

# 10

## Managing the built environment

### ■ Introduction

Public investment in the built environment occurs across a number of sectors. National and provincial governments make extensive investments in transportation networks, health, educational and recreation facilities, housing low income families and water resource facilities. Public entities, such as Eskom and the water boards, invest in and provide electricity and water services respectively.

*Public investment in the built environment occurs across a number of sectors*

Municipalities invest in infrastructure relating to water, sanitation, electricity, solid waste and transportation. These investments are intended to address basic community needs and support economic activity. Public investment that is targeted to meet these objectives can take a number of forms, depending on the needs of a particular locality or function. It may involve the construction of new assets, extension, replacement, refurbishment or maintenance.

Co-ordinating the sectors and forms of these investment programmes is necessary to achieve positive developmental outcomes. This is a complex and difficult task. Priorities and investment needs vary by area and sector, reflecting different economic and social trends and the age and coverage of existing infrastructure assets.

*Co-ordination is key to achieving positive developmental outcomes*

The effectiveness of public sector infrastructure investments in supporting and guiding growth and combating poverty, depends on first, the effectiveness with which infrastructure assets are managed, second, the capacity of public institutions to plan and guide the process of spatial development and third, the ability of the public sector to co-ordinate its investments to deliver positive developmental outcomes and guide future fixed investments across the public and private sectors.

This chapter gives an overview of:

- demands for municipal investment in the built environment
- municipal performance in infrastructure investment and asset management
- spatial planning
- co-ordination of public investments in the built environment.

## ■ Demands for municipal investment in the built environment

*Demand is influenced by backlogs, economic growth and refurbishment and/or replacement of existing infrastructure*

Municipalities face significant demand for investments in infrastructure from at least three sources. First, they must address backlogs in poor households' access to basic municipal services. Second, they must address the infrastructure needs of a growing economy, where firms and households are seeking additional infrastructure services. Finally, they must refurbish or replace infrastructure that has outlived its design life.

After 1994, infrastructure investment strategies initially focused on increasing access to new services. More recently, however, a second generation of challenges has begun to emerge, that is related to the need to expand or replace economic infrastructure.

### Addressing basic municipal service backlogs

*Apartheid left a legacy of inequitable access to basic services*

Apartheid left a legacy of inequitable access to basic services, along racial lines. These distortions are still reflected both within and between municipalities. Residents in wealthier areas typically have easy access to services, with infrastructure standards of a very high quality. Poorer townships and informal settlements within the same municipality have far lower levels of access to services and infrastructure is of a significantly lower quality. Municipalities in former homeland areas generally have far lower levels of access to services than other municipalities.

*Demographic, economic and social trends have begun to alter the distribution of basic infrastructure backlogs*

More recent post-apartheid demographic, economic and social trends have begun to alter the distribution of basic infrastructure backlogs. Urban growth, attempts to change and enhance dysfunctional urban areas, household decompression and even the impact of HIV and AIDS, have increased the demand for services in the larger urban centres. The migration of people to cities shifts the location of infrastructure needs. As infrastructure is not mobile, this creates new demand for investment, even as government successfully reduces existing backlogs. In some cases it may result in the under-utilisation of newly installed infrastructure in rural areas.

Assessing the cost of addressing backlogs in basic services has usually involved estimating the number of poor households requiring services, the rate of household growth and the average costs of providing a basic level of access by service function. This can be done at the national, municipal or even settlement level. In reality, this just identifies the costs associated with addressing backlogs. Actual

physical investment programmes are more typically a direct response to subsidised housing investments. In many instances a decision to invest in a housing project will require commitments by municipalities to install electricity, water, sanitation and roads infrastructure, as well as provide related urban services such as refuse removal. In addition, housing developments should leverage community infrastructure investments, such as schools and clinics from provincial governments.

Nonetheless, it is possible to estimate the total infrastructure investment required to address backlogs in access to basic services.

**Table 10.1 Estimate of required municipal infrastructure investment to meet remaining backlogs in access to basic services**

	Number of households (millions)	Estimated cost (R billion)	Cost per capita (Rand)
Water	2.1	12.8	R1 470 / person
Sanitation	3.5	18.4	R8 000 / person
Electricity	3.3	10.2	R3 100 / household
Solid waste	4.5	68.5	R15 / household

*Source: Department of Water Affairs and Forestry, 2005*

### Expanding economic infrastructure

Sustained economic growth has also created a demand for the extension of municipal infrastructure services. The formation of new enterprises or the expansion of the productive capacity of existing firms creates additional demand for municipal infrastructure services. In some cases, this may require the extension of infrastructure to new industrial or commercial areas, while in others it may require increased infrastructure service and road network capacity. Roads may need widening to accommodate additional traffic, while water networks may need to be expanded to meet a level of demand that is beyond their existing design capacity.

