition of 'cost-reflective'. It is not clear whether marginal or average costs should be reflected, or to what extent cost sharing in tariffs should occur. It is also not clear to what extent it is legitimate to utilise cross-subsidies for social and equity reasons. In France, for example where an almost 100% electrification exists, those who cannot afford to meet the costs of utility payments are assisted to do so through social benefit payments (the dole) and not the tariff.

Here governance plays an important factor. Eskom industrial tariffs reflect the fact that Eskom is remote from the domestic end user but that industrial lobby groups have a very strong influence. Municipality tariffs (in this case Cape Town, Durban and Johannesburg) in contrast clearly show the influence of the domestic voter. Eskom, for example, had an average commercial tariff of 21c/kWh and a domestic tariff of 24 c/kWh. Compare this with Cape Town's 33c and 23c respectively.

### 9.2.2 Governance

At present there are separate governance structures for the various possible regulatory authorities in the EDI.

- District, Metropolitan and Local municipalities are governed by public elected councils.
- A stakeholder board appointed by the minister of Mineral and Energy governs Eskom.
- The governance of the proposed REDs is under investigation. Current opinion is divided between a stakeholder representative governing board and a board of technical managers.

It seems preferable that the majority of the governance should be in the public domain while electricity is still not available to 37% of households. In addition a contract should be in place between the RED and the region's municipalities.

### 9.3 Who is the Authority?

In terms of section 156 (1) of the South African Constitution *a municipality has executive authority in respect of, and has the right to administer...electricity and gas reticulation.* The National Electricity Regulator (NER), established in 1995 has granted temporary distribution licenses to 368 out of the currently existing 843 municipalities. The balance use Eskom as their distributor (provider).

What constitutes 'executive authority and the right to administer' is not defined by the constitution. However, the Municipal Systems Bill section 1 (xxxiii) defines *service authority* as 'the authority of a municipality to regulate the provision of a municipal service by a service provider'. A *service provider* in turn is defined under section 1 (xxxv) as 'a person or institution, or any combination of persons or institutions, which provides a municipal service to communities, residents or ratepayers in a municipality'. The legislation further qualifies the assignment or delegation of a matter listed in the schedules by the municipality's *capacity* to administer it.

It is clear, therefore, that municipalities have the right to execute and/or administer the distribution of electricity. The provision of the service, however, may be delegated to a third person, a service provider.

The electricity supply authority is responsible to its communities, residents and ratepayers for having access to at least a minimum level of basic service. It has the obligation (if it is not the provider) to monitor and regulate the provider in attaining those standards. The authority is also responsible for setting the tariffs.

#### 9.3.1 Authority Options

There is little precedence available to clearly inform which of the future local or district municipality should be allocated the authority to reticulate electricity. The decision should relate to two main issues:

- The municipality's *capacity* to either provide the service or to regulate a service provider in the provision of the service.
- Economies of scale or customer mix which directly effect the *financial viability* of the utility. In this regard section 67 (2)(c) of the municipal systems bill stipulates that the service must be financially sustainable. Further criteria for assisting in this decision is given in section 72 of the same bill.

While it would be strictly correct in terms of the allocation of functions contained in the Constitution to allocate the authority to reticulate electricity to the lowest level, namely the local municipality, a number of other possible authority and provider arrangements are possible for the distribution of electricity to consumers.

The distribution authority requires the capacity to both regulate and monitor the relevant service provider. Should the local municipality not have the requisite capacity to manage the service provider then the authority should be passed to the district municipality. The primary criterion for location of the authority function would thus be the level of capacity in the local municipality to regulate the service.

Should sustainability or capacity be a problem a number of local municipalities may combine to form a Multi-Jurisdictional Municipal Service District (MJMSD). Section 80 of the Municipal Systems Bill provides that two or more municipal areas may be combined into a MJMSD to achieve economies of scale. A MJMSD can be formed in cases where a larger reticulation system is more economically efficient and the MJMSD would then be delegated the authority of the constituent municipalities.

## 9.4 Provider Options

### 9.4.1 *Local Municipality as the Service Provider*

If a local municipality is given the authority function it may well decide to provide as well as administer the service. As mentioned above, some 386 municipalities have temporary distribution licenses. In the light of the Demarcation Board's recommendation to reduce the total number of municipalities to 230 and the forthcoming restructuring of the EDI these licenses will have to be reviewed. However many of the future local municipalities may want to continue to provide this service.

A local municipality may assume responsibility from the point of bulk purchase from the national grid (the transmission system) to the connection point (point of sale) of the consumer. This option implies full responsibility for the installation and maintenance of the reticulation (the wires), the connection of the consumer to that system, and the setting of tariffs and the billing and collection of charges under the control of the authority.

### 9.4.2 *Local Municipality as a Retailer Only*

In the absence of adequate capacity to manage the full reticulation system the local municipality may only take responsibility for the purchase of the bulk electricity from the grid and the retail sale and billing to the consumer, but not responsibility for the reticulation. The reticulation network (the wires) in this option becomes the responsibility of a third party, which can be either:

- The RED, or
- The District Municipality.

This option is further enabled by reference to section 84 (1)(c) of the Local Government: Municipal Structures Act which defines the functions of a district municipality as including, 'bulk supply of electricity that effects a significant proportion of municipalities in the district'. *Bulk* itself is not defined in the Act. In electrical terms it generally refers to a hierarchy of supply defined by voltage. The national bulk supply (the *transmission* system) is generally at 400 kV; a metropolitan area may be 66 or 33 kV; and a town 11 or 6.6 kV.

However the introduction of an additional institution to provide the intermediary reticulation component at a time when *rationalisation* is being promoted makes this option unlikely to gain acceptance.

If the local municipality does not have the capacity to deliver electricity services at all it may contract the district municipality to be the service provider. The district municipality may be contracted to provide on behalf of one or more of its constituent local municipalities:

- Full reticulation service, or
- Bulk only reticulation.

Although enabled by the Municipal Structures Act, introducing another tier of local government does not add efficiency to the delivery and is not recommended. Thus if the local municipality does not have the capacity to provide the full function, the district council should be allowed to provide the full and not a partial function

#### **9.4.3 Multi-Jurisdictional Municipal Service District**

A number of local municipalities may combine to form a Multi-Jurisdictional Municipal Service District (MJMSD). Section 80 of the Municipal Systems Bill provides that two or more municipal areas may be combined into a MJMSD to achieve economies of scale. A MJMSD can be formed in cases where a larger reticulation system is more economically efficient and the MJMSD would then be contracted to be the service provider for its constituent district municipalities.

#### **9.4.4 Third Party Provider**

A third party may be contracted to be the service provider. This party could be:

- The Regional Electricity Distributor (RED) as under investigation by the restructuring of the EDI.
- Eskom Distribution as applicable to a number of local authorities at present.
- A private company.

The option of private-public partnerships have recently been investigated. For example, the *Phambili Nombane* consortium was appointed under a management contract to design, install and operate the electrical distribution of Khayalitsha, in the Western Cape, a sub-economic community of 60 000 households. This consortium is a joint venture between EDF (the French utility), Eskom and British Midlands (a UK utility). There are two other joint venture distributors: one in Uitenhage, Eastern Cape and the other in Kangwane, Mpumalanga.

A private sector provider could also perform the technical areas of distribution, for example a private sector ‘wires’ operator. This option removes the public sector from the technical responsibility of the reticulation system. The authority would still bear the responsibility of delivery to its constituency, including the setting of standards and tariffs.

The reticulation of electrical services is highly capital intensive. The assignment of the need to raise loans to the private sector is thus an added advantage to this option. A disadvantage is that the ‘wires’ operator, not standing to lose income from an in-operable supply, would not

have the incentive for quality of service, as would the retailer. This could be addressed by a suitable management contract and effective regulation by the authority.

#### **9.4.5 Eskom Distribution**

Eskom as a distributor currently provides 44% by number and 18% by sales of domestic customers. A number of smaller municipalities, clearly unable to sustain viability, have over the past few years allowed Eskom to take over the provision of electricity to their customers. Thus Eskom Distribution is predominantly a supplier of electricity to rural areas, but has recently made inroads into small town urban distribution.

Due to reasons outlined above Eskom's domestic tariffs are marginally higher than the municipal average. Criticism of Eskom's role in distribution by SALGA (South African Local Government Association) is on the grounds that Eskom is both a retail competitor and a monopoly supplier to municipal undertakings. The NER's objective in ring-fencing Generation, Transmission and Distribution and the introduction of the Wholesale Electricity Tariff (WET) policy is to alleviate this conflict.

The proposed REDs will absorb Eskom Distribution as well as Municipal undertakings in their structures.

#### **9.4.6 Unknown Factors**

Two future scenarios will strongly influence the EDI. It is the intention to privatise the generation side of the industry, creating what is known as a power pool of private generators selling power by means of a spot market. This will allow customers, initially large consumers such as municipal distributors or big industrial users, to bid for power from the most favourable generator. This is an ideal to strive for and works most effectively in a country such as Norway with a myriad of hydro stations and, compared to South Africa, a socio-economically advanced consumer base.

The disadvantage of a private power pool for South Africa today lies in the large proportion of the population who would not be able to afford cost-reflective tariffs and would require some form of subsidy. Analyses show that even with grant finance for capital expenditure the operating costs of electricity provision to the lowest income consumers require subsidisation.

The establishment of REDs, will have significant financial implications for local government. For example, the surplus contribution of the electricity department of Cape Town, at present R111 million, represents 16.3% of the total rates' assessment. This form of taxation is of course not now available to those municipalities who are not distributors. This form of taxation is of course not now available to those municipalities who are not distributors. The proposed capped excise tax on the retail sale of electricity, available to *all* municipalities, is a possible means of managing this change.

### **9.5 Technical Options for Electricity Distribution**

Although both still require final regulatory definition, there is broad clarity on the definition and scope of generation and transmission. Still under debate and investigation is the

definition and scope of distribution. Technically distribution by local municipalities may take the following forms:

### **9.5.1 Reticulation - Level of Service Variability**

The level of service type available in the distribution industry depend largely on the need of the customer and the customer's load profile. These generally include:

- *A low voltage single phase limited supply* for low income customers. The supply may be limited to a maximum of 2.5 amps, where only lighting and TV or radio is possible. The tariff for such a supply is generally only a flat monthly fee. Connection fees are generally not recovered. This level of supply is experimental at the moment. It gives rise to nuisance tripping and results, at times, to customers by-passing the circuit breaker.
- *A low voltage single phase supply*. The customer in this case pays a connection fee and/or a fixed monthly cost to cover the distributor's capital investment. The connection fee and the monthly fixed cost would reflect the supply level (such as 20, 40 or 60 amps). In addition the customer would be charged a unit cost.
- *A declining (or increasing) block tariff*, where the customers energy fee reduces (or increases) above a certain base consumption. This level of supply is generally applied to commercial customers.
- *A single or three phase large user supply*, where the customer is charged a connection fee, a fixed or minimum monthly charge, a maximum demand charge and an energy fee. This level of supply is generally applied to an industrial customer.
- *Time-of-use supply*: where tariffs differ according to time of day and season. This is to encourage, particularly large consumers to plan production for off-peak periods.
- *Special supplies*. These are applicable to very large consumers (such as mines, railways and Alusaf). Tariffs for these supplies are designed to suit the customer and may include, for example, commodity-indexed prices and interruptible supplies.

Pre-paid meters are now used more and more for domestic supplies over the conventional credit meter and have as a result reduced distributors bad debt. The technology is such that three phase supplies may be similarly metered.

### **9.5.2 Reticulation - Off-Grid Options**

As the backlog in houses to be electrified decreases, the remainder, consisting of more remote settlements, causes the marginal cost of connection to increase. As those costs increase the costs of off-grid solutions become more favourable in comparison to conventional grid connection. Photo-voltaic systems have been used for some time in clinics and schools. Although the technology is fairly advanced, the management of such systems and the economics of sustainable supply in larger communities have not as yet been fully tested. A few pilot schemes are, however, now under way and results from these tests should soon inform the way forward.

Examples of such pilot schemes include one in KwaZulu Natal (Maphethethe) and two in the Free State. Two forms of supply may be used:

1. A central photo-voltaic or diesel-driven battery charging station is installed in an institution such as a church, clinic or school. Residents then bring their batteries to this central station for charging at a fee. The institution provides a measure of security for the equipment and often administrative know-how. The operator could be a local person who, with suitable training, can assist in simple wiring of homes and the maintenance of appliances. Some form of support management contract can be signed with the supplier of the equipment
2. A self-contained photo-voltaic array plus charging system is installed in each consumer's establishment (a so-called Solar Home System). The consumer would pay the capital on an agreed installment basis.

### **9.5.3 Transmission**

In conformity with international practice it has been decided that one provider, Eskom, will receive the transmission license. This will be granted with the prerequisite that:

*Government will legislate for transmission lines to provide for non-discriminatory open access to uncommitted capacity, transparency of tariffs, and disclosure of cost and pricing information to the National Electricity Regulator (White Paper on Energy Policy, 1998)*

This policy opens the way for the establishment of the South African Power Pool (SAPP) discussed in 0.

### **9.5.4 Generation**

Eskom dominates the generation industry with some 24 power stations with a total licensed capacity of some 40 000 MW sending out 183 000 000 MWh per annum. This represents 92.4% of the country's capacity and 98% of the energy generated. There are currently nine municipal licensed coal fired power stations sending out 3 700 000 MWh per annum (NER, 1998). This represents 1.9% of the total generated. In addition municipalities have nine stand-by gas turbine generators, one pumped storage station (Steenbras Cape Town) and three hydro power stations.

Many municipal stations are marginally viable while measured against prevailing bulk tariffs to that local authority from the Eskom grid. Should the input tariff be lowered with implementation of the Wholesale Electricity Tariff (WET) policy the viability of any one of these stations could alter.

## 9.6 Costs

### 9.6.1 Capital Costs

According to Eskom Rural their capital costs of new rural connections is approximately R3000 (see Table 14). Figures obtained from Durban indicate a higher figure of R4300 for connections carried out recently. National averages indicate a figure for 1999 of about rural R2 834 and urban R2 567 per connection, see Tables 14 and 15.

**Table 14:**  
**Household Electrification, Cost Implications (Eskom Rural Programme)**

	1994	1995	1996	1997	1998	1999
Total number of connections made	254 383	313 179	307 047	274 345	280 977	293 006
Capital Cost per connection	3 179	3 370	3 417	3 159	3 008	2 975

DME: Mahuma: 2000

**Table 15:**  
**Average Connection Costs-Municipal Electrification Programme-1999**

Province	Average Connection Cost-Rands
EC	R 2 533
FS	R 2 741
GP	R 2 530
KZN	R 2 731
MP	R 2 126
NW	R 2 943
NC	R 3 421
NP	R 2 519
WC	R 2 463
RSA	R 2 566

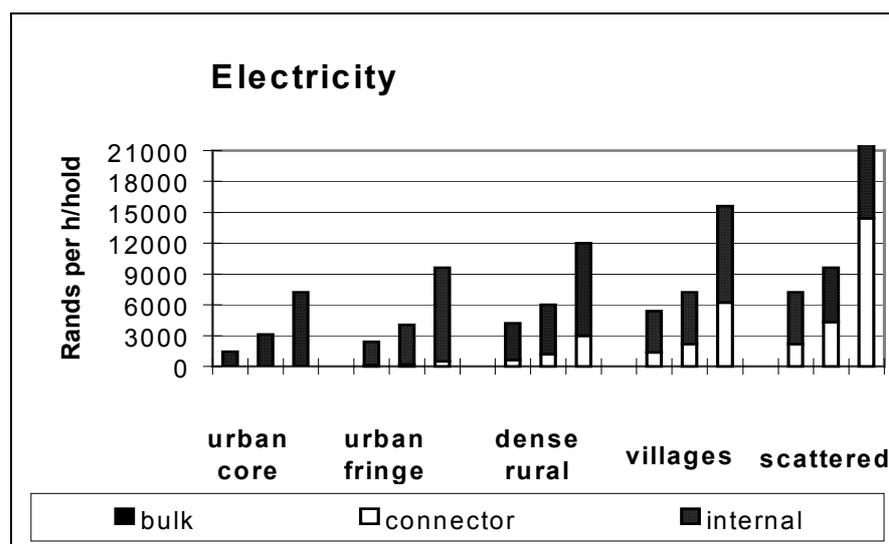
NER: 2000

The MIIF has derived low, medium and high capital cost estimates for urban areas of R1600, R3200 and R6700 respectively for a 60Amp supply. The MIIF also provides indicative capital costs for a 20Amp supply for various settlement types, see Table 16 and Figure 5.

**Table 16:**  
**Capital Cost Estimates for 20Amp Electricity Supply**

Settlement Type	Bulk	Connector	Internal	Total
Urban Core	0	0	1440	1200
	0	0	3120	2600
	0	0	7200	6000
Urban Fringe	0	120	2400	2000
	0	202.8	4056	3380
	0	480	9600	8000
Dense Rural	0	630	4200	3500
	0	1200	6000	5000
	0	3000	12000	10000
Villages	0	1350	5400	4500
	0	2160	7200	6000
	0	6240	15600	13000
Scattered Settlements & Farms	0	2160	7200	6000
	0	4320	9600	8000
	0	14400	24000	20000

**Figure 5:**  
**Capital Cost Estimates for 20Amp Electricity Supply**



Eskom, the wholesale supplier as well as the generator and transmitter, has over the past three years been paying an amount (approximately R300m pa) towards an electrification fund. The national regulator (NER) has disbursed this fund to municipal distributors as a contribution (of the order of R1500 per connection) towards the connection costs of sub-economical households. The balance of the connection costs being met in each case by the licensee. In addition to the above Eskom has itself embarked on an electrification programme (see Table 17).