Since 1994, economic growth has also resulted in the rapid growth of higher income housing developments that are now a feature of all South African cities. These developments create additional demand for roads, electricity, water services and solid waste infrastructure, regardless of whether they are located on the periphery of cities or are part of existing re-developed and dense urban areas.

It is important to note the compound effect of demand for municipal infrastructure to support economic growth. Average annual GDP growth of 5 per cent implies an annual increase in the size of the economy. The failure of municipalities to keep pace with demand in one year does not dissipate, it is rolled over and quickly magnified in succeeding years. It also leads to congestion and over-utilisation of existing infrastructure assets. This accelerates the deterioration in the condition of these assets, which may now require more rapid replacement. Therefore, municipalities may find their infrastructure asset base overwhelmed and a critical constraining factor to continued economic growth.

*Sustained economic growth has also created a demand for the extension of municipal infrastructure services*

*Failure to keep pace with demand leads to congestion and over-utilisation of existing infrastructure assets*

*The need for maintenance of infrastructure differs markedly between sectors*

## Maintaining infrastructure assets

The need for maintenance of infrastructure differs markedly between sectors and depends on the initial quality of infrastructure that has been installed. As a general rule, the higher the quality of the initial investment, the longer the period before significant maintenance is required. However, this is not always the case as maintenance needs will also vary with how intensely the infrastructure is used.

Table 10.2 summarises data from various sources that suggest that the national total replacement value of municipal assets in water, sanitation, roads and electricity amounts to some R295 billion. Assuming that annual maintenance expenditure should amount to approximately 4 per cent of replacement value, municipalities should be spending around R11.8 billion annually on maintenance activities.

**Table 10.2 Estimated total municipal asset replacement values and annual maintenance expenditure requirements**

R million	Estimated total replacement value of assets	Estimated annual maintenance expenditure requirement
Water and sanitation	180 000	7 200
Roads	60 000	2 400
Electricity	55 000	2 200
<b>Total</b>	<b>295 000</b>	<b>11 800</b>

*Source: CSIR, 2007 and Construction Industry Development Board (CIDB), 2007*

*The resources required to finance infrastructure demands far outstrip the actual availability of resources at the municipal level*

## Key challenges arising from demands for infrastructure

Collectively, the resources required to finance these infrastructure demands far outstrip the actual availability of resources at the municipal level. This has been evident for some time now and government has introduced a variety of policies to support municipalities. These include a rapid real increase in national grants, policy frameworks to assist municipalities to leverage private finance through increased borrowing or public private partnerships (PPPs) and planning and financial management reforms that help municipalities to more clearly identify, prioritise and respond to needs. Infrastructure investments also generate long-term operating cost implications associated with the delivery of services and ongoing maintenance. Again, the policy framework emphasises the importance of own revenue generation, complemented by transfers from national government, in meeting these costs. These issues are addressed in other chapters of this Review.

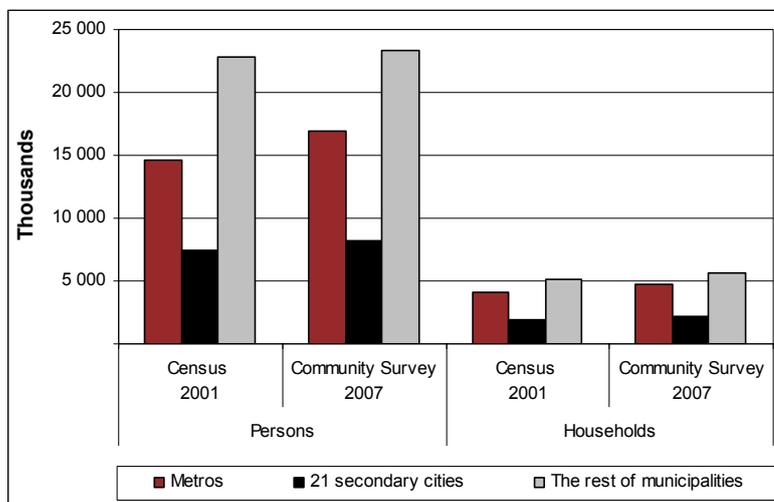
However, in addition to these financing challenges three additional challenges are also evident. These challenges add to the complexity of municipal investments in the built environment and in many instances may undermine the realisation of targeted developmental outcomes.

*Demand for municipal investment in the built environment is shifting towards large urban centres*

First, the demand for municipal investment in the built environment is shifting towards large urban centres. This shift is a function of both demographic change and the location of economic growth centres.

Figure 10.1 shows that the population in metros has increased by 16 per cent between 2001 and 2007 and by 12 per cent in the 21 secondary cities. The number of households increased by 14 per cent for both metros and the 21 secondary cities. Much of this new demand is from poorer households, which are less able to pay for services. Yet, as large urban municipalities address this challenge they must also ensure that infrastructure is available to support economic growth, both through new investments and the replacement of ageing infrastructure. Although insufficient data is available on the age and condition of existing assets in large urban municipalities, anecdotal evidence suggests that they are increasingly due for replacement. This implies that these municipalities may be approaching a comparatively higher cost stage in their asset life cycles.