**Table 17:  
Backlog and Electrification Programme**

	Type of Area	Population Mil	%	Households '000	Electrified %	Not Electrified %	Connections completed in 1998			
							Municipal	Eskom	Farm workers	TOTAL 1998
Eastern Cape	Rural	4.133		821	27.46	72.54	17 12	73 69	751	91 56
	Urban	2.386		558	77.63	22.37				
Free State	Rural	0.856		179	58.68	41.32	25 59	22 97	2	50 69
	Urban	1.869		469	76.78	23.22				
Gauteng	Rural	0.229		70	54.97	45.03	22 68	26 35	0	49 04
	Urban	7.399		1,972	74.34	25.66				
KwaZulu-Natal	Rural	4.965		818	28.38	71.62	11 46	31 38	1	44 20
	Urban	3.761		908	80.13	19.87				
Mpumalanga	Rural	1.781		360	74.48	25.52	26 93	12 25	861	40 04
	Urban	1.143		272	60.22	39.78				
Northern Cape	Rural	0.258		61	74.22	25.78	2 42	1 90	910	5 24
	Urban	0.604		131	80.57	19.43				
Northern Province	Rural	4.609		903	44.99	55.01	4 86	64 92	766	70 59
	Urban	0.570		132	76.21	23.79				
North West	Rural	2.266		461	47.28	52.72	8 70	43 03	2	53 91
	Urban	1.215		288	69.93	30.07				
Western Cape	Rural	0.454		114	65.23	34.77	16 27	4 46	1	22 16
	Urban	3.633		904	84.36	15.64				
TOTAL	Rural	19.550		3	42.59	57.41				
	Urban	22.580		5	76.70	23.30				
	Total	42.131		9	62.99	37.01	136 07	280 97	10	427 42

NER Statistics: 1998

### 9.6.2 Operating Costs

Typical recurrent expenditure for a 20Amp electricity connection are outlined in the MIIF. These are shown in Table 18.

**Table 18:  
Recurrent Costs for a 20Amp Electricity Connection**

	<b>Debt Servicing</b>	<b>Bulk Purchase</b>	<b>Operating and Maintenance</b>
Urban Core	15	14	22
	32	26	36
	74	115	43
Urban Fringe	23	14	23
	40	26	38
	94	115	45
Dense Rural	37	14	24
	49	26	40
	93	115	48
Villages	42	16	28
	52	29	36
	96	127	56
Scattered Settlements & farms	52	17	31
	54	31	38
	99	138	63

The EDI in South Africa is essentially financially viable (see Table 19) and normal economic expansion costs and the connection of new paying customers is recovered from the operating budget. It is estimated (NER: 2000) that an amount of R 2,4 bn is directly or indirectly used to supplement the income of municipal distributors.

**Table 19:  
Revenue and Expenditure of Distribution Industry**

	<b>Eskom *</b>	<b>Municipal &amp; Other</b>	<b>Total</b>
	Rm.	Rm.	Rm.
Total Revenue	20 756	14 308	35 063
Total Expenditure	19 335	13 283	32 619
Surplus	1 421	1 025	2 446

\* Includes revenue received from municipal distributors **NER 1998 Statistics**

However, as towns and cities emerge from the *apartheid* era, previously viable municipalities have been placed under financial stress in meeting the hitherto unconnected urban poor. Experience has shown that sub-economic communities consume of the order of 70-100 kWh per month. At this rate of consumption the income generated is generally insufficient to cover the capital costs related to the supply (see Table 20 row v. compared to row vii.).

**Table 20:**  
**Household Electrification Programme (Rural ): Revenue Implications**

	1994	1995	1996	1997	1998	1999
i. Total number of connections made	254	313	307	274	280	293
ii. Capital Cost per connection	3	3	3	3	3	2
iii. Monthly operating cost per connection	R26	R24	R23	R26	R19	R19
iv. Average monthly sales per connection (kWh)	80	78	86	99	107	95
v. Average monthly income per connection			R19	R24	R27	R28
vi. Break even consumption (kWh)	350	350	350	350	350	350
vii. Break even monthly income			R77	R85	R88	R103
viii. Net loss per connection – Subsidy required			(R58)	(R61)	(R61)	(R75)
ix. Total operational loss for connections made (Rm)			(R17)	(R16)	(R17)	(R22)
x. Tariff (c/kWh)			22	24	25	29

DME:D Mahuma: 2000

*Note:* net loss per connection, row (viii), includes capital costs as well as operating costs.

In 1994 the Reconstruction and Development Programme (RDP) set a target of connecting 2.5 million new households by 2000. The end of 1999 saw the accumulated connection of 2,44 million households. This worthwhile achievement must, however be seen in the light of cost recovery from this sector. DME figures shown in Table 20 demonstrate that each rural connection under-recovers by approximately R60 per month (row viii.). Calculations using Durban and Cape Town statistics show a very similar under-recovery. This means that for the 2.44 million connections since 1994 an operational loss of some R145 million accrues every month (R1 740 m annually) for this sector. This is within the annual surplus of the industry, but is a growing phenomenon as more non-viable and marginally costly connections are made. The risk is increased by non-payment and theft of electricity.

With the current policy of *Electricity for All* clearly these low-income communities must be accommodated. There are two primary mechanisms:

1. **By level of service.** The very minimum level of service at today's technology is a 'ready-board' connection to a consumer. The ready-board consists of a meter, an earth leakage breaker, a light and two plugs. The capital cost lies in the design of the bulk network reticulating the village and the supply cost to that village. This is the area requiring innovative design, as has been the subject of a pilot study in Khayalitsha Cape Town. The balance lies in low capital outlay versus so-called nuisance tripping (lost income from down time) and the related increase in maintenance costs.
2. **By subsidy.** It is necessary to calculate the true cost recovery tariff to that sector of consumer before balancing affordability with a subsidised tariff. A decision then has

to be made as to the source of subsidy. This decision is clouded by a number of conflicting policy decisions yet to be implemented:

- The Department of Finance is loath to approve the establishment of dedicated funds and to this end have stated the intent to subject Eskom to company tax. This could have an effect of losing up to R1.2 billion from the industry (*Electricity production and the environment*: EDRC 1999).
- The intention by Government to establish “a National Electrification Fund to provide electrification subsidies” (White Paper: DME 1998).
- The intent by government to establish a competitive power market, giving distributors and certain large customers the option to purchase power at spot market prices. Cross-subsidies are very difficult to sustain in a competitive industry.

Seventy percent of the operating costs of a distributor were found to be attributable to the purchase price of the bulk supply from the grid (*Financial Benchmarks & Tariff Rationalisation for SA*:NER:1997). The balance is the costs of capital, operating and maintenance expenses as well as overheads. The cost of supply is dependent on a distributor’s load factor. This in turn is largely influenced by scale, customer mix and demand side management. The latter is achieved by sound tariff design. The establishment of REDs, through economies of scale and customer mix, should see downward pressure on input costs. Increasing pressure from the NER has forced licensees to ring-fence these costs to ensure that:

- The overheads are truly attributable to the *Electricity Department*; and
- The true costs of supply to various sectors of consumers are known and tariffs calculated accordingly. If cross-subsidisation becomes a necessary policy, then the amount of subsidy should be known and be transparent.

## 9.7 Revenue Options

The licensee is responsible for setting a package of tariffs, which have to be approved, both in structure and level, by the NER. The criteria, by means of which these tariffs are set, were laid down by the NER following a study carried out in 1997. Some 2000 different tariffs prevailed at the time and clearly cross-subsidisation of varying degrees existed between types of consumers. Averages of 19% surplus over operating costs were being paid into the general fiscus of municipalities. Thus some R2.4bn were being lost to the EDI and being used to subsidise other municipal services.

The NER’s tariff policy that followed was essentially:

- To cap the surplus at a level of 15% and
- To limit or make transparent the cross-subsidies that existed between consumer types, essentially from the industrial and commercial sectors to domestic consumers.

An examination of the NER's 1999 statistical report (see Table 21) indicates a success in these goals in as far as the average domestic tariffs show an upward movement in relation to the averages of the industrial and commercial sectors. Cape Town, for example, has this year

increased its domestic tariff by 7.5% whilst only increasing its commercial and industrial tariffs by 4% (Budget speech 11 May 2000). This does not, however address the needs of the poor and further studies are required into transparent cross subsidisation by means of lifeline tariffs or by means of grant funding connection charges.

**Table 21:  
1998 Electricity Retail Sales Statistics**

Customer Groups	Annual Electricity Sales (MWh)	% of Total Sales	Number of Consumers in Group (1000s)	% of Total Consumers	Average Sales Price to Group (c/kWh)	Eskom % Split of Sales
Present municipal customers	71,962,095	42%	3,281,220	56%	19.88	0%
All residential	32,503,948	19%	5,387,572	92%	23.94	18%
All commercial	12,426,245	7%	198,844	3%	23.42	6%
Manufacturing	82,798,910	48%	57,496	1%	12.80	64%
Mining	32,078,657	19%	18,037	0.3%	12.27	99%
All consumers	171,213,725	100%	5,844,137	100%	15.99	58%

NER 1998 Statistics

### 9.7.1 Municipal Levy

Various models have been proposed to replace the R2.4 bn, which would be lost to municipal distributors should the RED option be adopted. Currently under discussion is a proposal, which would enable all municipalities to exact a levy, which would be a percentage of the retail sales of electricity within their jurisdiction. This excise tax would have to be visible (appear on the bill) and would be capped by the regulator.

The following extract of Price Waterhouse Cooper's EDRIC report (Sept. 2000) places the so-called *surplus* in perspective:

....our initial estimate of the size of these cash transfers is some Rand 2.4 billion per year. This is based on the estimate prepared in 1996 by the NER (of some R1.4 billion) , which we have adjusted for general inflation (to give some Rand 2 billion) and added a further 20% contingency allowance.....Some have argued that more funds are required to cover the. "stranded costs" associated with local government overheads shared by the electricity sector within a municipality.

....Our recommendation of a levy to continue a flow of funds to local government is in line with the Energy White Paper. It should not, however, remain in place in definitely in our view. Our preference is for local government income from the levy to be capped for the first five years of the lives of the REDs and to be phased out over the subsequent five years.

As an essentially financially viable industry the electricity sector is unlikely to be subsidised from the fiscus or other sources. However as mentioned above if Eskom is taxed, the viability of the industry may come under question and subsidies may have to be sought elsewhere in the future.

## 10 SOLID WASTE SERVICES

### 10.1 Legislation and Policy Documentation

A range of laws govern the solid waste sector. Because of the environmental implications of waste disposal most of these laws fall within the realm of environmental management legislation and do not deal with the municipal service provision aspects of solid waste removal. The Council for Scientific and Industrial Research (CSIR, 1991) identified 37 key national statutes and 16 provincial ordinances, which covered land-based waste and pollution control law.

Since then *The National Environmental Management Act*, No.107 of 1998 has been enacted and is now the all-embracing legislation dealing with waste. The pertinent principle is found in section 2. (4) (a) (iv), which states ‘that waste is avoided, or where it cannot altogether be avoided, minimised or re-cycled where possible and otherwise disposed of in a responsible manner’. The Act further espouses the principle and application of ‘Integrated Environmental Management’. While formal regulations in terms of the Act (107 of 1998) are awaited the standards applicable are those published by the Department of Water affairs and forestry in their *Waste Management Series* published in 1994:

- Document 1: *Minimum Requirements for Waste Disposal By Landfill*
- Document 2: *Minimum Requirements for the Handling and Disposal of Hazardous Waste.*
- Document 3: *Minimum Requirements for the Monitoring at Waste Management Facilities.*

Following the general principles of the Environmental Management Act there is clearly a need for legislation/regulation dealing comprehensively with all aspects of waste: generation, avoidance, re-use, recycling, collection, storing and disposal and of course institutional responsibility

A document entitled, *Evaluation of Solid Waste Practice in Developing Urban Areas of SA: WRC Report No 629/1/96*, was prepared by the Palmer Development Group. This report reviews the current status of domestic solid waste management internationally and, by means of a number of case studies, evaluates specific practices in SA. It identifies key issues and summarises guidelines for good practice

### 10.2 Who is the Authority?

Part B of schedule 5 of *The Constitution* gives municipalities executive authority in respect of and the right to administer refuse removal, refuse dumps and solid waste disposal.

### 10.3 Service Provider Options

In most small and medium sized towns the local authority is typically the provider of both refuse removal and landfill services. In the Metropolitan areas the MLCs generally collect and transport the waste to transfer stations or landfill sites managed and/or run by the Metro Council. Thus the local authorities are the authority and the provider of refuse removal services, and the Metro is the landfill provider.

### 10.3.1 Scattered Settlements

In scattered rural settlements and villages, where formal systems are not in place, the conveyance of waste is by rudimentary methods, such as cart, bicycle or on foot. Landfill sites need to be more numerous and closer to the settlement. The *Minimum Requirements* (DWAF 1994) are less onerous for permitting of communal landfill sites, nonetheless, a Responsible Person still has to be appointed and a permit requiring certain expertise has to be obtained. It is thus essential that support from the district municipality is provided in communal landfill establishment.

### 10.3.2 District Municipality

District municipalities often have a provider role in the joint operation of landfill sites (see below). In certain instances the district municipality provides landfill services to a number of towns. In rural areas and where expert capacity is lacking the district municipalities play an important support role.

### 10.3.3 Private-Public Partnerships

The private sector has made an inroad into waste collection and disposal. The tendency, however, has been to concentrate (i) on the more lucrative commercial/industrial sector than the domestic market and (ii) on the metropolitan areas as opposed to smaller towns. Public-private partnerships are discussed further under management options.

## 10.4 Service Levels

The available levels of service of domestic refuse removal throughout South Africa (Census 1996) are summarised in Table 22. The significant statistic is that 48% of households in SA have a less than adequate solid waste removal systems available.

**Table 22:**  
**Refuse Disposal Levels of Service as a Percentage of Municipalities Within Provinces: 1996**

	EC %	FS %	Gau %	KZN %	Mpu %	NW %	NC %	NP %	WC %	All %
Removed by local authority once/week	34%	61%	83%	43%	38%	35%	68%	11%	84%	52%
Removed by local authority less often	2%	4%	4%	1%	2%	1%	2%	1%	2%	2%
Communal refuse dump only	2%	4%	3%	3%	3%	4%	5%	3%	4%	3%
Own refuse dump only	40%	25%	7%	41%	47%	52%	20%	67%	8%	33%
None	22%	6%	3%	11%	9%	7%	4%	18%	2%	10%

South Africa Survey: SA Institute of Race Relations: 1999/2000

### 10.4.1 Generation

Service levels also relate to the standard of the landfill site, which in turn is related to the waste expected to be disposed of in that site. Waste is generated from a number of sources each requiring different disposal techniques, and giving rise to differing costs of landfill:

- *Industrial*: depending on the type of industry may give rise to varying recycling opportunities from packaging to metal off-cuts. Where not viable for recycling the disposal is often technically difficult (hazardous wastes, petroleum products, etc.).
- *Commercial*: where non-organic, commercial waste is largely paper products, which should be viable for recycling.
- *Domestic*: the composition of domestic waste varies according to levels of economic development.
- *Institutional*: Medical waste requires careful monitoring and specialised disposal techniques, usually by incineration. Otherwise institutional waste is comparable to domestic waste.
- *Construction*: clean construction rubble can be disposed on new development sites, but requires careful monitoring due to frequent abuse. Fines for illegal dumping are so low (Cape Town) that it is cheaper to illegally dump and pay a fine than to transport to a landfill site
- *Agricultural*: Agricultural waste other than the domestic component would fall into two categories: vegetable or plant matter and animal wastes. Both are disposable by composting, but require monitoring in terms of the leachate polluting water sources. The *Minimum Requirements for Waste Disposal (DWA 1994)* deals at length with management and monitoring techniques in this regard.

### 10.4.2 On-Site Storage

After generation and before collection waste requires to be stored. The method of storing again depends on the socio-economic status of the household. However, the authority in some cases supplies plastic bags or even bins. Methods of storage range from temporary containers such as cardboard boxes, plastic bags, and crates as well as more permanent containers such as plastic or metal bins.

The more sophisticated municipalities have adopted wheeled bins, which are automatically picked up and emptied into the compactor. This system is fast, efficient and has the other advantage of sealing and securing the bins against dogs and the emission of odours.

### 10.4.3 Collection and Transport

Levels of service are highly variable across settlements, the range of refuse removal services can be categorised into:

- *No Collection/Self Disposal*: The authorities only involvement is that of support to ensure good practice; namely re-use of containers, composting of ash and organic matter and fuel (paper, wood cardboard). The authority may still have to periodically clear streets where the system is dysfunctional.
- *Inadequate Collection Service*: While some system is in place this category implies collection that lacks co-ordination, frequency, on-site storage or adequate collection points.
- *Communal Collection*: Waste is brought to communal collection points or transfer stations by individual householders, or by local entrepreneurs who collect on a contract basis. The collection point consists of drums or skips collected on a regular basis by the authority or contractor. The management of the collection site is often difficult.
- *Kerbside/On site Collection*: The service provider using handcarts, pedal tricycles, manned horse-drawn or motorised vehicles conducts collection at kerbside. The destination of the waste collected would be either a transfer station or disposal site. In the case of motorised vehicles, these range from sophisticated compactor to open trailer, the use of which depends on the economy, road surface and level of service. See 0 in regard to machine versus labour methods.

#### 10.4.4 Street Cleaning

Street cleaning is an important component of municipal waste management, and often makes up a substantial proportion of the budget for refuse removal services. The success of street cleaning is also linked to successful storm-water management. There is a direct link between storm-water runoff pollution and uncollected waste (Wright: 1992).

The requirement for street cleaning is linked to litter control strategies. The cost of collection by street sweeping is much higher (up to ten times in Metro areas) than the of collection from street litter bins. Thus good education programmes would be cost effective in reducing the street cleaning frequency.

The debate on manual versus machine street sweeping is ongoing. The economics of the two options balances unemployment and minimum wages against the capital and maintenance costs of the machine. It is argued that 80% of machine costs leave the community in the form of debt repayment, finance charges, petrol costs and imported parts. However the cost of manual street sweeping is over four times that of machine (Manual R130.00 per km; Machine R35.00 per km: *Cape Town: Chief Engineer Solid Waste*)

As an example City of Cape Town has frozen posts for some time and by attrition has reduced personnel numbers from 24 000 to 16 000. For the cleansing department this means that no staff are available for street sweeping leaving very little option but to mechanise. Cape Town owns nine street sweeping units and hires three. In addition they hire nine one-man curb and sidewalk machines (*green machines*).