**Figure 10.1 Population statistics for metros and 21 secondary cities, 2001 – 2007**



Source: Stats SA, Census 2001 and Community Survey 2007

Second, the growth in private demand for municipal infrastructure has emphasised the importance of effective and efficient spatial planning systems to ensure appropriately located and leveraged investments. Effective spatial planning systems guide all fixed investments in the built environment. An efficient system ensures that the process of development approval is not subject to unnecessarily lengthy delays that raise the overall cost of all investments.

*Effective spatial planning systems guide all fixed investments in the built environment*

Third, the growth in both demand for and allocations to public infrastructure programmes has emphasised the importance of co-ordinating public investment. All public sector fixed investment occurs within municipal jurisdictions. Effective co-ordination of these investments is essential to achieving developmental outcomes of safe, habitable and dynamic community settlements and to providing a consistent guide to fixed investments by households and firms.

*Effective co-ordination of multi-sectoral investments is essential for achieving positive developmental outcomes*

Specifically, investments in housing for low income communities require careful co-ordination with municipal infrastructure investment programmes. Municipal investments must not only connect these houses to infrastructure networks, but also ensure that adequate bulk infrastructure capacity exists to provide associated services. The

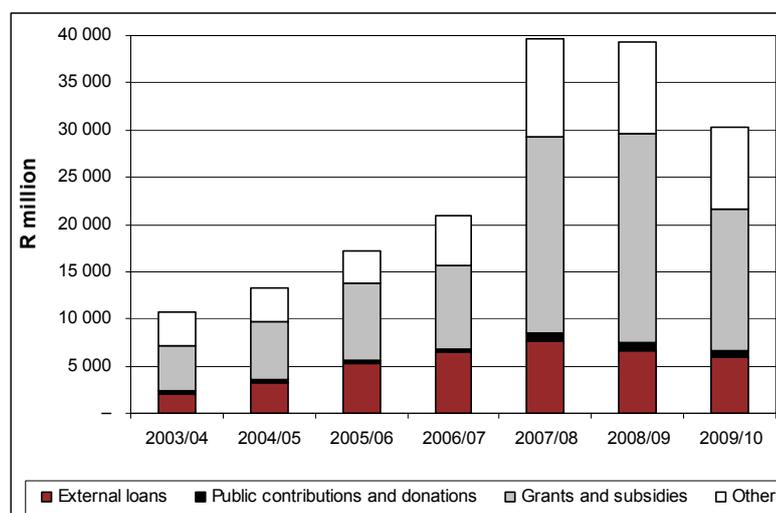
location and density of housing developments has a profound impact on the cost of municipal infrastructure investments and can have long-term implications for the costs of providing basic services. For example, a low density housing development for poor households that is located on the periphery of a city may require new bulk infrastructure assets and extended reticulation networks, both of which increase the ongoing operating costs that must be borne by residents or subsidised by a municipality. Residents may also require transport subsidies to travel to places of economic opportunity. Thus, while the cost of providing housing may be lower, the collective cost over the long-term could be unaffordable.

## ■ Municipal performance in infrastructure investment and asset management

### Sources of infrastructure finance for municipalities

Various sources of finance are available to municipalities to assist them in meeting demands for infrastructure investment. These include private financing, transfers from national government and municipal own revenues, these are discussed in some detail in other chapters of this Review.

**Figure 10.2 Sources of capital finance for municipalities, 2003/04 – 2009/10**



Source: National Treasury local government database

*The municipal infrastructure grant (MIG) is the single largest external contributor of finance for municipal infrastructure investment*

The municipal infrastructure grant (MIG) is the single largest external contributor of finance for municipal infrastructure investment. This grant is intended to supplement municipal budgets for infrastructure and ensure a focus on the provision of basic infrastructure for poor households. To maximise its benefit, the MIG programme must be aligned with other programmes funded by national government and by municipalities themselves. In particular, the alignment of the housing and MIG grants is critical. There are also grants that complement MIG such as the bulk infrastructure grant funding cross-boundary water schemes, the public transport infrastructure systems grant, the national

electrification grant and the neighbourhood development partnership grant.

### Trends in municipal infrastructure expenditure

Capital expenditure by municipalities grows at an average annual rate of 26.9 per cent between 2003/04 and 2009/10. This is high, despite budgeted reductions in capital expenditure from 2008/09. An increase in capital expenditure of 90.2 per cent was projected in municipal budgets for 2007/08, although it remains to be seen whether this will materialise. This rapid increase in capital expenditure reflects the extent of the pressures facing municipalities to expand and replace infrastructure, as well as spending on the 2010 FIFA World Cup.