### 10.4.5 Recycling

Recycling is the recovery of certain materials from the waste stream which has an intrinsic value either to re-use, for example, as fuel or compost or to process into a viable product (paper, plastic, glass, metals etc.)

Extraction by the household is more economical than if the authority had to separate material from mixed waste. While recycling at a household level has received much attention in Europe, and is widely applied there, it has not been successful in South Africa to date. Initiatives tried, in Durban for example, have been discontinued. Systems that have proved viable are where the householder is motivated to bring the separated material to a central collection point (e.g. glass igloos; cardboard and paper collection; schools collection of materials by means of competition to raise funds).

Recycling is not always directly viable, except where disposal costs are high and recycling reduces the quantity, and thus cannot be left purely to market forces. The indirect and long-term impact on the environment should be taken into consideration when evaluating recycling programmes. (*Solid Waste Costing*: PDG: 1995).

### 10.4.6 Disposal

In South Africa almost all domestic waste is landfilled with a range of legislation covering the design and management of landfill sites. At present many landfill sites in the country are unregistered and do not meet the standards laid down for them by the DWAF and the DEAT. Thus many local authorities have technically illegal sites. The fairly recent legislation enacted will probably be increasingly enforced and is likely to improve the management of solid waste disposal.

Increased regulation and higher standards are also likely to increase the costs to local authorities who may have to pass these on to the users of waste disposal services, both domestic and commercial. The downside to better regulation and higher charges for the use of sites is that people may be compelled to indiscriminately dump in open ground and rivers. Illegal dumping is already a problem in many areas.

Apart from landfilling there are some other approaches to the disposal of solid waste that are carried out, these include:

- *Incineration* – mostly used for medical wastes.
- *Burning* – as a fuel for power stations for example.
- *Composting* – Bellville, Parow Paarl and Cape Town (all in the Western Cape) have had varying success with composting, but none viable. The advantages experienced have been to reduce the quantities delivered to landfills and thus pro-long their life.
- *On-plot disposal* – A case study conducted in Klippan, a densely populated section of the Winterveld (Water Research Commission: 1995) demonstrates a community's method of coping in the absence of a solid waste collection system. The household survey indicated diverse methods of waste disposal developed by individuals in that community. Just over

half those surveyed disposed of their waste in their own yards. Another significant percentage threw their refuse in piles, streets or drainage ditches within three minutes walk from their homes. A very small number brought their waste to sites farther from their homes, usually after storing the waste in a bin or pile in their yard for a week or more.

## **10.5 Management Arrangements**

### ***10.5.1 Governance***

A, B and C municipalities are governed by public elected councils.

### ***10.5.2 Administration of Refuse Removal***

Refuse removal is a service within the capacity of even the most rudimentary organised settlement and in this respect the local municipality should generally have the capacity to carry out the role of authority. Where the local municipality lacks the capacity to either manage or provide the service, the future district municipalities will now be in a situation to be the authority and provide the service until such time as the former has acquired that capacity. This is most likely to be in cases where very small local councils are expected to assume solid waste collection responsibilities for a large local B municipality.

As the authority, in terms of the constitution, to provide at least a minimum level of basic service, the municipality is obliged to monitor and regulate the provider in attaining those standards.

If it is the provider the municipality may manage and run the service under its normal administrative hierarchy with its own in-house personnel, it may establish a wholly owned utility or it may contract part or the whole function to a private company or companies.

### ***10.5.3 Landfill Sites***

The *Minimum Requirements* series published by DWAF call for a *Permit Holder* who is legally responsible for the landfill both during its operation and after its closure. The *Permit Holder* may appoint a *Responsible Person* who is appropriately qualified to ‘competently direct, guide and execute’ all facets of the work undertaken. The landfill is classified into size (Communal, Small, Medium and Large) and into Hazard ratings, all of which require different institutional and management techniques.

Landfill sites are environmentally sensitive and costly to run correctly. Where it is geographically sensible and economically viable landfill sites should be regionalised to district municipalities, with local municipalities sharing this service. Transport distances contribute a great deal towards the costs of disposal and this approach would have to adapt to specific geographic circumstances. In remote villages and scattered settlements this option is often not feasible and local options with district level support is more appropriate

#### 10.5.4 Public-Private Partnerships

There is much scope for public-private partnerships in delivering solid waste services which are among the easiest of municipal services to privatise (Cointreau: *Environmental Management of Urban Waste in Developing Countries* 1992). Competition can be introduced there more easily than in water and sanitation. Savas (*Privatisation: New Jersey* 1987) points out that savings up to 58% over a municipal service can be achieved by a private supplier. Similar studies reveal that privatised street sweeping (with similar frequency and quality) can achieve 43% savings. Private-public arrangements will differ according to the particular service concerned and include traditional privatisation as well as other municipal partnerships.

*Collection.* The ability to operate on short term contracts is inhibited by the high cost of vehicles (R25m is the annual capital charges expended in the case of Cape Town municipality) and/or land. The solution could lie in the lease of the land or vehicles from the municipality. Some form of financial package and or contract ensuring the take over of the assets on termination of the contract would allow better opportunity for competition. Privatisation requiring contractors to use their own assets would tend to require longer-term contracts.

There has been experience of innovative schemes at the lower end of the market which have been developed using labour intensive methods. A programme involving homeless people has been partially successful in Cape Town's CBD. Those involved were issued with overalls and plastic bags and were paid, piecemeal, on delivery to a central point, of a full bag. However, union problems and the social problems underpinning the existence of the homeless themselves made sustainability of this project difficult and it has subsequently ceased.

Community self-help can reduce costs and where motivated by self-interest can result in high standards (Amos: 1993). The maintaining of standards from area to area requires close co-ordination between the municipality and the communities.

Case studies indicate that community based contractor systems can work in South Africa (PDG: 1995). Key success factors appear to be:

- Remuneration must be based on performance indicators and must provide a reasonable return on cost. Tonnage collected is not indicative of total cleansing.
- Contractors must therefore be monitored, strictly managed and penalised for under-performance.
- Contractors need to be assisted in planning, scheduling and/or tendering techniques
- The level of service must be appropriate
- Communities require education on the proper handling of their waste.

Based on current experience privatisation options may be appropriate for the provision of any or all the phases of solid waste handling and disposal.

#### 10.5.5 Support

It is essential, even in the most rudimentary of settlements that the district municipality provides a support service giving technical advice, training and monitoring where required. It

is necessary to empower local communities to take responsibility for their own environment, but it is only feasible to acquire technical expertise regionally. It is that expertise that can be pooled to support many communities to give them the ability to manage themselves.

## 10.6 Costs

As an example of costs in a large urban setting the total operating cost of the city of Cape Town's cleansing department is R165m, which represents 6% of the city's expenditure budget. This value has been compared with case studies carried out in the Eastern Cape (see Table 23). Cape Town picks up waste from 250 000 formal and 40 000 informal households. The cost of waste collection and disposal (domestic only) can only be estimated from the operating budget to be R160 per household per annum (R13.30 per month).

**Table 23:  
Waste as a Percentage of Total Municipal Opex**

	<b>Rm</b>	<b>% of Opex</b>
Cape Town	R 165.00	6.0%
Case Studies -E. Cape:		
Rural	R 0.29	8.6%
Small Urban	R 1.83	7.0%
Large Urban	R 40.26	6.2%

(PDG: 2000)

The financial model used in *Evaluation of Solid Waste practice in developing urban areas in South Africa* (Palmer Development Group: July 1996) predicts a cost of R12.55 (R18.40 if corrected to 2000) per month per household for 150 000 households.

It is interesting to note that the cost of street sweeping by manual means is R130 per km as opposed to R35 per km by mechanical sweepers.

The city has a vehicle fleet valued at R75m. The capital charges on the operating budget amount to R8.9m per annum or 5.4% of the operating budget.

The costs of street cleansing (R58 m – Table 24) compared to refuse removal (R52.6m) is high. Although street cleaning includes removal of waste from bins and the clearing of leaves etc., it demonstrates the huge cost of littering and the corresponding saving that could be achieved by educating people to dispose of waste by formal means. The corresponding cost ratio in East London (a smaller city) is R11.3m/R22.4m.

**Table 24:**  
**Opex City of Cape Town Cleansing Department 1999/2000**

	Income R m	Expenditure R m	%
Beaches	R 0.0	3.3	2.0
Rivers	R 0.0	2.5	1.5
Street	R 0.0	84.2	51.0
Refuse Removals	* R 12.2	52.6	31.9
Vacant Lots	R 0.0	1.9	1.2
Disposal (Metro Charge)	R 0.0	19.0	11.5
Other	R 0.2	1.5	0.9
Rates Account	R 152.6		
	R 165.0	165.0	100.0

CCC Operating Budget 1999/00 \* Income from trade refuse collection only

### 10.7 Revenue Options

There is no inter-government grant uniquely targeting waste disposal. The local government equitable share provides a fund to enable impoverished communities to access services. It is, however, the right of the council concerned to establish its own priorities and waste disposal may not be a high priority.

High domestic user charges would tend to penalise the poor who, if unable to pay, would tend to indiscriminately dump, thus posing a general health hazard. The tariffs applicable in Cape Town - R10.31 to pick up a wheeled bin per week (or R44.70 per month) – is somewhat higher than the estimated cost of R13.30 per month presented in 0 above.

Industrial and commercial solid waste user charges should be, and generally are, levied. An example of the tariffs applicable in a metro area, Cape Town, is shown in Table 25. However the total revenue recovered from the industrial sector represents only 17% of the costs of refuse removal and disposal in the city, the balance is made up of domestic waste; street cleansing; trade waste (paper from the commercial sector and organic waste from restaurants and hotels); beach and river cleansing. The breakdown of the city's operating income and expenditure is shown in Table 24.

**Table 25:  
Industrial Solid Waste Removal and Disposal Tariffs: Cape Town July 1999**

	Unit	R (exc. VAT)
85 litre bag	per call	R 9.91
	per bag	R 3.38
85 litre bin	per call	R 9.91
	per bin	R 3.86
240 litre bin	per call	R 9.91
	per lift	R 9.65
1 100 litre bin	per call	R 9.91
	per lift	R 47.86
4 m <sup>3</sup> bin	per call	R 9.91
	per lift	R 162.28
6 m <sup>3</sup> bin	per call	R 9.91
	per lift	R 241.97

## 11 ROADS, TRAFFIC AND TRANSPORT

### 11.1 Legislation/Policy Documentation

The main elements of transport policy for the country are contained in the *White Paper on National Transport Policy* published in 1996. The White Paper has oriented South Africa towards an integrated transport policy and away from the previous separation of public transport and road design and maintenance. The following objectives stated in the White Paper emphasise the new approach of the national Department of Transport (NDoT):

- To improve the safety, security, reliability, quality, and speed of transporting goods and people
- To provide for closer co-operation between transport and land-use planning
- To focus on policy, regulation and strategy formulation which are its prime roles.
- To define the roles of provinces and municipalities with regard to their transport activities.

The following legislation and publications are also relevant in assessing policy and direction in the transport sector:

- *The South African National Roads Agency limited and National Roads Act*: passed into legislation in June 2000. This act establishes a company, wholly owned by the state, to manage and control South Africa's national roads system. This effectively privatises the development, maintenance and rehabilitation of national roads within the framework of government policy.
- *National Road Traffic Act*: 93 of 1996
- *National Road Traffic Regulations*: 1999
- *Moving South Africa: Towards a Transport Strategy for 2020*: Sept 1998. This document summarises fourteen months of research, analysis and process that constituted the Moving South Africa project of the national Department of Transport (NDoT). This gives flesh to much of the policy enunciated in the White Paper and enabled by the act.

### 11.1.1 Provincial

Schedule 4 of the Constitution lists Functional Areas of Concurrent National and Provincial Legislative Competence. With respect to transport services these include:

- Airports other than international and national
- Public transport
- Road traffic regulation
- Urban and rural development
- Vehicle licensing
- Provincial roads and traffic.

Each province has its own acts (previously known as ordinances), at this stage separating roads and traffic functions from transport. Western Cape has attempted to integrate these functions through the production of a white paper on Provincial Transport Policy. Although government is committed to the principle of subsidiarity in terms of the Constitution, there is lack of clarity regarding the relationship between provincial and local governments.

## 11.2 Transport and Roads Authority

The provision and maintenance of transport infrastructure is divided among a number of authorities, with overlapping responsibilities, operating under diverse legislation and with conflicting priorities. Although each province is governed by a separate act (ordinance), consistency is achieved through the *Ministerial Conference of Ministers of Transport* (MINCOM).

An example of this joint approach is the case of road traffic legislation where an overarching central Road Traffic Act will legislate and regulate matters of nation-wide concern, whilst separate provincial Road Traffic Acts will legislate and regulate matters of specific provincial concern, within the framework of the overarching Act.

### 11.2.1 Transport

Transport and transport planning is a major challenge particularly in the metropolitan conurbation, where a large proportion of South Africa's commuter transport activities takes place. Urban planning in the apartheid era placed the poor on the peripheries of the cities and as a result generally distant from places of work. Institutional arrangements should recognise this legacy and plan accordingly. Previous *Roads* departments at both provincial and metropolitan level have thus correctly been altered to *Transport* departments with the focus on the safety, security, reliability, quality, and speed of transporting goods and people.

The following extract from the *White Paper on Western Cape Provincial Transport Policy* (1997) illustrates problems faced around the country. The conditions outlined are particularly significant when it is realised that public transport provision and the overall condition of the roads in the Western Cape are better than in the majority of provinces.

In many areas, both urban and rural, people are mobility-deprived because of inadequate public transport and are unable to access even the most basic facilities on a regular basis. Other people

are transport disenfranchised and could not afford to use public transport even if it were provided. Under such circumstances people become isolated and insular, cut off from other people, opportunities and information. Even in large urban areas, public transport services are seen by many to be inconvenient, unreliable and unsafe, offering limited choice, particularly for non-work trips with very few evening, night-time or weekend services.

A different set of concerns arises from growth in private vehicle usage. This has resulted in rapidly increasing congestion in urban areas causing delays to all road users, both private and public alike, and is leading to worsening environmental deterioration, especially in metropolitan Cape Town. The congestion, which is experienced, has led to pressures to expand the capacity of the road system. However, this has the concomitant risk of entrenching the inefficient and inequitable land use arrangements, which gave rise to the particular growth in traffic demand in the first instance, thereby perpetuating structural dependency and impoverishment....

...However, a major problem in the Western Cape is not the under-supply of transport facilities but the relative inefficiency and ineffectiveness with which services are provided and operated. Inadequate and poor performance are evident across a range of activities, including operational and strategic planning, accident prevention, public transport planning and operations, policy co-ordination, law enforcement, funding and subsidisation....

...The result is inconsistency and confusion, imposing a severe handicap in the achievement of integrated and sustainable transport and land use policies and programmes. The assignment of various powers and functions from central to provincial government together with the rationalisation of local government provides a real opportunity for reorganising transport powers and responsibilities within the province. This will be achieved by creating a far more effective and appropriate management and institutional framework, properly equipped to undertake the necessary functions and responsibilities.

The transport function thus relates strongly to the urban land use planning function. This includes people and freight origin/destination studies; modal planning to efficiently deal with the results; termini and inter-modal transfer stations (taxi ranks, bus stops and termini, railway facilities and the like) and, of course, the planning of residential, commercial and industrial nodes.

The function causing the most controversy and overlap of authority is the issuing of public transport permits. Every public transport carrier has to apply for a road permit from the Provincial appointed Road Transportation Board (this includes buses, taxis and tourist vehicles).

After the forthcoming municipal elections it is the intention to establish Metropolitan Transport Authorities (MTAs) and these should at least define the line between provinces and Metropolitan 'A' Municipalities.

### ***11.2.2 Roads***

Various road authorities use classifications somewhat differing from one another. The following classifications are those applicable in the Western Cape Province. In Mpumalanga the categorisation is the same but the classes are lettered (A to E) and the names differ. Western Cape appears in italics and Mpumalanga in brackets. Some provinces categorise proclaimed *Minor Roads* within Class 3 and then all unproclaimed roads become Class 4.

- *Class 1: Trunk Roads (A: National Primary Roads):* greater than 30m road reserve. These routes link provinces and cities and in some cases link to border crossings ('N' roads). Trunk roads are divided into two sections:
  - *Proclaimed National Roads:* Trunk roads may be declared National Roads (section 40 of the Act) only after consultation and consent has been received from the Premier of the province concerned.
  - *Provincial Trunk Roads:* All trunk routes, not declared *National Roads*, as above, are Provincial Trunk Roads and are the responsibility of the relevant provincial administration.
- *Class 2: Provincial Main Roads (B: Provincial Primary Roads):* 25m-road reserve. These roads link the national road network with cities and large towns and generally serve mobility in a regional context. Where proclaimed in the provincial gazette they are the responsibility of the provincial administration.
- *Class 3: Divisional Roads (C: Provincial Secondary Roads):* 20m-road reserve. These roads reinforce the provincial network linking towns and villages and centres of economic activity. Where proclaimed in the provincial gazette they are the responsibility of province.
- *Class 4: Minor Roads (D: Provincial Tertiary Roads).* These are provincial proclaimed roads, connecting communities, agricultural and tourist centres with each other.
- *Class 5: Access Roads (E Local Access Roads).* These roads are unproclaimed roads and give access to remote settlements, schools, clinics and farms. As the road is not proclaimed nor in many cases mapped the ownership could be in private hands or one or other organ of state.

Class 5 roads are frequently developed from tracks, which are generally not built to any formal planning standard, nor do they have proper drainage. These roads may be attended to by district councils, at their pleasure and generally to the cost of adjacent owners. It is these roads that represent a concern to the poor. They give access to the formal road system, between communities, to the market, to work opportunities, to schools and clinics. These are the most neglected and the first (as recent floods in Mpumalanga and Northern Province have shown) to be damaged or destroyed by adverse weather.

A major challenge has to be faced in bringing adequate resources to bear on the delivery of access to transportation to low income rural communities. In a general sense resources of finance, of technical skills, of planning skills and of institutional capacity have been inconsistently applied at inadequate levels and with lack of co-ordination. It should also be noted that access to transportation for the rural population equates to access to adequate standard roads on which buses and other high occupancy vehicles such as minibus-taxis can operate at reasonable levels of service in terms of reliability, safety, comfort and affordability.

### 11.2.3 Streets

These are roads within municipal boundaries that are not proclaimed national nor provincial roads and are the sole responsibility of the municipality concerned. Clearly with local

municipalities being extended ‘wall to wall’ the demarcation of these roads requires re-definition.

The metro or local municipality is the road authority for all streets (not of national or provincial significance – class 1 to 4) and is responsible for the design, construction and maintenance thereof.

Classes 1 to 4 fall under the authority of either national or provincial government as defined above. Their significance to local government is only when these roads enter or pass through urban areas. The municipality on behalf of province carries out their maintenance in these circumstances. Up-grading or maintenance may be subsidised by province up to 80%, depending on the availability of funds. Provincial cabinet may authorise higher subsidies in cases of need.

#### ***11.2.4 Traffic***

Traffic (and parking) is a schedule 5 B item and as such is the responsibility of local government. In practice regulation takes place centrally with co-ordinated legislation. Enforcement is a provincial matter in proclaimed roads outside municipal boundaries, and a municipal matter within towns and cities.

### **11.3 Provider Options**

#### ***11.3.1 Transport Provision***

Municipalities have provided bus services in many major centres. Pretoria and Johannesburg are examples where municipal bus services still operate. Bloemfontein had a municipal service, which has recently been privatised. Cape Town has always had a private company providing public transport.

The major service retained by municipalities in the field of transport is land use planning related to the movement of commuters, the planning and provision of bus/taxi termini and various inter-modal facilities.

An example of municipal service partnerships in transport services is in Cape Town, where the metropolitan council (CMC) established a Section 21 company – Modalink - in 1996 as a co-operative venture between transport authorities and public transport operators to promote, co-ordinate and market public transport. The company’s board of directors is comprised of representatives of the authorities and operators as well as the users of public transport in the Cape Metropolitan Area. Although funded by the NDOT, Modalink remains contractually bound to the CMC.

#### ***11.3.2 Road Providers***

The most widely accepted provider role demarcation is as follows:

National DoT has delegated the development, maintenance and rehabilitation of proclaimed national trunk roads to the *South African National Roads Agency Limited* (SANRA) in terms of the Act. SANRA, in turn may apply for sections to be declared toll roads, which

application again requires the consent of the premier before the national minister may issue the proclamation. These toll roads are then leased on a long-term concession basis to a private operator, who funds the management, construction and maintenance of that road from toll income.

The national DoT, in the past, has used province to maintain the network on its behalf. The passing of the South African National Roads Agency Limited and National Roads Act no.19/1998 saw a number of provincial roads units become redundant.

The *provincial DoTs* generally perform the role of provider themselves through departmental construction and maintenance units. Private sector contractors for specific projects supplement these units. Where provincial proclaimed roads pass through municipal, urban areas, the upgrading and maintenance responsibility is allocated to the municipality. Depending on the circumstances of that municipality and the availability of provincial funds, the municipality is partially or wholly subsidised for that function.

Most medium to large municipalities perform a roads maintenance function. The road construction function is generally let on private contract.

## 11.4 Technical Options and Service Levels

### 11.4.1 Public Transport

Building infrastructure for transport needs is very dependent on public transport demand patterns, on the socio-economic status of the commuter, on perceptions of public transport services and on subsidies paid to encourage public versus private commuting. Thus planning and subsequent capital prioritisation must integrate all modes of transport – private car, bus, taxi and train.

Private transport in the Cape Metropolitan Area, for example accounts for around 50% of all passenger trips.

Within the public transport sector the situation is far from equilibrium. Significant shifts have occurred in the market share of the bus and taxi modes (see Table 26). Due to the emergence of the taxi industry the modal split between 1987 and 1998 has altered significantly.

**Table 26:**  
**Modal Share in Public Transport in Cape Metropolitan Area**

	Metropolitan Area		CBD Only	
	Pass. Km		Pass. Km	
	1987	1998	1987	1998
Train	65%	62%	78%	71%
Bus	24%	18%	13%	8%
Taxi	11%	20%	9%	21%

### 11.4.2 Roads

*South Africa Survey: SA Institute of Race Relations:* 1999/00 estimates that there are 7 000 km of national, 331 000 km of provincial and 100 000 km of municipal roads (streets) in South Africa. It was further estimated that approximately 87 000 km of roads were unmapped. An estimate in the Rural Infrastructure Investment Report (DBSA: 1996) indicates a current length of 358 000 km of level 1 to 4 roads, based on a high estimate of level 4 roads where lengths are least certain (see Table 27). The RIIF report deals with rural roads and does not include urban streets in their count.

**Table 27:  
Rural Population vs Rural Road Lengths**

Province	Population	Level 1 Kms	Level 2 Kms	Level 3 Kms	Level 4 Kms	Total Kms	Kms / 1000 Population	Level 4 Kms/1000 Population
EC	4 317	6	18	31	86	143 75	114.5	70.4
FS	1 140	1	4	11	32	50 27	61.7	39.4
GAU	223	126	425	889	863	2 300	1.3	0.5
KZN	4 920	1	2	11	34	50 01	40.4	22.0
MP	1 735	977	3	6	6	17 88	10.3	3.6
NC	269	432	1	1	5	8 96	7.1	4.4
NP	4 492	2	8	17	17	46 28	26.6	9.3
NWP	2 209	1	4	8	8	22 76	13.1	4.6
WC	474	760	2	3	9	15 77	12.6	7.7
	19 780	16	45	94	201	358 00	18.1	10.2

RIIF Report: DBSA 1996

There is therefore a consistency in the estimate of approximately 340 000 km of category 1 to 4 roads in the country. With regard to level 5 roads, which include streets, the Race Relations Survey figure of 100 000 to 187 000 can be used.

A proposed definition (RIIF report) of an *adequate level of service* is that people in settlements of above 200 households should have access to the tertiary road network at least via a road designed for 40 vehicles per day, passable for all but 5 days a year. Table 27 gives an indication of the lengths of roads in the various categories in the rural areas compared to the regional population. What is not available is an adequate census of the backlog related to the above minimum standard and a formal delivery process to meet that backlog. However, the RIIF report proposes that in the order of 200 000 km of access road must be provided for rural communities.

The table includes an estimate of an average of 10.2 km per 1 000 population of level 4 roads which primarily provide access to rural settlements. If additional provision is made for level 5 roads (tracks) then this figure could increase to 13 km per 1 000 population (13 metres per capita or 65 metres per rural household).

Although the length of roads is a key cost driver, a more important factor is the condition of the road. Surveys have been done of roads conditions in certain provinces. Figures for Mpumalanga Province are given in Table 28.

**Table 28:**  
**The Existing State of the Road Network in Mpumalanga Province**

Type of Road	Total Kilometres	% Breakdown of the Condition of the Roads			
		Good	Adequate	Poor	Very poor
Surfaced/paved	6 803	15%	25%	35%	25%
Gravel	9 254	10%	20%	45%	25%

Source: Provincial Department of Public Works, Roads and Transport (2000).

The generally poor state of the roads is of concern. It is also evident that the condition of roads is declining with time due to inadequate maintenance. This situation is typical across the country.

## 11.5 Management Options

### 11.5.1 National

The White Paper and subsequent Act has repositioned national government's role. It will focus on policy and strategy formulation, as its prime role, and substantive regulation, which is its responsibility. It will provide a basis for transport to play a more strategic role in social development and economic growth.

### 11.5.2 Provincial

Province sees its role as the principal transport authority, providing the necessary guidance and direction in addressing transport matters in the province. Roads become a sub-set of transport planning and funding priorities in terms of inter-government grants for roads would accordingly be set at this level.

### 11.5.3 Municipal

Province will delegate its authority where competency lies. Metropolitan councils have already had such delegation and to varying degrees are setting visions and strategies for the future. The Cape Metropolitan Council, for example, has published two parts to an ultimate five part *Cape Metropolitan Transport Plan*. The four other Metropolitan Areas in South Africa have similar documents.

The management of road infrastructure, both the provision of new and restructured roads and the maintenance of existing stock can have a profound effect on the local economy. In *Moving South Africa's – Eastern Cape Rural Access Road study* (1998) needs and backlogs have been identified. The crucial decisions that must follow are the management and execution of those plans. In short the needs and priorities have been identified, the funding, the authority and management structure have yet to be clarified.

The same report emphasises the boost to the local economy that can be achieved should the execution of road building and maintenance be carried out at a community level. Five examples of alternative maintenance contract systems are listed and discussed. These are:

- *Labour-based contracts*: Access roads by definition are constructed where people live. As such they can be constructed and maintained to create maximum local employment opportunities.
- *Lengthman contracts*: This system is based on the appointment of an individual to be responsible for the maintenance of a section of road, usually adjacent to his/her home. Payment is based on a 9-day working month, allowing the person time to attend to other interests.
- *Entry-level, plant contracts*: Certain roadwork necessitates the use of plant. If that plant can be simplified and cross-utilised with farming type operations it allows SMME entry into road building and maintenance. What is advocated in this type of contract is tractor drawn implements such as drawn graders, rollers, haulage trailers and water bowsers etc.
- *Integrated plant and labour hire contracts*.
- *Standard specification annual contracts*.

Application of any or a combination of the above may have a marked effect on the local rural economy.

As far as small rural municipalities are concerned, even at very basic road level (ungraded dirt or gravel) the maintenance of roads requires a measure of technical expertise. Yet a great deal of the maintenance work is labour intensive and conducive to entry-level contractors. The solution thus lies in providing the technical expertise on a support basis from say the district municipality (C) whilst using CBOs and the local community to organise and carry out the work.

#### **11.5.4 Recommendations**

Given the problems with the current allocation of responsibility over roads and transport, clear demarcation of authority needs to be promulgated between provincial and local government. Only then can the demarcation between district and local municipalities be clarified.

A logical division is proposed here as follows:

Class 1 roads (trunk roads)	National Roads Agency and provinces
Class 2 roads (provincial trunk roads)	Provincial transport departments
Class 3 roads (Divisional roads)	District municipality
Class 4 roads (Minor roads)	District municipality
Class 5 roads (Access roads and streets) - outside settlement boundaries	District municipality
Class 5 roads (Access roads and streets) - inside settlement boundaries	Local municipality

A clear national position in this regard, together with clarity on the method of classification, is necessary before funding mechanisms and budget allocations can be addressed.

Once district municipalities are in place it seems appropriate that traffic enforcement on behalf of smaller local municipalities could be carried out at this level. This function could be taken over from province on one hand and serve towns and villages on the other, where economies of scale would make an independent traffic department uneconomical.

Other related functions carried out at municipal level are testing for and issuing of drivers' licences, vehicle testing and the issuing of roadworthy certificates, education and safety promotion and various traffic management functions. The latter includes traffic lights, road marking, parking and traffic calming measures. Size and capacity would inform the debate as to the allocation of this function to local or district level.

District and local councils will be required to develop competence as far as transport is concerned or to have the function undertaken on an agency basis by another transport authority. The institutional arrangement proposed in some areas is a combination of district municipalities forming into combined transport authorities.

## 11.6 Costs

Road building usually constitutes the largest single capital investment made in rural development. It is clear that there is a severe backlog of roads in South Africa and an equally severe lack of maintenance causing deterioration of the current network. It is imperative therefore that appropriate technology is chosen. For typical costs of different levels of roads see Table 29 and Table 30.

**Table 29:  
Capital and Maintenance Costs – Roads**

	New Roads	Rehabilitation of Existing Roads		
		Poor to Adequate	Poor to Good	Adequate to Good
District Roads (LEVEL 3)	R per meter	R per meter	R per meter	R per meter
paved roads	870	325	590	280
gravel roads	270	100	180	85
graded roads	18	6.8	12.5	6
Local Roads (LEVEL 4)		R per meter	R per meter	R per meter
paved roads	720	270	480	230
gravel roads	210	80	140	65
graded roads	12	4.5	8.2	3.8

**Table 30:  
Typical Road Maintenance Costs**

<b>Cost of Maintaining a Road in its Existing Condition</b>			
	<b>Good</b>	<b>Adequate</b>	<b>Poor</b>
District Roads (LEVEL 3)	Rands per km per year		
paved roads	10 875	8 265	5 655
gravel roads	11 340	9 585	4 725
graded roads	945	900	738
Local Roads (LEVEL 4)	Rands per km per year		
paved roads	7 920	5 760	3 960
gravel roads	8 400	7 140	3 465
graded roads	612	582	480

District services model: Mpumalanga Province: June 2000

### **11.6.1 Eastern Cape Example**

A typical example of the significant cost of meeting the road backlog in rural areas is that of the Eastern Cape. An Eastern Cape transport study carried out for the *Moving South Africa* project points out that in order to provide a *reasonable* access road to most villages, schools and clinics in rural Eastern Cape there is an immediate need to construct 9 100 kms at an estimated cost of R1.06bn. These are the construction costs and unless planned routine maintenance follows the capital expenditure will prove fruitless after one rainy season. A labour based maintenance scheme would cost of the order of R2 100 per km per annum. Thus the annual maintenance of the 9 100 km would amount to R20m. During a year this could support 274 small contractors and provide employment for 3 616 800 person workdays.

### **11.6.2 Metro Example**

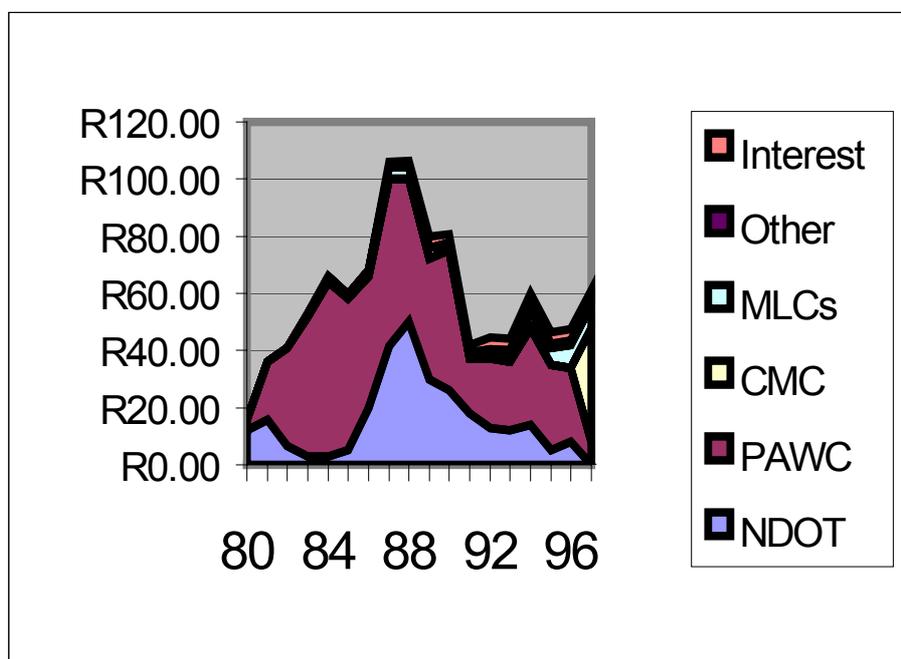
The Cape Metro provides an indication of the infrastructure and financial backlog in large urban areas. The combined length of constructed carriage-way within the six MLCs comprising the Cape Metropolitan Council amounts to 2080 kms. A Pavement Management Survey (PMS) report assessed that an immediate amount of R127.5 million would be required to rehabilitate the roads. This figure does not include any amount for routine maintenance, reconstruction, structural maintenance nor repair to guard-rails, handrails and direction signs.

The maintenance budget presently affordable by CMC and the MLCs for 2000/01 amounts to R93.13 million, which is approximately half of what is required to ensure that the condition of the metropolitan road network does not deteriorate further. Reasons given for this inadequate level of funding include:

- The capping of municipal budgets by the national Department of Finance
- The total reduction of funding from the national Department of Transport
- The almost total lack of funding from The Provincial Administration Of The Western Cape (PAWC)

The flow of funds to the Cape Town Consolidated Metropolitan Transport Fund, over a sixteen year period (Figure 6) graphically illustrates the erratic nature of inter-government grants.

**Figure 6:**  
**Cape Town Consolidated Metropolitan Transport Fund (1997 Rands)**



Cape Metropolitan Council: Report No 180/99/200

### 11.6.3 National Picture: Road Maintenance

#### *Levels 2 to 4 Roads*

Taking a length of 340 000 km for the total road network (levels 2 to 4) and a moderate maintenance figure for all roads types of R5 000 per km, the combined provincial roads maintenance budget should be R1.7 billion (assuming the current situation where all of the maintenance costs for this type of road flows through their budgets). (This excludes the overheads of the provincial transport departments which are substantial). This figure amounts to an average of R15 per month per household, based on all South African households (9.3 million).

#### *Level 5 Urban Roads*

Considering level 5 roads in an urban context this can best be estimated based on an average length of urban street of 20m per urban household. A moderate level of spending, allowing for the stormwater drainage, is R6 500 per km per year. This gives a figure of R11 per household per month.

#### *Level 5 Rural Roads*

The provision for rural level 5 roads needs to be substantially less, say R5 per household.

### 11.6.4 National Picture: Road Construction and Rehabilitation

#### Level 2 to 4 Roads

In the RIIF report it was estimated that 200 000 kms of roads required construction or substantial upgrading. At an average capital cost of R350 000 per km this amounts to R70 billion. If this construction programme was spread out over 20 years it would amount to R3.5 billion per year (R31 per household per month).

#### Level 5 Roads (Urban)

Figures per new site served, including provision for stormwater and bus routes, are summarised in the following chart (from MIIF version 2):

Basic	Intermediate	Full – low income	Full – high income
R 2 700	R5 300	R10 000	R13 800

#### Level 5 Roads (Rural)

There is little to go on in estimating per household costs for level 5 roads. A rough estimate is made at R1 000 per household for a moderate service level.