**Table 10.3 Municipal capital budgets by category, 2003/04 – 2009/10**

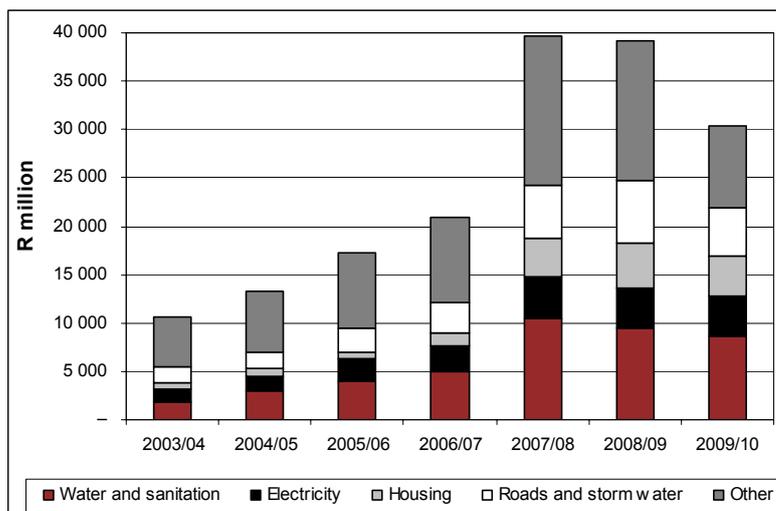
R million	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	20 09/10
	Outcome			Estimate	Medium-term estimates		
Category A (Metros)	5 663	7 568	9 189	12 200	19 330	19 698	15 056
Category B (Locals)	4 001	4 723	6 183	7 100	15 329	15 136	11 041
Category C (Districts)	1 033	1 032	1 860	1 591	5 077	4 418	4 240
<b>Total</b>	<b>10 696</b>	<b>13 323</b>	<b>17 232</b>	<b>20 891</b>	<b>39 736</b>	<b>39 252</b>	<b>30 337</b>
Percentage growth							
Category A (Metros)		33.6%	21.4%	32.8%	58.4%	1.9%	-23.6%
Category B (Locals)		18.0%	30.9%	14.8%	115.9%	-1.3%	-27.1%
Category C (Districts)		-0.0%	80.2%	-14.5%	219.1%	-13.0%	-4.0%
<b>Total</b>		<b>24.6%</b>	<b>29.3%</b>	<b>21.2%</b>	<b>90.2%</b>	<b>-1.2%</b>	<b>-22.7%</b>

Source: National Treasury local government database

The bulk of municipal infrastructure investment occurs in metros, which accounted for an average of 47 per cent of all municipal capital expenditure over the period. These municipalities have also experienced consistent growth in capital spending over the period.

*Growth in the metros' capital spending has been consistent*

**Figure 10.3 Municipal infrastructure expenditure by sector, 2003/04 – 2009/10**



Source: National Treasury local government database

Figure 10.3 shows that over the past four years, the water sector has been the largest beneficiary of the increase in municipal capital spending, followed by the roads sector. Water services received an average of 29 per cent of the total capital budgets of municipalities between 2003/04 and 2007/08.

### Progress in addressing backlogs

*Considerable work is required to meet targets*

Despite significant progress being made in the eradication of backlogs, considerable work to meet targets remains. Although the population has increased by 8.2 per cent from 2000/01 to 2006/07, backlogs have been reduced by 56 per cent in the water sector from 1994/95 to 2006//07 and sanitation backlogs have decreased by 32 per cent between 1994 and 2007. Table 10.4 reflects that 14.4 per cent of the population still require access to water and 29.50 per cent of the population do not have sanitation services. In addition, an estimated 4.5 million households do not have access to adequate solid waste services.

**Table 10.4 Estimated backlogs in infrastructure, 1994 – 2007**

R million	1994 (RDP)		1997		2001		2004		2007	
	Un-served population	%								
Total population	40 400		41 141		44 820		47 845		48 502	
Water	15 890	39.3%	15 782	38.4%	13 103	29.2%	9 431	19.7%	6 969	14.4%
Sanitation	21 000	52.0%	20 329	49.4%	19 595	43.7%	16 278	34.0%	14 330	29.5%
Electricity	13 500	33.4%			13 464	30.0%	13 406	28.0%		
Housing (units)	1 200	13.0%					1 800	14.0%		

Sources: RDP, 1994; PDG estimates based on Stats SA census and survey data, National Department of Housing, Department of Water Affairs and Forestry, Department of Minerals and Energy