## 11.7 Revenue Options

### 11.7.1 Uncertainty of Funding

The Western Cape example is typical of the uncertainty facing local authorities with respect to the flow of funds from the provincial and national levels for roads and transport. As the Western Cape white paper explains:

Current levels of funding provided by all levels of government for transport, including the funds provided from national sources for subsidising bus and rail services, are diminishing in real terms. They are generally considered to be far less than those necessary to address present infrastructural, operational and service related shortcomings. In addition, there has been no clear basis for reliably assessing the amount of financial support, which can be expected from national sources. This has made strategic planning and programming difficult and has led to policy uncertainty and confusion.

It is essential therefore that adequate and appropriate funding is provided by all levels of government and that these funds should be stable (predictable), equitable and sustainable.

Revenue options are as follows:

- *Fiscus*. This source of revenue emanates from the central fiscus and is paid to provinces from where it is disbursed to various cost centres according to provincial priorities. Central government's grant to provinces may be calculated on a formula, inter alia measuring road needs, but the priority allocation of the total grant, once given, is solely in the hands of the province concerned. As can be seen, in both the examples of Mpumalanga and Western Cape, the roads vote, at present, is not capable of sustaining urgent requirements of existing provincial proclaimed roads. Its ability to contribute to

the rehabilitation or even maintenance of rural access roads or municipal streets is thus severely limited.

- *National Public Works Programme (NPWP)*: The National Public Works Programme since 1995 has allocated certain portions of its funds to the building of rural roads. Road building or rehabilitation of existing roads usually forms an integral part of the department's Community Production Centre (CPC) programme. The 2000/01 budget has allocated a total of R349m to this programme of which R73.6 m or 21% has been allocated for the roads maintenance or building portion. These funds will be disbursed throughout the rural areas of Northern Province, Eastern Cape, KwaZulu-Natal, Mpumalanga and certain projects in the Free State.
- *Toll roads*. While this is a reliable potential source of income it is difficult to apply to anything but high use trunk roads and, to a limited extent in metropolitan areas. User resistance, particularly when toll plazas are situated between residences and places of work will be a constraint.
- *Fuel levy*. This form of tax is directly proportional to use, is equitable and it is recommended that it be re-instated as a dedicated source for road funds.
- *Vehicle licences*. (In the Western Cape Local Authorities collect licence fees on an agency basis for province. They are paid 12 % commission). It is proposed that the level of licensing be more realistic. Western Cape has drastically increased license fees, which now bring in an income comparable with the provincial roads budgeted expenditure. It must be realised, however that the license fee is a tax and not directly proportional to road use.
- *District council levies*. Roads and transport infrastructure needs have to be prioritised with a widespread call on this source. District Councils are prohibited from funding agency functions (e.g. provincial roads) from their levy income.
- *Local government equitable share*. This is an inter-government grant to local government (mostly at rural level) to be disbursed at the discretion of the municipality concerned.
- *Provincial equitable share*. This is an inter-government grant to provinces to be disbursed at the discretion of the province concerned.
- *Transport bus subsidies*. This is an inter-government grant paid to provinces to be used to subsidise bus commuters (see Table 31). Transfer to the provinces are in terms of the annual Division of Finance Acts made only after agreement on allocations is reached in MINMEC (MINCOM) based on contracts reached between provinces and bus companies. The purpose of the subsidy is to promote the use of public transport and to assist bus commuters. It takes the form of a passenger discount on multi-trip tickets (clipcards) for journeys above 10 km. The subsidy in 1998/1999 was equivalent to R5,52 per passenger trip (15km average) or 36,8 cents per passenger km. (Cape Metropolitan Transport Plan: 1999). A big issue of dispute between the taxi industry and the bus companies is that this subsidy is available to bus and not taxi commuters. However, subsidies are also provided

to private commuters in the provision of roads and especially freeways within urban areas and the under-recovery of all-day parking in down-town areas

**Table 31:**  
**Each Province's Equitable Share and Bus Subsidy Allocation**

	Population	%	GGP (1994)	%	Provincial Equitable		Provincial Bus Tariff	
					Share Allocation		Subsidy Allocation	
					R m	%	R m	%
Eastern Cape	5.865	15.5	29.049	7.6	R14,819	17.6	R46.5	3.6
Free State	2.470	6.5	23.688	6.2	R5,742	6.8	R68.6	5.3
Gauteng	7.170	18.9	144.359	37.7	R12,573	14.9	R525.1	40.6
KwaZulu-Natal	7.672	20.3	57.007	14.9	R16,707	19.8	R290.0	22.4
Mpumalanga	2.646	7.0	31.175	8.2	R5,646	6.7	R111.2	8.6
Northern Cape	0.746	2.0	8.000	2.1	R2,084	2.5	R3.9	0.3
Northern Province	4.128	10.9	14.158	3.7	R11,144	13.2	R59.5	4.6
North West	3.043	8.0	21.252	5.6	R7,213	8.6	R41.4	3.2
Western Cape	4.118	10.9	53.874	14.1	R8,274	9.8	R147.5	11.4
	37.858				R84,202		R1,293.7	

- *Commuter rail services subsidy.* This funding by central government is in the form of a deficit subsidy – the difference between total costs and passenger revenue. The annual subsidy for 1998/99 was about R255m. this is equivalent to R2,04 per passenger trip (16 km. average) or 12.8 cents per passenger km (Cape Metropolitan Transport Plan: 1999)
- *Roadworthy testing.* This tariff must, at least, cover the cost of the activity. In Cape Town, for example, only 45% of the cost of R1,4 m for providing this service is recovered from user charges.
- *Traffic fines.* Fines collected by provincial officers are credited to the local authority in which the offence takes place
- *Parking.* More realistic short and long term parking charges, together with a levy proposed to be imposed on all long-term parking, both public and private. Under charging for parking tends to encourage the use of private as opposed to public transport.

## 12 HEALTH SERVICES

The South African Government of National Unity adopted the Primary Health Care Approach (PHC) in an attempt to move away from the inequitable and urban-centred health system created under Apartheid. A new health care system based on the District Health System (DHS) is in the process of being adopted. The PHC service run by the district health authority is seen as the most cost-effective means of improving the population's health. According to the DHS, distinct functions are assigned to the national department, the districts and municipalities – but the responsibility for service delivery is entrusted to the district level.

Based on this policy, contained in the ‘white paper’ on the Transformation of Health Services, the country is divided into a number of functional health districts. Each is headed by a team responsible for the planning and management of all local health services and for the provision of PHC services, within the framework of national and provincial policies and guidelines.

### **12.1 Long Term Goals and Role of the District**

According to the White paper on the Transformation Of Health Services, the country needs to be divided into a number of functional health districts headed by a team responsible for the planning and management of all local health services and for the provision of PHC services within the framework of national and provincial policies and guidelines. These health districts also need staff equipped with the financial and managerial capacity to carry out PHC service provision. Unfortunately, due to a number of legislative and other problems, the provision of PHC services have been provided in an inefficient manner with a lot of duplication of services.

### **12.2 Legislation**

There has been no change in the legislation in health since 1977. The Health Care Act of (63 of 1977) allocates some aspects of primary health care to local authorities and others to the Provincial Health Departments. Section 16(1) of this Act gives the responsibility for the provision of curative PHC services to the provinces. According to the Bi-Ministerial Task Team on the Implementation of a Municipality Based DHS in the Western Cape, Section 20 of the same Act gives this same responsibility to local authorities. This creates an overlap of functions present today.

The division of PHC service responsibilities in the Health Act is reinforced by the new constitution of the country that identifies Municipal Health services as a local government function and Health services as a provincial function. The constitution does not define “municipal health services” and does not indicate which category of local government should render the service. This has led to confusion about which services local government should deliver and who should fund these services. Even the definition of what constitutes municipal health services varies between authorities.<sup>1</sup>

### **12.3 Service Levels**

The principles applicable to health care services are described by the World Health Organisation (WHO): health care delivery for preventative, promotive and curative health services at the basic level must be affordable, available, acceptable to the population served and equitable. PHC must also be comprehensive, secure, integrated and should focus primarily on prevention and promotion. A district health authority should run it.

Service levels can be considered from a number of points of view:

---

<sup>1</sup> Report to the Bi-Ministerial task team on the implementation of a community based district health system in the Western Cape, April 2000, pp 6

- Type of service offered.
- Type of facility at which service is provided.
- Number of facilities provided per unit of population.
- Utilisation rate: the average number of visits to a PHC facility per person per year.

Each of these aspects is discussed below.

### *12.3.1 Type of Service Offered*

The range of services which make up primary health care is extensive, as indicated in Table 32. The relevant personnel necessary to run PHC services are also indicated.

### *12.3.2 Types of Facilities*

PHC facilities are typically grouped into three categories (given in order of decreasing range of services offered by each):

- Community health centres (CHC)
- Clinics
- Mobile clinics

Typically a community health centres are run by provinces. Clinics are more typically run by local authorities. Mobiles are intended to operate predominantly in areas where permanent clinics are out of the reach of people, usually rural areas.

It is important to note that PHC facilities differ and that facilities of the same type may offer a substantially different range and quality of service. The typical services these different categories of facilities provide, the staff they employ and the times that they operate are given in Tables 33 through 35.

The most sophisticated of these facilities are the Community Health Centres (CHC).

The provincial government usually operates the CHCs. Clinics represent an intermediate level of service. They provide a wide range of PHC services but are not as sophisticated as CHCs.

Mobile clinics are meant to operate predominantly in areas where essential services are out of the reach of people, usually rural areas.

**Table 32:  
PHC Services Provided by DHS and Relevant Personnel**

Services	Relevant Personnel
Personal promotive and preventative services: Health education Nutrition/Dietetic services Family planning Immunisation Screening for common diseases	PHC nurses; health educators Nutritionist PHC nurses PHC nurses PHC nurses  -Referral to generalist doctors as appropriate
Personal curative services for acute minor ailments, trauma, endemic, other communicable and some chronic diseases.	PHC nurses
Maternal and child health services: Antenatal care Deliveries Post-natal and neonatal care	Midwives   -Referral to generalist doctors as appropriate
Provision of essential drugs	Pharmacists and assistants; PHC nurses
PHC level investigative services: Radiology Pathology	Radiographers, X-ray technicians Laboratory technicians -Referral to generalist doctors as appropriate
Basic rehabilitative and physical therapy services	Physiotherapists and assistants; occupational therapists and assistants
Basic oral health services	Dental therapists; oral hygienists -Referral to generalist doctors as appropriate
Basic optometry services	PHC nurses -Referral to generalist doctors as appropriate
Mental health services	Psychiatric nurses; social workers
Medical social work services	Social workers
Services organised and provided at the district level	
Health education	Health educators
Health related nutrition support	Nutritionists; dieticians
Communicable, non-communicable and endemic disease prevention and control	Epidemiologists; public health specialists, Epidemiology assistants Public health officers; generalist doctors
School and institutional health services for children: Oral health Audiology Optometry	PHC nurses Dental therapists Audiology technicians Optometrists
Health-related water and sanitation services and other environmental health services	Environmental health officers
Community mental health and substance abuse services	Generalist doctors; PHC nurses; social workers
Occupational health and safety services (*)	Health inspectors Epidemiologists; public health specialists Generalists doctors
Community nursing and home care services, including care for the terminally ill	Generalist doctors, PHC nurses
Essential accident and emergency services	Emergency trained personnel, drivers
Community geriatric services and care for the elderly	Generalist doctors, PHC nurses
Health services support: Epidemiology and health information system Health monitoring Planning and Administration	Epidemiologists; health information system specialists Health planners, administrators
Basic medico-legal services (*)	Pathologists; generalist doctors

Source: Department of health. White Paper for the transformation of the health system in South Africa

\*These services are likely to be provided at the district level, but may be in part or completely funded from sources other than the health vote.

**Table 33:  
Community Health Centre (CHC)**

Services	<p>All services that are provided by Clinics  Plus:  Wider range of curative services (acute and chronic).  Primary level trauma and emergency services.  Rehabilitation services provided by physio and OT.  Dietician services.  Social worker services  X-ray services  Dental services  MOU services  Mental health services  Other services provided by outreach professionals from district /regional level.</p>
Staff	<p>CHC manager  Professional nurse  Enrolled nurse  Enrolled nursing assistant  Specialised nursing personnel (psychiatry, pediatrics, obstetrics etc).  Administrative and general staff  Health advisor  Medical officer  Pharmacist and assistant  Physiotherapist and/or assistant  Dietician  Radiographer  Dentist and /or assistant  Oral Hygienist  Dental stool assistant  NB: some of these staff may be part-time.</p>
Service times	<p>Minimum: Office hours  May be extended, depending on local need and resources, to:</p> <ul style="list-style-type: none"> <li>• Saturday mornings;</li> <li>• extended weekday hours;</li> <li>• on-call arrangements for after hours emergencies (e.g. obstetrics/emergencies)</li> <li>• 24-hour services for trauma, emergencies, obstetrics</li> </ul>

**Table 34:  
Clinics**

Services	All services that mobile hospitals perform Plus: A wider range of curative services (acute and chronic) Minor trauma and emergency services Nurse provided rehabilitation services Other services provided by outreach professionals from CHC/regional level (dependent on available resources) Community outreach services e.g. too OAHs.
Staff	Professional nurse Enrolled nurse Enrolled nursing assistant Administrative and general staff Pharmacy assistant Health advisor
Service times	May vary from once a week to office hours + extended hours. Dependent on local need and resources available.

**Table 35:  
Mobile Clinics**

Services	Promotive and preventive School health services Ante-natal and post natal care Curative Acute curative services can be provided, but would not be primary purpose of mobile service. Chronic diseases follow up, including psychiatry, TB. etc.
Staff	Professional nurse Enrolled nursing assistant Health advisor
Service times	At least 4 weekly, if chronic disease follow-up provided.

### ***12.3.3 Coverage of PHC Facilities***

Internationally (notably WHO standards) it is proposed that one PHC facility should reach at least 10 000 people and that the facility should not be more than an hours' traveling time by local transport or foot. It is evident that population density has an impact and that in low density areas it may need more than one clinic per 10 000 people to meet the travel time criteria. As these areas are usually the worst resourced, it is unlikely that these norms can be met in such situations.

It has not been possible to locate national statistics relating to average coverage of PHC facilities. However, in the Western Cape, probably the best served province in the country, local authorities run approximately 435 clinics (226 fixed clinics, 54 satellite clinics and 135 mobile clinics) while the Provincial Administration currently runs 64 CHCs<sup>2</sup>. With a population of 4.3 million, this comes to 8 600 people per clinic, a relatively high standard.

<sup>2</sup> Ibid

The coverage in the poorer provinces with high rural populations (particularly Eastern Cape, Northern Province and KwaZulu/Natal) the coverage of clinics is likely to be much lower.

#### ***12.3.4 Utilisation Rate***

Utilisation rate is defined as: the average number of visits to a PHC facility per person per year. Given the range of services offered at each PHC facility and the fact that many people visit hospitals for primary health care attention, this figure can only be used to give the broadest indication of how accessible the service is. It also needs to be recognised that the wealthier members of society do not visit clinics but use private doctors.

Measured utilisation rates in South Africa range from 3.5 visits per person per year in part of the Cape Town metro area to 0.5 in rural areas of the Transkei (Eastern Cape). The national government uses 2.9 as a planning norm.

### **12.4 Service Provider Options**

While the great majority of PHC facilities in South Africa are run by provincial and local government, the private sector and NGOs also provide PHC services.

#### ***12.4.1 Private Sector and NGOs***

Some insurance systems in the private sector provide PHC services to a targeted market. An example of this is Prime Cure, which is a private for-profit organisation rendering PHC services to a target market of blue-collar workers. These clinics offer services of the range of clinics and CHCs.<sup>3</sup>

It is noted in the costing section below that private sector and NGO clinics are more cost efficient. However, they have limited penetration into this market and this is concentrated mainly in urban areas.

#### ***12.4.2 Relative Roles of Provincial and Local Government***

Considering public sector service providers, the major issue in the sector at present is the relative responsibility of provincial and local government in providing the service. Generally local government plays a much stronger role in well developed urban areas, compared to rural areas.

However, there is not a consistent national picture as there are different types of relationships that exist between various provinces and local government with regard to health care service provision. In the Western Cape Province, provincial government provides curative services whereas local government provides preventive and promotive services. Local government provides curative services for children under the age of 13. These local government clinics are primarily nursed-based with doctors and support staff. Provincial Community Health Centres (CHC) are doctor-based with nurses and support staff.

---

<sup>3</sup> Daviaud, E. Assessing costs of PHC services in an urban district Department of Community Health, UCT.

Using the Western Cape as an example, (Bi-Ministerial task team report), there is currently no systematic approach to the management and organisation of local authority health care services in the province. Health care services have developed where a municipality has taken the initiative or where the municipality has been prepared to provide the financial resources for a portion of these services. At present 35 municipalities have their own health departments and almost all provide their own environmental health services. In the Western Cape Province local authorities run approximately 435 clinics. These include 226 fixed clinics, 54 satellite clinics and 135 mobile clinics. The Provincial Administration currently runs 64 CHCs.<sup>4</sup>

All seven district councils in the Western Cape have Health Departments and provide services for rural areas. District councils provide services on behalf of the Provincial Health Department on an agency basis. Because there are no contractual agreements between province and the district council there have been difficulties: whose responsibility is it to fund over-expenditure incurred by the agent<sup>5</sup>, for example.

Partly because of the lack of clarity over responsibility for service provision the current health services are fragmented, not well co-ordinated, and with much duplication of facilities with many facilities neighbouring each other. In the rural regions, there is also duplication of facilities between District Councils and Local Municipalities, with facilities in close proximity of each other. This means that there is an inefficient and ineffective allocation of resources.

### ***12.4.3 Relative Roles of District and Local Municipalities***

A key issue in the sector for the future is the assigning of responsibilities to district and local municipalities (C and B). The national Dept of Health considers that the objective should be to assign responsibilities to local municipalities. However, it is recognised that this should be conditional upon their having the capacity. The probability is that, unless the local municipalities have a strong urban core, district municipalities will be better able to provide the service as they can share limited management expertise across the district.

## **12.5 Costs**

Costs are considered here based on:

- Providing a PHC facility.
- A single visit to a PHC facility.
- Providing a facility based service per household.
- Overall annual cost of PHC per household.

### ***12.5.1 Cost by Facility***

In urban areas the operating and capital costs associated with the provision of PHC for the different categories of PHC facilities are given in Table 36.

<sup>4</sup> Ibid

<sup>5</sup> Report to the Bi-Ministerial task team on the implementation of a community based district health system in the Western Cape, April 2000.

**Table 36:**  
**Costs of PHC Facilities in an Urban Area (2000 Rs)**

Category	Description	Capital Cost of Service	Operating Cost of Service
A	Community Health Centres	Between 8 000 000 and 10 000 000	N/A
B	Clinics	3 500 000	1 900 000
C	Mobiles	200 000	300 000

Source: MOH, Western Cape

Some of these facilities may serve up to 300 000 people.

In rural areas costs are typically lower, perhaps related to the simpler construction of facilities and the smaller range of service offered (see Table 37 below).

**Table 37:**  
**Costs Associated with Running PHC Facility in a Rural Area (2000 Rs)**

Category	Capital Cost of Service	Operating Cost of Service	Annual Maintenance Cost
Clinic with two nurses homes	1 300 000	1 300 000	30 000

Source: DBSA: Rural infrastructure investment framework, 1995.

### 12.5.2 Costs by Visit

A study funded by the Health Systems Trust<sup>6</sup> assessed the costs of rendering PHC services in the South Peninsula Municipality in the Cape Metropolitan Area. The study examined costs at both provincial as well as local authority facilities. The results of the study are given in Table 38.

**Table 38:**  
**Average Cost per Consultation 1997-1998 in Metro Area**

	C.H.C.s		L.A Clinics		Weighted Total	
	Rands	% Share	Rands	% Share	Rands	% Share
Staff	37.6	56	28.1	64	33	59
Drugs	15.8	23	3.9	9	10	18
X-Ray	1.1	2	0.2	1	1	1
Labs	1.5	2	1.5	3	2	3
Admin	2.8	4	1.3	3	2	4
Management	8.4	12	8.6	20	9	15
Total	67.5	100	43.8	100	55	100
Number of consultations	338 000		349 200		687 200	

Data Source: Assessing costs of PHC services in an urban district

<sup>6</sup> Daviaud, E. Assessing costs of PHC services in an urban district. Department of Community Health, UCT.

The indication is that costs are higher at community health centres (CHCs) than at local authority clinics. This is likely to relate largely to the greater range of services offered at CHCs and the higher skill levels required of staff.

The same study also examined the costs associated with NGO and private sector PHC service provision and found the costs to be lower than that provided by the public sector. In the case of the private sector, cost per consultation was as much as 34% cheaper than in the public sector case (see Table 39 below).

**Table 39:**  
**Average Cost per Consultation at NGO Clinic**

	Alex NGO	
	Rands	% Share
Staff	17.7	45
Drugs	11.6	30
X-Ray	0.2	0
Labs	0.5	1
Admin	4.6	12
Management	4.4	11
Total	39.0	100
Number of consultations	317 600	

Data Source: 'Assessing costs of PHC services in an urban district'

A planning norm used by national government is R55 per visit. National studies have indicated that there is not a great deal of variation in this cost between urban and rural areas. (It probably costs more to run a clinic in rural areas for the same type of service but, on average, a lower level of service is offered).

### **12.5.3 Costs per Household per Year**

Costs per household per year for a facility based service (person visiting a PHC facility) can be estimated from the cost per visit and the utilisation rate.

The national norm for utilisation rate is 2.9 visits per person per year. Average household size can be taken as 5 and it costs an average of R55 per visit. Therefore average cost per household is R798 per year. In using total population figures, this needs to be adjusted to provide for the fact that people with medical insurance do not visit clinics. The indication is that this proportion varies from 35% in high income areas to 0% in poorer rural areas. Taking a national figure of 15% gives an adjusted cost of facility based PHC to be R694 per household per year. (58 per month).

Considering the range of utilisation rates from 0.5 to 3.5, which can be associated with a range from a minimal to a high level of service, the cost per household varies from R120 to R840 per year (R10 to R70 per month).

#### 12.5.4 Overall Cost per Household

PHC is not only provided at PHC facilities. In fact an essential part of it involves environmental health, which is strongly associated with monitoring, and health promotion which is undertaken by community health workers in communities, at schools and so on. It has not been possible to get good cost estimates of this part of the service. However, based on estimates made by Palmer development Group for sanitation promotion, an indicative figure of R5 per household per month is proposed.

Using this figure, together with the figures for facility based PHC an estimate of the range of costs is summarised in Table 40.

**Table 40:  
Estimated Cost Range of Health Services per Household (Rands/Month)**

Service Level	Cost per Household per Month		
	Facilities Based	Community Based	Total
Minimal service	10	5	15
Moderate service level	30	5	35
High service level	70	5	75

It is not appropriate to differentiate between urban and rural service levels. However, it should be noted that it is highly unlikely that the high service levels will be attainable in rural areas.

Finally, it should be noted that these figures do not provide for specific interventions relating to Aids. This is discussed at the end of this section.

#### 12.6 Revenue Options

Funding of PHC services differ around the country and even within provinces. In terms of the funding arrangements; it is currently the responsibility of provincial government to fund PHC services, with the exception of environmental health services. However, in fact wealthier local authorities fund a substantial proportion of the PHC costs incurred in their areas.

Information was collected to ascertain the relative percentage of PHC funding by The Western Cape Provincial Health Department and by local authorities in the Western Cape in 1997-1998 (see Table 41).

**Table 41:  
Relative Share of PHC Funding- Western Cape (1997-1998)**

Region	Province Funding		LG Own Funding	
	Rands (000s)	%	Rands (000s)	%
Metro	311 556	73%	115 394	27%
District 1	110 595	87%	16 273	13%
District 2	55 958	68%	26 158	32%
District 3	51 256	78%	14 246	22%
Total	529 365	75%	172 071	25%

What is not evident is what proportion of these costs are incurred directly by province running its own clinics, in contrast to clinics funded by them but run by local government on an agency basis.

The situation is likely to be quite different in other provinces, with poorer provinces placing less reliance on local government funding.

In conclusion there is an absence of any structured system of financing PHC services. In the case of local government, councils vote funds for health services and each council has complete discretion in the allocation of these funds.

## **12.7 Impact of Aids**

While no quantitative information on the impact of Aids on the PHC system could be found it is clear that this could be substantial. Local government has an important role to play and particularly with regard to Aids awareness. It can be speculated that Aids will increase the load on PHC facilities by some 25%. Further it would be a sensible strategy to allocate a specific budget to local authorities to promote Aids awareness. This needs further attention.

## **13 EMERGENCY AND FIRE SERVICES**

### **13.1 Emergency Services Overview**

Emergency services are made up largely of ambulance and rescue services, with a smaller component related to disaster preparedness and management. The rescue and ambulance service is severely over-taxed at present. Trauma cases far outnumber the delivery of ill patients to hospitals or the necessary transfer of patients from secondary to tertiary hospitals where specialty care is required.

In an attempt to spread the burden of trauma cases, the majority of such cases are treated at numerous day hospitals and clinics. These primary facilities can handle most superficial injuries and are conveniently located for the majority of the population. Should patients need specialist treatment, they are first stabilised and then referred for further management to either a secondary hospital or to a tertiary referral hospital depending on the severity of the case.

Several ambulance services bring patients to the referral tertiary hospital. For example vehicles of the Cape Peninsula Local Authorities Ambulance Service, which represents the pooled resources of the constituent MLCs, carry most patients within the metropolitan area. Cases transported in from rural areas are carried by ambulances of the towns concerned; such rural services are administratively linked and controlled through the provincial Medical Emergency Transport and Rescue Organisation (METRO) which has radio-telephonic contact with all the primary centres and their vehicles.

Cape Town with an area of some 5000 km and a population of some 2,4m has an average of 21 ambulances on any one shift. This represents one vehicle per 113 000, well short of the recommended 1:50 000 ratio (*Pre-Hospital Trauma Care*: J. van der Spuy April 1999). In contrast, Laingsburg Hospital is situated some 250 km from Cape Town and 160 km from Worcester, its nearest referral secondary hospital. It is a primary health care facility situated in a rural district with a population of 5 900. Two ambulances and two ambulance crews, linked to the METRO organisation, as described above, serve the town and a district of 7 500 km<sup>2</sup>.

The ambulance services, both in the metropolitan and rural areas are administered by the local authority and fully subsidised by the province. In the Western Cape the METRO unit falls directly under province and manages, administers and co-ordinates the whole service. There is a strong move afoot to bring the whole service under the wing of the provincial health departments. There are similar arrangements in other provinces.

### 13.2 Legislation and Policy

The *Medical, Dental and Supplementary Health Service Professions Act: 56 of 1974* is the only current legislation that has bearing on ambulance services and clearly requires rewriting. The ambulance service has evolved in that time from a private 'transport' service, which had no standard for the vehicle, its equipment nor its driver, who generally had little or no medical training, to one in which vehicles, containing sophisticated life supporting equipment and manned by well trained ambulance personnel, stabilise and transport patients to appropriate care centres.

Draft *Regulations for Emergency Medical Services (EMS)* have been drawn up and were submitted to the Director-General in May 2000 for consideration. These regulations will for the first time require that *medical emergency services* (public or private) be registered and in order to do so must comply with certain minimum standards.

### 13.3 Authority

*Ambulance services* appear under part A of schedule 5. This means that the service falls within the exclusive legislative competence of provincial legislatures and that the provincial legislatures are the authority. Any provincial legislature may, however, under certain laid down conditions, assign the administration of that matter to a municipality.

Historically the authority has generally been with local authorities throughout South Africa. In some regions ambulance services have been part of the fire department (for example: former Transvaal) and in others it has been a separate department (e.g. former Cape Province). Latterly the service has been administered by municipalities, both large and small,

and financed, managed and co-ordinated by the province concerned. What constitutes the authority in these circumstances is unclear at this stage, but would appear to be the province as authority and the specific municipality (local) as the agent or provider. The future structure is currently under discussion and should be clarified shortly. One strong argument entering this debate is that the service should not be restricted by local or even district municipal boundaries.

It would appear that provinces might well become the ambulance authority with provider options discussed below.

### **13.4 Provider Options**

Once the ambulance services are regulated in the manner proposed there will be scope for a number of providers:

#### ***13.4.1 Combined Local Municipality and Province***

This model is currently in practise in most of the provinces. The model places ambulance stations strategically throughout the region, which are administered by and responsible to the municipality, but co-ordinated and despatched by a central controller responsible to province.

#### ***13.4.2 Private Sector***

The private EMS is competing strongly for a market share, but will inevitably focus on treating and conveying those who can pay for the service either personally or via the Road Accident Fund or a Medical Aid Fund. As more South Africans become members of a medical aid or are eligible for moneys from the Road Accident Fund this market share will grow.

The issue requiring debate is whether the private sector could provide the service for the entire province on an agency basis, with the conveyance of indigent patients at tendered rates.

#### ***13.4.3 Volunteers***

The volunteer model of providing emergency services, both fire and ambulance is prevalent throughout the United States and has emerged in certain sectors in South Africa. The National Sea Rescue Institute (NSRI) and the Mountain Club of South Africa (MCSA) are two examples of volunteer organisations running sophisticated and professional rescue services.

The Disaster Management System (formerly known as Civil Defence) co-ordinates, at a municipal level, volunteers from both private citizens and the industrial sector to react in the event of natural and other disasters. Several municipalities run a communication centre from which such volunteer groups are co-ordinated with full time professional units. The recent devastating fire over the mountains of the Cape Peninsula is an example of such service being brought into action.

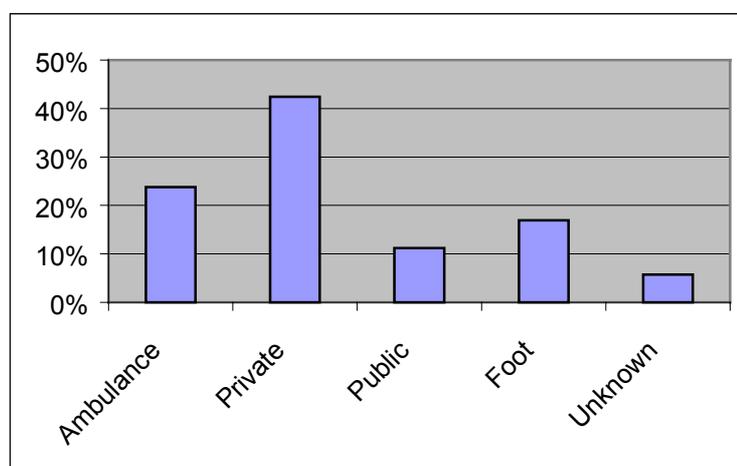
#### 13.4.4 South African National Defence Force & Police

Apart from military requirements, Defence Force helicopters and personnel have been used for mountain and sea rescue as well as for an air ambulance service when called upon to do so. In rural and deep rural areas the police are often first at a trauma site and of necessity convey the injured to the nearest care facility.

#### 13.4.5 Private Motor Vehicle

Most injuries or illnesses received at home are conveyed to hospitals by private motor vehicles – about 42% of all cases (see Figure 7).

**Figure 7:**  
**Modal Split of Transport to Hospital in the Cape Metropolitan Area**



National Trauma Research Programme:

### 13.5 Technical Options

#### 13.5.1 Metropolitan Areas

In a metropolitan area such as Cape Town, 2,5 m people live in close proximity to one another and to day hospitals and clinics. There are also a number of secondary hospitals and three tertiary referral hospitals. In order to meet the generally accepted norm (One ambulance for every 50 000 head of population: *Medical Research Council: Dr. J van der Spuy 1998*) the Cape Metropolitan Area should ideally have 37 to 40 METRO plus 6 to 7 private ambulances on shift at a time. CMA has only 21 METRO ambulances on any one shift.

#### 13.5.2 Rural Areas

There are considerable differences in conditions pertaining to rural areas from those in urban areas. In some instances the overall size of the area and the distances concerned, as well as the type and condition of access roads, become critical factors. There are, for instance, parts of the Northern Cape which are so sparsely populated and parts of the Eastern Cape where the roads are so impassable that the distances, road conditions and resultant travel times would make the availability of one ambulance for 50 000 people quite untenable.

Furthermore the need to transport patients to far off secondary and tertiary hospitals takes that ambulance and crew out of standby for long periods. The majority (79%) of the patients seen in the rural area of the Western Cape were discharged after initial treatment – indicating that those facilities could handle the nature of the injuries/illnesses. However 6% (60 000 patients per year) still required to be transferred to another treatment facility. Table 42 indicates the burden this requirement places on the rural ambulance service.

**Table 42:**  
**Final Destinations of Patients Originating in Rural Areas Requiring Transfer**

Transferred To	Percentage
A <b>tertiary</b> facility, e.g. Groote Schuur, Tygerberg, Red Cross hospitals	77.7%
A <b>rural regional</b> facility, e.g. Hottentots Holland, Eben Donges hospitals	2.5%
An <b>urban regional</b> facility, e.g. Somerset Conradie hospitals	5.1%
A <b>private</b> facility, e.g. Panorama Medi-Clinic	12.0%
An unknown destination	2.7%

National Trauma Research Programme: MRC: 1990

### 13.6 Management Arrangements

The Cape Peninsula Local Authorities Ambulance and Rescue Services act as an agent for Western Cape Province. The service is co-ordinated by METRO, but administered and managed through the head of Emergency Services of the City of Cape Town. The balance of the nineteen municipalities which provide a similar service to that of Cape Town are managed and administered in the same manner. The head of METRO is answerable to the Department of Health of province.

### 13.7 Costs

The annual operating cost of the Cape Peninsula Local Authorities Ambulance and Rescue Service (CPLAARS) is used as an example of typical costs for emergency services in urban areas. Of their total budget of R35,5m only R550 000 is recovered in fees and the balance is funded by province. This budget represents approximately R3.75 per household or R36 per annual trauma patient (National Trauma Research Programme: MRC: 1990)

The above operating costs excludes the costs of the METRO management and control centre, which is part of the provincial budget and is spread over the whole province. The amount budgeted is R110 m. If one assumes that 70% of the budget could justifiably be allocated to the CPLAARS then the above figures become R12 and R114 respectively

### 13.8 Revenue Options

Almost all the existing revenue for emergency services comes from provincial grants, except for the small proportion recovered in user charges (see above). User tariffs (Table 43) are applied to those that:

- Can afford it
- Have an appropriate medical scheme or
- Can claim from the Road Accident fund

**Table 43:  
Western Cape Ambulance Emergency Services Tariffs for 2000/01**

Tariff Category	Single	Family Unit	Ambulance Transport	Patient Transport Vehicle
	Income/Year	Income/Year	Tariff per 50km or Part Thereof	Tariff per 100km or Part Thereof
H1	0 - 19 000	0 - 32 000	25,00	16,00
H2	19 001 - 25 000	32 001 - 46 000	50,00	31,00
H3	25 001 - 36 000	46 001 - 59 000	75,00	47,00
Private hospital and private patients	36 001 and more	59 001 and more	260,00	124,00

PAWC: METRO budget: 2000/01

The tariffs in Table 43 are for patient transport only and a series of tariffs related to the patient's treatment (e.g. Basic, Intermediate, or Advanced Life Support) are applicable in addition.

The means of recovery of the tariffs is via the hospitals directly to province – hence the low recovery rate shown in the CPLAARS budget. Provinces recover only a small amount from tariffs, making up a tiny (about 2-3%) of the provinces budget.

### 13.9 Fire Services Overview

Fire Services are divided into two categories. The one is essentially preventative, creating the environment to reduce the risk of fire occurrences and the other is the response to and the extinguishing of fires when they do occur.

#### 13.9.1 Environment

*SABS 0400-1990 Part T* sets requirements for buildings to be designed to limit the incidence and spread of fires as well as the damage caused by those fires. Informal areas, however, are not generally subjected to these design criteria and are more susceptible to fire hazard due to:

- High building and occupancy densities.
- Very little space between buildings.
- Combustible building materials and poor structural stability.
- The use of open fire cooking and flammable fuels.
- Poor roads and those that exist having poor surfaces unable to carry heavy fire-fighting vehicles.

- The lack of sufficient on-site water. The water mains in an area supplied with a RDP minimum standard of supply would by design have insufficient capacity for fighting a fire.