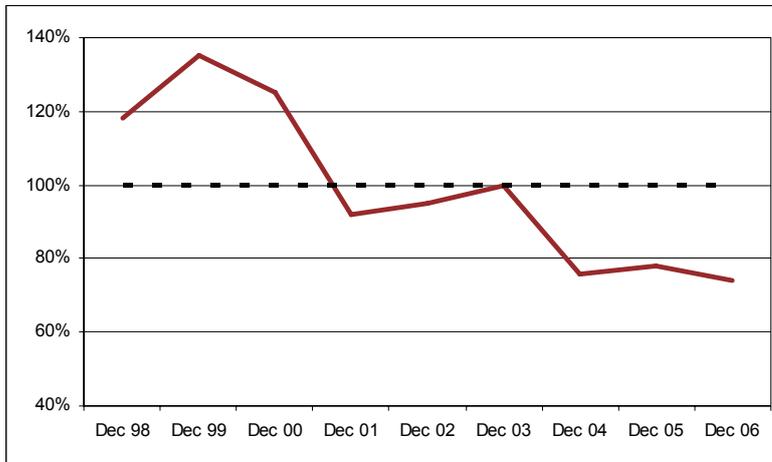
Sector departments are in the process of finalising their sector master plans to guide municipalities' implementation plans. It is the view of the sector departments that their respective sector targets are not likely to be met in all municipalities due to the diverse and numerous challenges such as inadequate capacity, maintenance and modification of systems and inadequate bulk infrastructure. Most progress is happening in big cities where there is more capacity. The biggest ongoing backlogs are in rural areas.

### Providing economic infrastructure to support growth

Municipal capital expenditure has fallen below the value of buildings completed from 2003. Since then, the gap has widened, despite increases in municipal spending.

Figure 10.4 shows that municipal capital expenditure has now fallen to less than 75 per cent of the value of buildings completed. The effects of this under-spending are cumulative. Backlogs in demand are experienced in the greater congestion and over-use of existing assets. In extreme circumstances they may lead to firms deferring decisions to expand their productive capacity.

**Figure 10.4 Municipal capital expenditure as a percentage of the total value of buildings completed, December 1998 – December 2006**



Source: Stats SA, Community Survey 2007 and National Treasury local government database

### Maintenance expenditure

A failure to adequately maintain assets can lead to service delivery disruptions and the need to replace assets before the end of their design lives. The need for expenditure on asset maintenance depends on where a municipality is in its asset management life cycle. A municipality with a comparatively new infrastructure network will require less maintenance expenditure. Detailed information on the age, value and condition of municipal assets is unfortunately not available. This shortcoming is currently being addressed through the introduction of municipal asset management regulations and is being closely monitored by the Auditor-General. For example, a 2007 audit by the National Electricity Regulator of South Africa (NERSA) of 11 electricity distributors reported the standard of data collection on infrastructure maintenance as “well below international standards”.

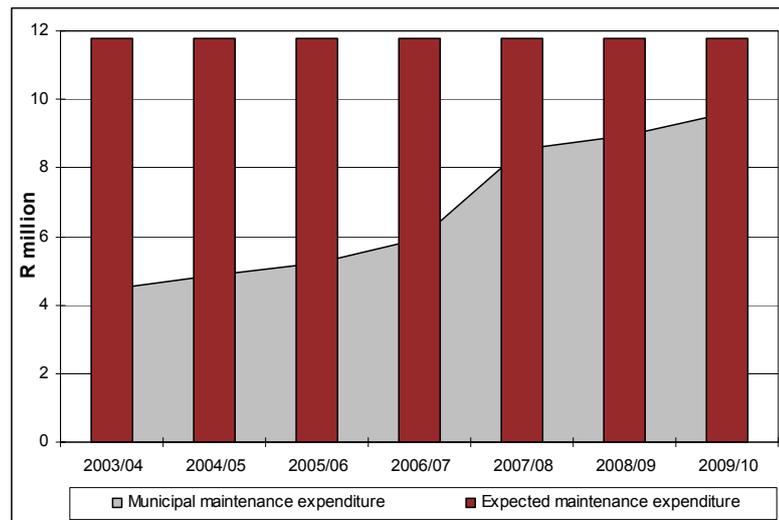
The limited sectoral information that is available does indicate that sustained under-investment in asset maintenance is having a negative impact on the quality of service. In 2004, in the water services sector, 37 per cent of households had water distribution interrupted mainly for technical reasons, while 28 per cent of households experienced failures in their sanitation systems. Over 50 per cent of a sample of 30 municipalities reported leakages at levels above international norms. In 2005, 63 per cent of municipalities could not confirm that they met water quality standards, although by 2007 it was estimated that 72 per cent were compliant.

Figure 10.5 presents estimates of the total replacement cost of municipal assets at approximately R295 billion. It suggests that an annual maintenance expenditure of R11.8 billion would be required to ensure that these assets were adequately maintained.

*A municipality with a comparatively new infrastructure network will require less maintenance expenditure*

*Sustained under-investment in asset maintenance is having a negative impact on the quality of service*

**Figure 10.5 Municipal maintenance expenditure by year against expected expenditure, 2003/04 – 2009/10**



Source: National Treasury local government database

## ■ Spatial planning

*Spatial planning mechanisms are an important tool for government to guide public and private investment for the public good*

Spatial planning mechanisms are an important tool for government to guide public and private investment for the public good. The spatial component is an important element of national strategy. The introduction of the national spatial development perspective in 2003 and its revision in 2006 has not adequately addressed and emphasised where development should take place. The current democratic government inherited many planning and property development approval regulations in 1994. These regulations differ from province to province and are based on apartheid spatial planning models. Since 1994, government has been grappling with the fragmented, incoherent and constraining regulatory framework for planning. This has a direct impact on the country's ability to facilitate economic investments. It also fails to redress the unequal and dysfunctional spatial patterns inherited from apartheid and it does not yet reconcile the country's socio-economic needs with those of the environment.

The continued applicability of the apartheid era legislation renders the entire development planning system inefficient, costly and confusing and consequently does not support a number of government's current objectives.

Rethinking the spatial project to realise developmental growth objectives must take cognisance of new challenges and realities.

### The planning and regulatory environment

#### *Impact of current planning and approval processes*

Overall, the planning and property development approval processes have had the effect of both increasing the cost of investment and enabling lobbies opposed to investment to delay and prevent new

property development projects. This regulatory environment has a negative impact in the following ways:

- *Economically*: it impedes investment in land development and fails to establish sufficient certainty in the land market.
- *Spatially*: it fails to address the segregated and unequal spatial patterns inherited from apartheid.
- *Environmentally*: it does not balance the country's socio-economic needs with those of environmental conservation and sustainability.
- *Procedurally*: the planning regulatory system has not only added to bureaucracy, but also increased the incentives for corruption of officials vested with the power of approving applications. Further, it has allowed scope for developers to by-pass one set of authorities (municipality) for another (province), leading to fragmentation in the planning process.

The reasons for the regulatory framework having this effect include:

- The fragmented nature and definition of planning functions means that the concept of planning is understood differently in different sectors and between spheres of government.
- There is little co-ordination of forward planning between sectors and uncertainty as to the manner in which forward planning should relate to the day-to-day management of land development.
- There are no procedures to review planning decisions every 10 years, to ensure that previous decisions are updated to take into account new realities.
- Administrative mechanisms to deal with objections and appeals are weak or non-existent, leaving judicial processes to deal with objections, often resulting in lengthy delays.
- Preventative and management mechanisms to minimise risk of corruption and delay in approving planning applications are weak.

The current situation puts considerable strain on the processes and instruments of co-operative governance in an area in which co-operation is especially important. The various government actors are unsure of each other's roles and the private and community sectors are, unsurprisingly, confused and frustrated. This is not a situation that is conducive either to promoting appropriate investment in land development or to effective efforts to redress the spatial legacy left by apartheid.

Further conflicts also arise with other sector planning and approval legislation, like the legislation in the transport sector for road planning, modes of transport and for public transport licences. Obviously such planning and approval processes should be part of the spatial planning processes.

*Conflicts also can arise with other sector planning and approval legislation*

### *Planning regulations*

Currently, most land development applications are submitted via the procedures set out in the four "old order" town planning ordinances:

- the Natal Town Planning Ordinance, 27 of 1949 (in KwaZulu-Natal)
- the Orange Free State Townships Ordinance, 9 of 1969 (in Free State)
- the Cape Province's Land Use Planning Ordinance, 15 of 1985 (in Western Cape, Eastern Cape, Northern Cape and some parts of North-West)
- the Transvaal Town Planning and Townships Ordinance, 15 of 1986 (in Gauteng, Limpopo, Mpumalanga and most of North West).

These inherited laws do not apply to those parts of the country that previously fell within the former bantustan boundaries. Nor do they apply to most of the townships. In these areas land development is either governed by old order bantustan legislation (for example, the KwaNdebele Town Planning Act (1992), the Bophutatswana Township Regulation Amendment Acts, the Venda Land Affairs Proclamation 45 (1990) and the Ciskei Land Use Regulations Act (1987) or, more commonly, regulations issued under the Black Administration Act (1927) and the Black Communities Development Act (1984).

In addition, there is the Less Formal Township Establishment Act (1991), which provides a special, fast-track procedure for applications for low income housing, as well as the Development Facilitation Act (1995), which gives development tribunals considerable powers to expedite various land development applications.

In addition to the legislation described above, which relates directly to traditional town planning and township establishment approvals, there is also a parallel set of environmental regulations issued in terms of the National Environmental Management Act (1998). For a large number of development applications and especially large-scale, mega-projects, the applicant has to comply with (at least) two development approval processes - planning approval and environmental authorisation. In some instances this translates into a scenario in which the planning concerns are not tackled very rigorously as there is a sense that the environmental authorisation will determine the outcome anyway.

National and international policy objectives are increasingly moving away from the compartmentalisation of planning and environmental concerns. As the range of environmental concerns widens to include social and economic impacts and the planning agenda integrates environmental impacts more and more, so it becomes less and less defensible to have separate and often unrelated, misaligned legal approval procedures.

#### *Intergovernmental co-ordination*

Uncertainty about which sphere of government is responsible for what element of planning results in contradictions such as the disjuncture

between provincial approvals for environmental impact assessments and municipal approvals for land development applications.