These factors coupled create a high level of fire risk in high density informal settlements. Settlement planning and design has limited influence on reducing the incidence of fire, but can significantly affect its subsequent spread, the ability to escape from the fire, and the ability to efficiently fight the fire.

In the commercial and industrial sector an effective building plans scrutiny section can have a marked effect on prevention aimed as it is on the combustibility, spread of a fire and the ability to escape from the building. Regular inspections of existing buildings and adequate punitive action against offenders have a similar result.

### ***13.9.2 Municipal Fire Services***

This service has largely an *after the act* function based on an ability to respond rapidly to an alarm, rescue of those trapped and extinguish or prevent the spread of the fire.

## **13.10 Legislation/Policy Documentation**

The following legislation and standards documentation regulate a fire service:

- *Fire Brigade Act: 99 of 1987*. This act legally empowers an authority to be able to administer the regulations, giving right of access to premises, defining punitive measures for those not complying etc.
- *SABS 090*. This standard *inter alia* categorises fire risk areas into *high, medium* and *low*. It stipulates the minimum response time to a call from those areas and arrival on site as 6 minutes, 8 minutes and 12 minutes respectively.
- *SABS 0400-1990 T*. This standard forms part of the building regulations in so far as fire prevention, the spread of a fire once started and the ability to escape from that building is concerned. It also defines first aid fire-fighting equipment such as fire extinguishers, hoses, sprinklers smoke and/or heat detectors, alarms and the like.
- *Guidelines for Human Settlement Planning and Design*: CSIR on behalf of Department of Housing - 2000. Similar to SABS 0400, which deals with building design this guideline under chapter 5.8.3 addresses an awareness of fire safety in settlement planning and design.

## **13.11 Authority**

In terms of the Constitution *fire fighting services* is listed under Part B of Schedule 4, which gives municipalities executive authority and the right to administer the service.

## 13.12 Provider Options

### 13.12.1 Current Situation

The *provider* typically vests with the *authority*, namely the local municipality.

### 13.12.2 Privatisation

There are options to privatise all or part of a fire service, with appropriate contractual arrangements. The rationale for privatisation is not that a financially viable service can be contracted out but rather that there may be efficiency benefits.

A *private* company has contracted to the Benoni Municipality to operate the fire services in that town. A similar private public partnership has recently been entered into by the Indlovu Regional Council in KZN. These are regarded by the other service providers as a test case for privatisation.

### 13.12.3 Specialist Private Organisations

A few high-risk industrial companies and mines operate in-house fire departments. For example:

- The Airport Company
- Oil Refineries
- Portnet, in the major harbours
- Eskom, the electricity parastatal, at their nuclear power station
- South African National Defence Force

These organisations, although generally not providing services outside their boundaries, do lessen the risk of their particular municipal fire service.

### 13.12.4 Volunteers

There is a belief (Manager Tygerberg Fire and Disaster Services) that volunteers could be used as *reserve firemen* much in the same way as the police reservists. They would be trained, clothed and possibly paid if actually called out.

## 13.13 Technical Options and Service Levels

With respect to creating a safe environment the Guidelines for Human Settlement Planning and Design advocate some basic intervention in informal settlements:

- Ensure adequate space between groups of buildings to limit the spread of fire, to provide escape and to provide access for fire-fighting equipment
- Ensure adequate space between individual buildings to reduce the spread of fire
- Create awareness of fire safety in a stakeholder participation process

It again emphasises that small rural communities as well as communities living in informal urban settlements must be involved and given support in providing their own services

The required coverage in terms of fire stations, vehicles and personnel is complex and relates to response time which in turn relates to population density and building types. Fire risks relate to the demographics of the area under protection and more specifically to the ratio of informal to formal housing.

For example, the City of Tygerberg has an approximate population of 0.98 million and has 6 fire stations. The City of Cape Town has a population of 1,12 million and has 7 stations. This provides a coverage of one station per 42 400 households and one station per 42 000 households respectively. The norm set out in the code of practice (SABS 090) stipulates response time as the criteria. Both fire chiefs claim they are able to meet those criteria.

### **13.14 Management Arrangements**

In a metro context, Cape Town and Tygerberg have fire departments that form part of a protection service, which includes fire and traffic, headed by a manager of protection services and then a manager of each sub-service. Station commanders are then answerable to the fire services manager.

The larger urban areas tend to have separate fire services. Smaller towns and rural areas do not. East London in the Eastern Cape, for example supports the neighbouring Amatola District Council with an emergency fire service, but the constituent TLCs are unprotected. In Indlovu the district council provides fire services on behalf of the district, with satellite fire stations located strategically around the district funded by the regional (district) council.

There has been experience with flexible management arrangements over fire services because fire services by their nature should not always be defined by political borders. In the case of large urban areas cross border mutual aid agreements exist to overcome this problem. These agreements define backup arrangements when appliances are out on calls. They also define the protocol when a major fire requires assistance from a neighbouring municipality's service.

There are a range of possible arrangements for managing the service. A suggested approach is that fire stations be strategically placed, under the administration of the local municipality, but answerable to the district municipality, which would manage and co-ordinate fire responses. The district municipality would carry stocks and co-ordinate the training programmes of the local municipalities.

The service by its nature is capital intensive. By the district municipality assisting in the provision of the service a rationalisation of appliances, stock holdings, maintenance and technical support as well as training facilities could bring about considerable savings. Integrated management would reduce the skill levels required at the local municipal level.

A management structure centred at the district municipality, which would be the authority and provider, is advocated for more rural areas, with the station's administration and immediate command being at the B municipality.

### 13.15 Costs

The operating costs of the Cape Town metro are used as indicative costs of fire and emergency services. The running costs of the seven fire stations in the City of Tygerberg amount to R25,8 m or R6.84 per household. The operating costs of the six fire stations in the City of Cape Town amount to R42,2 m or R9.91 per household (see Figure 8). This represents 1.5% of the city's opex budget.

**Figure 8:  
Opex Budgets of Tygerberg and Cape Town**

City of Tygerberg		City of Cape Town	
Opex Budget 2000/01		Opex Budget 1999/00	
Population: 0.98m		Population: 1.12m	
Station	Rm	Station	Rm
<b>Expenses</b>			
Goodwood	5.5	Roeland St	12.6
Bellville	5.4	Epping	6.9
Belhar	6.2	Sea Point	3.5
Durbanville	2.8	Salt River	7.5
Mfuleni	1.7	Guguletu	4.4
Khayelitsha 2x	2.7	Mitchell's Plain	7.9
H/o Exp	1.5	H/o Exp	Inc.
<b>Total</b>	<b>25.8</b>		<b>42.8</b>
<b>Income</b>			
Fees	0.6		3.2
Rates	25.2		39.6
<b>Total</b>	<b>25.8</b>		<b>42.8</b>

Budgets of Tygerberg and Cape Town

Both municipalities operate disaster management and civil policing (i.e. adherence to municipal bye-laws – beach patrol, parks and forests, security services and cleansing). The civic policing functions cost R11.7m to Tygerberg and R19.54m to Cape Town.

### 13.16 Revenue Options

As a public good, fire services are generally financed out of the general rates account of local or district municipalities.

#### 13.16.1 Inter-Government Grants

There has historically been some subsidisation from the provincial level to local authorities. For example, the Western Cape Province has subsidised each fire station to about 3% of their costs. This subsidy was not paid in the 1999/00 year

#### 13.16.2 User Charges

Typically some user charges are levied for emergency services for those users who can pay for the service. However generally this only recovers a small proportion of the costs. The two municipalities in the above example have slightly different policies in regard to user charges:

- Tygerberg recovers user charges from all users according to a list of tariffs, excepting domestic houses and private motor vehicles. They recover R0.6 m or 2.2 % of their expenditure.
- Cape Town recovers fees on a basis of ability to pay. They recover R3.2 m or 7.5% of their expenditure.

Both these amounts are minimal, which indicate that some other source of grant or rates funding is likely to continue to be necessary for the service.

## 14 AMENITIES

Amenities, sometimes known as community services are often considered to be something of a “soft” service in contrast to the trading services category which includes electricity, water and sanitation. Despite this, amenities generally constitute a frontline service in that they are strategically placed to impact on local development broadly. In contrast to many of the trading services where a substantial portion of the benefit derived is accrued to the private user, community services are generally geared towards maximising public benefits.

Community services, if strategically deployed, can make a positive impact in some or all of the following areas:

- Poverty reduction
- Employment creation
- Developing the capacity of civil society
- Improving the quality of life
- Offsetting social problems such as crime and drug abuse
- Providing recreational activity
- Supporting education and training initiatives
- Enhancing the attractiveness of municipalities to visitors

The notion of what constitutes an amenity or community service is something of a contested concept but for the purposes of this report will be seen as comprising the following elements:

- Community halls and related facilities
- Public bathhouses and toilets
- Libraries
- Sport and recreation facilities and support
- Arts and culture (including museums)
- Resorts, beaches and pools
- Childcare
- Old age homes
- Cemeteries and crematoria

## 14.1 Legislation

The assignment of the functions outlined above are set out in the constitution and in the Local Government Municipal Structures Act. Other legislation also impacts on the delivery of these functions.

### 14.1.1 Constitution

In the Constitution, Parts B of both Schedule 4 and 5 outlines functional areas in which a municipality has executive authority and has the right to administer these functional areas. Schedule 4 outlines those functional areas of concurrent national and provincial legislative competence, whereas Schedule 5 lists the areas of exclusive provincial legislative competence.

The responsibility of providing the amenities outlined above are assigned by the Constitution as follows:

Part B of Schedule 4 lists Childcare facilities as a functional area over which municipalities hold executive authority.

Part B of Schedule 5 lists the following categories of Community Services over which municipalities hold executive authority:

- Beaches and amusement facilities
- Cemeteries and crematoria
- Local amenities
- Local sport facilities
- Municipal parks and recreation

The following functions are listed in Part A of Schedule 5 and power is vested at the Provincial Level:

- Libraries (not national)
- Museums (not national)
- Provincial cultural matters
- Provincial recreation and amenities

It should be noted that in addition to the powers and functions vested in municipalities in Parts B of the Schedules mentioned above, the national parliament, or a provincial legislature must assign, by agreement, functions listed in Parts A of Schedule 4 and 5 if the function ‘necessarily relates to local government’ and where it would ‘most effectively be administered locally’ and where a municipality has the ‘capacity to administer it’ (subsection 156(4)).

In terms of this provision, the assignment of library and certain museum functions could well be assigned to the local government level, as it often is at present, assuming that it has the administrative capacity to undertake these functions. This is discussed in more detail later in the document.

In terms of the Constitution (subsection 238), the assignment of functions can take a number of forms. With regards to agency and delegation - ‘An executive organ of state in any sphere of government may delegate any function that is to be performed in terms of legislation to any other executive organ of state, provided that the delegation is consistent with the legislation in terms of which the function is performed; or perform any function for any other executive organ of state on an agency or delegation basis.’

#### ***14.1.2 Local Government Municipal Structures Act***

The Local Government Municipal Structures Act sets out the division of functions and powers between district and local municipalities.

The responsibility for providing integrated development planning for the district municipality as a whole rests with the district municipality, taking the IDPs of local municipalities into account. Insofar as this planning framework should cover amenities/community services, this means that the district municipality ought to have some oversight in the planning for these services.

Apart from this broad planning oversight role, district municipalities are responsible for the establishment, conduct and control of cemeteries and crematoria serving the district as a whole.

The powers and functions related to community services/amenities other than crematoria and cemeteries (district municipalities) and those that fall under the responsibility of other tiers of government in terms of the constitution are the responsibility of local municipalities.

The Act however vests in district municipalities the responsibility of building capacity of local municipalities in its area to perform their functions and exercise the powers where such capacity is lacking. The district municipality is also responsible for ensuring the equitable distribution of resources between local municipalities in its area to ensure appropriate levels of municipal services in the area. These provisions have a potential impact on how amenities/community services are provided in smaller municipalities. The implication is that although local municipalities may be responsible for providing certain community services in terms of the legislation, the district municipalities may have scope for intervention in this provision if there exists substantial disparities in capacity and resourcing levels between local municipalities.

### **14.2 Relationship Between Province and Local Government**

Generally speaking, community services provision falls within the domain of local authorities. The relationship between provincial and local responsibility is still ambiguous in the provision of library services, museums and regional recreational facilities.

As outlined above, Libraries falls under Part A of Schedule 5 of the constitution. As such the function remains a provincial competence until such time as the functions is assigned to local government ‘by agreement and subject to any conditions...and the municipality has the capacity to administer it’. In practice this has meant that the establishment and operation of

libraries other than national libraries has generally been assigned to Metro's and large towns, by agreement where these municipalities have the capacity to administer them.

In situations where library services are currently provided by municipalities, these local authorities are currently still authorised, according to the transitional arrangements, to provide library services - but after the elections a municipality will only be able to provide library services in accordance with the new constitution. According to a document issued by the Subdirector of Meta-Information in the Department of Arts, Culture, Science and Technology, this means that provinces will have to look urgently at their legislation to ensure that the legislative framework for the provision of these services in the province will be in place before the local government elections.

After the elections, a local authority will not be empowered to provide library services unless the provincial government has provided the legislative framework within which responsibilities have been assigned. The note goes on to suggest that, 'the Auditor-General would most likely consider expenditure on library services after those elections to be unauthorised expenditures if the provincial legislative framework is not in place'<sup>7</sup>.

This means that provinces will have to urgently co-operate closely with local government in developing an appropriate framework for the provision of library services and in entering into agreements. A distinction will have to be drawn between the provisions of the Constitution regarding either assignment, empowerment, allocation or agency (sub-section 238 of the Constitution), and what would be the most appropriate solution in a particular province. Each of these possibilities will have to be investigated together with the funding of those services (see the section below on the funding of libraries).

It could be possible to combine these options or to split responsibilities between provincial and local government but this will have to be negotiated between the parties. Split responsibilities have proven to be viable. There are instances where the municipality is responsible for the staffing and management of the library service, while the Province retains responsibility for the provision of books and provides grant funding for the service (for example, Ashburton TLC).

Local circumstances would determine the approach in a province. According to the Director of Community Services and the Manager of Libraries in the City of Cape Town, this is a key question that still needs to be resolved. In short, the choice between a Metropolitan Library Service or a library service affiliated to the Provincial Library Service will need to be made. In the case of Cape Town, the former is a likely outcome given that this option most closely reflects the status quo.

In terms of the constitutions, non-national museums fall into a similar category as libraries in that they are found in Part one of Schedule 5 which vests power at the provincial level. The City of Cape Town operates a small Arts and Culture branch which plans the establishment of community museums. Similar arrangements are found in other local authorities, including large towns like Pietermaritzburg/Msunduzi and even smaller towns like Mooi River (with a population of approximately 10 000).

---

<sup>7</sup> Notes of a workshop held on the impact of the Constitution on the provision of community library and information services held in July 1999 organised by the Department of Arts, Culture, Science and Technology.

Local sport and recreation facilities are, in terms of the constitution, a municipal responsibility. Regional facilities are, however, located in most urban centres. Exactly what constitutes a regional facility and how the division of management and financial responsibility ought to be divided between the provincial authority and local authorities remains uncertain and will in all probability be a matter for negotiation between provincial and local government in specific circumstances.

### **14.3 Service Provider Options**

Discussions with various community services managers suggest that in general the provision of amenities is conducted in-house. In larger municipalities, community services typically fall under a directorate with a manager responsible for each of the functional areas.

Superintendents are generally responsible for on-the-ground management of the facilities and are supported by municipal staff. In some cases local authorities are beginning to explore alternative more efficient and affordable service delivery options. The White Paper on Municipal Services Partnerships (MSPs) outlines a number of options in this regard, and signifies a recognition that alternative means to assist local authorities to provide services and to address service backlogs need to be explored. The following sections outline a number of alternative options for the delivery of community services.

#### ***14.3.1 Management Contracts***

The service provider contractor is responsible for the overall management of all aspects of the service, but would not have the responsibility to finance and maintain the assets. The provider does not normally assume the risk for collecting tariffs although the management contract could be structured in such a way that the contractor would be rewarded for exceeding performance targets. This model may be appropriate for the management of facilities such as pools and halls.

#### ***14.3.2 Privatisation***

This implies the sale or transfer of public utilities to a private operator who would operate them as a viable business proposition. A significant problem with this approach is that it lends itself to “cherry picking” where only the most viable facilities would be attractive to private investors. In most cases, the cost of providing and maintaining community services exceeds the income derived from fees which could reasonably be recovered from users.

#### ***14.3.3 Corporatisation***

This involves restructuring a community service function to be operated as a self-contained, ring-fenced business unit within the overall structure of the local authority. Unlike other trading services, however, amenities generally find themselves in a situation where the income from fees seldom covers operating expenditure, thus requiring cross-subsidisation.

#### ***14.3.4 Agency***

In terms of this model, the service function would also constitute a business unit within the structure of the local authority but would receive a subsidy from the local authority to cover

shortfalls between budgeted expenditure and user revenues. The local authority would, through a service level agreement, lay down minimum standards of service and set the budgets. The implications of the agency not meeting minimum standards or exceeding budgets needs to be carefully, particularly as sanctions against individuals for overall non-performance of a function is difficult as they remain employees of the local authority.

#### ***14.3.5 Lease***

This is an option that has already been explored by certain local authorities. In this model a facility is leased to an external provider for a fixed fee over a certain period. The provider covers the operating costs of the facility and recovers user expenditure. Again, this is an option that is only really viable for going concerns. The Maitland Crematorium in Cape Town is an example where this arrangement has been used. The facility has been leased to a private funeral firm with effect from 1 August 2000.

#### ***14.3.6 Concession***

The service provider undertakes the management, operation, repair, maintenance, replacement, design, construction and financing of a municipal service facility or system. The contractor collects and retains all service tariffs, assumes the collection risk and pays the council a concession fee. The local authority remains the owner of any existing facilities operated by the concessionaire, and the ownership of any new facilities constructed by the concessionaire is transferred to the municipality at the end of the concession period.