Closely linked to the assignment of the planning function, is the practical difficulty faced by all three spheres of government in identifying an effective way to link their plans for the future with day-to-day development management decisions. How can a municipality ensure that a decision in support of a specific rezoning or township development application reflects the intention of its integrated development plan? How does it do this in a way that effectively balances the need for predictability with the need for flexibility? In answering these questions it is important also to remember that issues of co-operative governance inevitably arise - a project may well comply with all the policy objectives and delivery targets of one sphere of government, but not fit very well with those of the decision-making body charged with approving or rejecting the application.

*Difficulty in identifying an effective way to link plans for the future with day-to-day development management decisions*

As a further complicating factor, decisions relating to building plan approvals (governed by the National Building Regulations and Building Standards Act (1977)) have clearly been made on the basis of inconsistent interpretations and have been legally challenged by individuals who are adversely affected by certain decisions.

In larger infrastructure projects (particularly the development of network infrastructure like roads and railways that cut across geographic regions), the fragmentation and confusion relating to planning approvals is magnified. In the transport sector, the intergovernmental arrangements are confusing. For example, approvals for taxi licences are often vested with the province rather than the municipality. Similarly, some roads (like the N1 and M1 between Mid-Rand and Rosebank) fall under three different spheres of government, greatly complicating the planning and maintenance processes.

*Intergovernmental arrangements are confusing*

### *Recent initiatives and the need for a common approach*

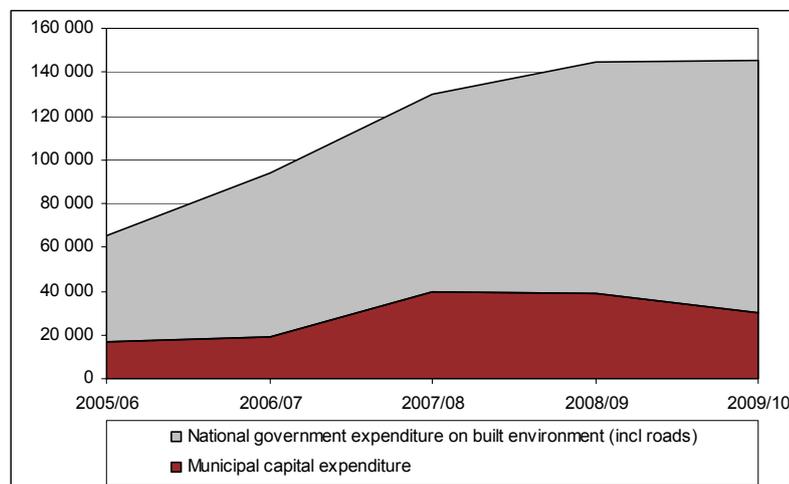
Despite the pervasive uncertainty and disagreement as to the way forward there has been considerable activity in all three spheres of government to reform planning laws. The problem, however, is that the various legislative initiatives are not in terms of a common framework or even an agreed interpretation of constitutional provisions. This activity thus raises the spectre of yet more layers of planning and land development regulation being added. It also reflects a range of different approaches and lays the foundation for many years of uncertainty and litigation in the future. There is an urgent need for consistency in land use planning across the country.

## **Co-ordination of public investments in the built environment**

The public sector makes significant investments in the built environment.

National government sets out policies that play a regulatory role in municipal infrastructure functions and provide significant grant financing for housing and municipal infrastructure. Some national departments, such as the Department of Water Affairs and Forestry, invest directly in bulk and in some instances, local infrastructure. National public entities such as Eskom, Transnet and the South African National Roads Agency (SANRAL) invest directly in electrical and transport infrastructure. Provincial governments invest directly in housing, health, education and related community infrastructure such as libraries and roads. In addition, they monitor municipal infrastructure and services. Municipalities and municipal entities invest directly in water services and electricity, solid waste, transport and community infrastructure. Figure 10.6 summarises national and local expenditure on the built environment.

**Figure 10.6 National and municipal capital expenditure in the built environment, 2005/06 – 2009/10**



Source: National Treasury local government database

*Community and household infrastructure investment needs to be properly co-ordinated and carefully sequenced*

To fulfil their infrastructure obligations, municipalities must maintain a large variety of relationships involving the co-ordination of built environment functions. To achieve positive developmental outcomes requires community and household infrastructure investment to be properly co-ordinated and carefully sequenced. For example, a new clinic or school will require roads, water services and electricity. New housing developments may require clinics and schools and other community facilities.

Evaluating the extent of co-ordination in public investment is methodologically challenging, particularly at an aggregate (national) level. Methodological refinements to improve this are currently being developed.