#### ***14.3.7 Build/Operate/Transfer (BOT)***

The service provider undertakes to design, build, manage, operate, maintain, and repair, at its own expense, a facility to be used for the delivery of an amenity service. The council becomes the owner of the assets at the end of the contract period. This is a model which could be used in the provision of new, capital intensive amenities such as a coastal multi-purpose recreational facility. A BOT usually requires the council to pay a fee to the service provider for delivery of the service with the council being responsible for tariff collection.

#### ***14.3.8 Outsourcing – Service Contracts***

The local authority could retain ownership and responsibility of the fixed assets of community service functions and outsource certain associated sub-functions. For example, in the case of cemeteries grave-digging and horticultural maintenance could be contracted to a private operator. An extension of this model would be to transfer these functions to the private operator who would then contract his services to the local authority at an agreed price.

#### ***14.3.9 Entrepreneurial Close Corporation (CC) Model***

This involves the formation of a CC made up of the existing staff of a facility. The staff's services to the local authority would be terminated and the packages they receive could be used to purchase the equipment required to operate the community services function or sub-function.

### *14.3.10 Civil Society Partnerships*

In the case of certain amenities community structures are beginning to play an important role in how facilities are operated and managed. For example, the CCT is in the process of setting up Community Management Boards in order to enhance the effective utilisation of civic buildings and halls. These management boards, constituted by the communities and made up of civic-minded volunteers, will be involved in all phases of a facility's life from planning, construction to utilisation. The local authority covers the board's direct costs and capacity building of its members if required.

In terms of this methodology, the municipality never disengages from the provision of the asset, but the quality of the amenity to the community is greatly enhanced through this empowerment approach. Similar arrangements can be made in the operation of sports facilities with properly constituted clubs playing a similar role to the Community Management Boards outlined above.

Many of the options outlined above are largely dependent on the financial viability of service areas. In some cases, local authorities may need to support these arrangements by way of subsidy transfers or mechanisms such as grant-in-aid.

## **14.4 Management Arrangements**

In the metro areas and in larger municipalities, where coverage in terms of the range of community services tends to be extensive, community services tend to be managed via a Directorate with each service category being the responsibility of a manager. Each service category has its own staff. In the CCT, planning and delivery of community services is increasingly occurring at a sub-municipal level. In these larger municipalities, certain functions such as the provision of library services could be assigned from the provincial tier to the municipality, depending on capacity.

The issue of capacity to manage the delivery of different service types is a key driver as to how community services can be provided in smaller municipalities and settlements. By definition, community services ought to be provided at the level closest to the targeted users of the services. In principle, these kinds of services ought to be provided at the lowest possible administrative level with the maximum possible community involvement.

There are however, certain amenities that are complex and costly to manage. Libraries and museums are a provincial responsibility in terms of the constitution, and although some larger local authorities have, or are likely to be assigned these functions, it is appropriate that the provincial administration play a key role in providing these services in the smaller centres. Mobile facilities should be used to service smaller municipalities and settlements.

Category C, or district level local authorities should play a role in providing community amenities that service the district as a whole. For example, cemeteries and crematoria are identified in the Municipal Structures Act as functions that ought to be located at the district level and should be administered by a category C local authority.

District municipalities should also be responsible for developing, planning and operating amenities such as sports facilities, nature reserves, and resorts that service the district broadly.

The establishment of local amenity services ought to be driven primarily by communities themselves. Most amenities, with the exception of those outlined in the previous paragraphs, serve communities in close proximity to the service. However, in many cases, those areas most in need of community services are the least equipped to provide them. In principle, these services ought to be provided by the local authority closest to the target groups. It is just as important, however, to ensure that the provision of these services is not hamstrung by a lack of capacity, and that they are distributed equitably across districts.

Where possible, basic amenities should be established and maintained by Category B local municipalities. Where these local authorities lack the capacity to provide the service, the district municipality should intervene to either assist the local municipality to develop capacity or to provide the service itself.

The provision of these community services should take place in the context of integrated development planning at a district level which should be the responsibility of a district municipality. The district municipality needs to develop mechanisms to ensure that all local municipalities' integrated development plans are properly prepared and that they are consistent with development planning for the district as a whole.

## **14.5 Technical Options**

Among the most pressing issues facing the provision of community services includes the definition of appropriate service levels – both in terms of range of services provided and in terms of the level at which the service is provided. This is particularly important given the historical inequalities that have skewed provision in the past.

### ***14.5.1 Defining Appropriate Service Levels***

One of the key problems in the amenities/community services area appears to be the lack of a coherent planning framework to guide provision. The provision of new services often tends to be demand driven with community requests being channeled through Councillors on an ad hoc basis. In many cases there is a no common consensus on what constitutes appropriate minimum service levels in the different community service functional areas. In some instances some minimum guidelines have been identified, but in general this is an area that requires a great deal of development.

The Community Services Directorate in the City of Cape Town (CCT) has, in this regard, begun to develop planning synergies with its counterparts in Health and Housing. The Directorate has begun to adopt an Area Management Strategy (AMS) using the district health zones as the base planning unit, leveraging health statistics as indicators of need for the location of community services. Although this approach is still in an embryonic form, it is an important step towards integrated planning of community-service oriented amenities. In the case of larger municipalities and/or in municipalities where inequalities exist across geographical areas, amenities planning at a sub-municipal level such as that adopted by the CCT may well be the most appropriate approach in identifying need where the aggregate picture may hide more than it reveals.

In some cases, including the provision of libraries, established minimum standards have been identified to a degree. For example, in the case of libraries in the CCT and Cape Metropolitan Area (CMA) standards for public libraries are guided by the following three quantitative criteria.

Hours of Opening:

- 35 hours per week for libraries serving a population of under 10 000
- 55 hours per week serving between a population of between 10 000 and 20 000
- 65 hours per week serving 25 000 people or more

Library Resources:

- Minimum basic stock - 15 000 volumes
- Adequate stock – 2.5 volumes per capita served
- Superior stock – 3.5 volumes or more per capita served

Professional Staff Levels:

- One professional staff member per 2000 population

In the case of Municipal Halls in the CCT, a basic standard of a hall for every 100 000 people is considered to be the minimum service level, although there is a recognition that this requires much refinement.

In terms of public bathhouses and toilets in the CCT, no minimum services exist in terms of spread. Environmental health requirements are however adhered to.

In the other community services areas the CCT has begun an exercise on defining minimum service level definitions although these have not been formalised.

#### ***14.5.2 Monitoring and Evaluation***

Apart from the need to determine appropriate service levels, mechanisms need to be put in place in order to continuously monitor usage patterns. Unlike trading services where usage is easily gauged by the amount of service ‘sold’, community services are less tangible in this respect. Apart from the obvious objective of ensuring that targeted groups are being reached by the service, gathering usage data over time can provide extremely useful data for benchmarking. This will facilitate the process of defining appropriate service levels.

Categories of indicators will vary from amenity to amenity, but could include:

- Range of community services provided
- Penetration of service (service per capita)
- Usage patterns
- Book issues (in the case of libraries)
- Opening hours
- Staffing levels

- Target groups serviced
- User fees recovered
- Community feedback

#### 14.6 Costs

The following breakdown of costs was derived from an analysis of the budgets of the City of Cape Town (CCT) as an illustrative case. The CCT provides a fairly comprehensive range of community services categorised in five broad functional areas including:

- Parks and Bathing Amenities
- Civic Buildings and Maintenance Services
- Sport and Recreation Services
- Libraries
- Arts and Culture

These figures could be used for comparative purposes and could form the basis of embryonic benchmarking in terms of per capita costs, both in terms of capital and operating costs. For the purposes of this exercise the population for the City of Cape Town is estimated to be 1.1 million. This is based on the 1996 census information adjusted at 3% per annum to give a current figure.

##### 14.6.1 Capital Costs

The overall capital budget for the 2000/2001 financial year for the CCT is R691 million. Of this R19m or 2.75 % has been allocated to Parks and Bathing Amenities, R14m or 2% to Civic Building Maintenance, R45m or 6.5% to Sports and Recreation, and R3.5m or 0.5% to Libraries. No provision was made in the capital budget for Arts and Culture.

If one aggregates the different community services areas outlined above, the capital budget for these services translates into a figure of R74 per capita per annum. In summary the following picture emerges for the Cape Metro.

Community Services Area in the City of Cape Town	Percentage of Total Capital Budget	Percentage of Community Services Capital Budget	Per Capita Capital Expenditure
Parks and Bathing	2.75%	23.4%	R17.27
Civic Buildings Maintenance	2%	17.1%	R12.72
Sport and Recreation	6.5%	55.2%	R40.91
Libraries	0.5%	4.3%	R3.18
Arts and Culture	0%	0%	R0.00
Total	11.75%	100%	R74.08

A comparative exercise for Pietermaritzburg, a large town, has been done. The functional categories reported on are slightly different and are made up of libraries, arts and culture, parks and recreation, sports facilities, municipal building and public works, and cemeteries. The per capita figure for these aggregated service emerges as R69 per capita per annum.

Probably some of this expenditure is on public works that are not strictly speaking public amenities so the true figure is probably somewhat lower.

#### 14.6.2 Operating Costs

The overall operating budget for the 1999/2000 financial year for the CCT is R2750 million. Of this R120m or 4.4% has been allocated to Parks and Bathing Amenities, R35m or 1.3% to Civic Building Maintenance, R30m or 1.1% to Sports and Recreation, R41m or 1.3% to Libraries, and less than R1m to Arts and Culture.

If one aggregates the different community services areas outlined above, the operating budget for these services translates into a figure of approximately R205 per capita per annum. In summary the following picture emerges

Community Services Area in the City of Cape Town	Percentage of Total Operating Budget	Percentage of Community Services Operating Budget	Per Capita Operating Expenditure
Parks and Bathing	4.4%	53.2%	R109.26
Civic Buildings Maintenance	1.3%	15.3%	R31.48
Sport and Recreation	1.1%	13.2%	R27.03
Libraries	1.3%	18.0%	R36.98
Arts and Culture	0.1%	0.3%	R0.60
Total	8.2%	100%	R205.35

From the comparative exercise for Pietermaritzburg the per capita figure for the operating costs of these aggregated service appears to be R183 per capita per annum, again with some proportion of this being spent on public works that will fall outside of the true amenities category.

The Cape Metro figures can be disaggregated further and it is possible to calculate a per capita figure spent on specific types of community services within the broad categories identified above. The following chart illustrates this breakdown.

Type of Amenity in CCT	Total	% of Budget	R per Capita
<b>Sport and Recreation</b>			
Stadia	13,019,335.00	0.47%	11.84
Recreational centres	1,688,060.00	0.06%	1.53
Nursery schools	4,893,470.00	0.18%	4.45
Sports centres	502,995.00	0.02%	0.46
Community Centres	9,624,930.00	0.35%	8.75
<b>Civic buildings</b>			
Civic Centre	2,616,030.00	0.10%	2.38
Thibalt square	152,305.00	0.01%	0.14
Good Hope Centre	5,704,750.00	0.21%	5.19
Halls	17,919,575.00	0.65%	16.29
Public toilets	7,099,035.00	0.26%	6.45
Carillon	21,340.00	0.00%	0.02

Type of Amenity in CCT	Total	% of Budget	R per Capita
Other	1,116,775.00	0.04%	1.02
<b>Public libraries</b>	40,676,340.00	1.48%	36.98
<b>Arts and culture</b>	657,420.00	0.02%	0.60
<b>Parks and Bathing Amenities</b>			
Bathing facilities	24,336,095.00	0.89%	22.12
Beaches	3,095,005.00	0.11%	2.81
Resorts	1,669,760.00	0.06%	1.52
Nature Reserves	5,943,070.00	0.22%	5.40
Horticulture, Trees, mowing	86,261,490.00	3.15%	78.42
<b>Total</b>	<b>225,882,130.00</b>	<b>8.28%</b>	<b>206.36</b>

In discussions with the Director responsible for community services in the City, it emerges that one of the key problem areas in the amenities area is linked to the mismatch between capital programmes and the operating budget consequences that follow. Capital investment decisions are made without due planning for the ongoing running costs of facilities. The consequence is that maintenance programmes fall behind and that community service assets begin to deteriorate.

#### **14.6.3 Costs in Smaller Towns**

In smaller towns the per capita capital and operating expenses are likely to be lower, primarily because a smaller range of amenities tends to be offered and not necessarily because the costs per service are less. For example, in Mooi River, a town of 10 000 people, the per capita capital expenditure for 1998/99 on works and amenities was approximately R7 per capita. The operating expenditure per capita was more commensurate with the larger cities at R138 per capita per annum. The town manages a small museum, a library service, some parks and recreational facilities, a municipal hall and a cemetery.

#### **14.6.4 Libraries as an Illustrative Case**

In the Cape Metropolitan Area (CMA) library services are free of charge in terms of the cost to the user. The principle that library services be provided free of charge is based in both the Provincial Government Ordinance 16 of 1981, and the UNESCO Declaration on Public Libraries which has been adopted by the City of Cape Town.

Currently there are approximately 100 libraries of differing size and quality in the CMA. The combined operating budget for libraries in the Metro amounted to R127m in the 1999/2000 year including a R3.5m subsidy from Province to the City of Cape Town. Assuming a combined population in the area of approximately 3.4m people, this translates to an operating spend of approximately R37 per capita on libraries. This is relatively consistent with the situation in the City of Cape Town (CCT) as outlined above. Currently this is funded through the rates account (with the exception of the subsidy to from Province to CCT). In addition to this, the Provincial budget for library for the same period was approximately R40m. Of this R3.5m was allocated as a subsidy to CCT and the balance was used to procure book stock to

the MLCs other than CCT and for training. CCT differs from the other MLCs in that it procures its own book using the subsidy, while the Province purchases stock directly for the other MLCs.

A very rough summary of these figures indicates that on average, the operating costs of operating a library in the Cape Town Metropolitan area (CMA) is R1.635m per library, with R1.235m funded from rates and R400 000 funded via the provincial budget.

On the capital side, it is estimated that a branch library costs approximately R4 million to establish<sup>8</sup>. Such libraries could be established in areas where at least 20 000 people are currently without this service. The structure would typically be 520 square meters. The estimated costs of establishing such a facility are broken down as follows:

<b>Estimated Cost of Establishing a Community Library in the CCT</b>	
Building costs	R2 200 000
Book stock	R1 500 000
Furnishing and equipment	R 300 000
Total	R4 000 000

#### **14.7 Revenue Options**

Generally speaking most community services are geared towards providing public benefits. While the principle of maximizing the user-based revenues where appropriate is sound, the provision of community services should not depend on the ability of users to pay full costs. Indeed, the provision of community services can be viewed as a constructive redistributive tool in that rates revenues generated in more affluent areas can be used to address key social and economic problems. Affordability of services is a key issue as the target group of these services falls at the lower end of the socio-economic scale.

Using 1999/2000 figures as the 2000/2001 income figures were not readily available from the CCT, the following revenue picture emerges:

##### **Parks and Bathing:**

- 98% funded from the rates account
- 1.4% funded from fees and charges
- 0.5% funded from other sources (including sales, recoveries and other income)

##### **Civic Building Maintenance:**

- 87.1% funded from the rates account
- 8.6% funded from fees and charges
- 2.5% funded from rentals
- 1.8% funded from other sources

<sup>8</sup> Telephonic conversation with Mr Heyman – Libraries Manager, Cape Town City Council – 21 July 2000

## Sport and Recreation:

- 96.7% funded from the rates account
- 3.1% funded from fees and charges
- 0.2% funded from other sources

## Libraries:

- 89.5% funded from the rates account
- 8.5% funded from a grant from the Provincial Administration
- 2% funded from other sources

## Arts and Culture:

- 100% funded from the rates account

The following chart illustrates the breakdown between revenue sources in more detail:

### Amenities - Costs and Revenues (1999/2000) - City of Cape Town

Category	Costs	Revenue				Percentage			
	Total	Fees	Grant	Other	Rates	% Fees	% Grant	% Other	% Rates
<b>Sport and Recreation</b>									
Stadia	13,019,335	654,000			12,365,335	5.0	0.0	0.0	95
Recreational centres	1,688,060				1,688,060	0.0	0.0	0.0	100.0
Nursery schools	4,893,470	175,370	47,245		4,670,855	3.6	1.0	0.0	95.5
Sports centres	502,995	5,000			497,995	1.0	0.0	0.0	99.0
Community Centres	9,624,930	96,840		3,540	9,524,550	1.0	0.0	0.0	99.0
<b>Civic buildings</b>									
Civic Centre	2,616,030	309,600		600,100	1,706,330	11.8	0.0	22.9	65.2
Thibalt square	152,305				152,305	0.0	0.0	0.0	100.0
Good Hope Centre	5,704,750	1,352,000			4,352,750	23.7	0.0	0.0	76.3
Halls	17,919,575	1,319,900		813,400	15,786,275	7.4	0.0	4.5	88.1
Public toilets	7,099,035				7,099,035	0.0	0.0	0.0	100.0
Carillon	21,340				21,340	0.0	0.0	0.0	100.0
Other	1,116,775			60,000	1,056,775	0.0	0.0	5.4	94.6
<b>Public libraries</b>	<b>40,676,340</b>	<b>179,950</b>	<b>3,482,000</b>	<b>655,100</b>	<b>36,359,290</b>	<b>0.4</b>	<b>8.6</b>	<b>1.6</b>	<b>89.4</b>
<b>Arts and culture</b>	<b>657,420</b>				<b>657,420</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>100.0</b>
<b>Parks &amp; Bathing Amenities</b>									
Bathing facilities	24,336,095	1,321,425		31,625	22,983,045	5.4	0.0	0.1	94.4
Beaches	3,095,005	195,710		565	2,898,730	6.3	0.0	0.0	93.7
Resorts	1,669,760	104,185			1,565,575	6.2	0.0	0.0	93.8
Nature Reserves	5,943,070				5,943,070	0.0	0.0	0.0	100.0
Horticulture, Trees, mowing	86,261,490			365,515	85,895,975	0.0	0.0	0.4	99.6
Other	-1,115,650	63,565		206,470	-1,385,685	-5.7	0.0	-18.5	124.2
<b>Total</b>	<b>225,882,130</b>	<b>5,777,545</b>	<b>3,529,245</b>	<b>2,736,315</b>	<b>213,839,025</b>	<b>2.6</b>	<b>1.6</b>	<b>1.2</b>	<b>94.7</b>