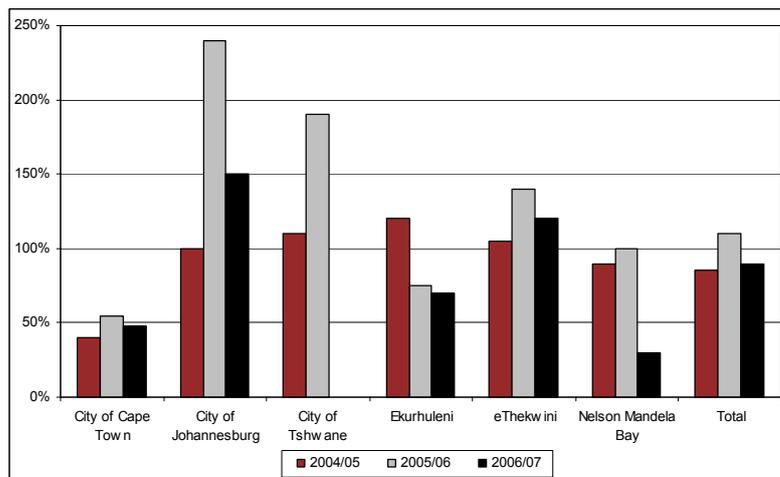
Nevertheless, it is clear that municipalities face three specific challenges in co-ordinating investment in the built environment.

First, the current assignment of functions and financing arrangements for built environment investments creates potentially excessive demands for intergovernmental co-ordination. This is most evident between provincial and local governments with respect to housing and

related infrastructure investments. In general, a lack of synergy prevails between provincial housing department funding for subsidised housing developments and IDP-based municipal development targets.

The misalignment of housing and infrastructure grants is symptomatic of this challenge. Figure 10.7 shows the wide range in the relationship between housing and MIG transfers to metros. Although MIG transfers have on average amounted to 93 per cent of housing transfers over the period, there are wide variations both within individual cities and between them.

**Figure 10.7 MIG allocations as a percentage of housing allocations in the metros, 2005/06 – 2007/08**



Source: National Treasury local government database

The volatile and unpredictable nature of provincial housing expenditure undermines the ability of municipalities to adequately plan for infrastructure investments and can lead to delays in both housing and infrastructure projects.

Some metros have begun to undertake the housing function on behalf of their provincial counterparts. In such cases municipalities will prepare plans and submit them to their provinces for approval and release of funding. However, better alignment is required between housing and infrastructure conditional grants, which could potentially include the gradual re-assignment of the housing function to the municipal level.

In the short term, the alignment of the fiscal instruments supporting the development of the built environment will go a long way to improving local government's ability to deliver on its service delivery mandates. Associated with this alignment is the need to improve the predictability and certainty of grant allocations over a three-year horizon. This will assist municipalities in integrating their planning and budgeting processes. To this effect, the national Department of Housing has begun to facilitate the determination of housing allocations by provincial housing departments to ensure that these are gazetted in the Division of Revenue Act. This will contribute to forward planning and align their planning processes with the

*Alignment of the fiscal instruments supporting the development of the built environment, will improve local government's ability to deliver on its service delivery mandates*

infrastructure grants for inclusionary housing and other Breaking New Ground programmes.

Co-ordination within the local government sphere is another dimension of the co-ordination challenge. The internal organisational arrangements of municipalities often reinforce fragmentation between service delivery units, such as roads and water departments, or between municipal public entities where these exist. In addition, non-metros must co-ordinate investment programmes between district and local municipalities, as the actual functional assignments between these tiers differs and is often opaque across the country.

Second, the system of functional and fiscal assignments may exacerbate principal-agent problems, leading to confusion about accountability for achieving developmental outcomes. In cases where provincial governments are performing a direct housing implementation role, they are poorly suited to also oversee municipal investment performance in the built environment. In essence, this dual mandate weakens the ability of municipalities to co-ordinate built environment investments, despite them being relatively better suited to judging local needs and priorities.

*Weak information flows compound co-ordination problems*

Third, weak information flows compound co-ordination problems. Reporting by municipalities tends to be done within the silos of departmental functions. This can result in a lack of coherence between different silo-based inputs and undermine the reliability and utility of the information itself. Sectoral reports fail to provide an indication of the extent to which integrated development outcomes are being addressed in the planning and budgeting process as well as integrated outcomes achieved. Most reporting is focused purely on expenditure performance, without providing information on medium-term targets. Consequently, it is impossible to gauge the extent to which the municipality is 'on track' with investment programmes.

## **Conclusion**

The demand for municipal investment in the built environment has grown strongly over the past few years. While municipalities have made significant progress in addressing historical backlogs in basic infrastructure, shifting patterns of demand, to urban areas and to support economic growth, are currently outstripping the investment capacity of municipalities. Municipal approaches to asset management are increasingly being exposed as inadequate to meet these challenges, not least due to the absence of high quality data. Underlying this problem are concerns over the current framework for spatial planning and weaknesses in mechanisms for the co-ordination of public investments. Considerable further work is required to refine policy and implementation frameworks for both spatial planning and public sector co-ordination, without which the efficiency and developmental effectiveness of public investments will continue to be undermined.