FINANCIAL AND FISCAL COMMISSION

For an Equitable Sharing of National Revenue

Submission for the

DIVISION OF REVENUE

2020/21

Submission for the Division of Revenue 2020/21: Repositioning Local Government Public Finances

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Abbreviations

AGSA	Auditor-General of South Africa
B2B	Back to Basics
CMIP	Comprehensive Municipal Infrastructure Programme
COGTA	Department of Cooperative Governance and Traditional Affairs
DBSA	Development Bank of Southern Africa
DPLG	Department of Provincial and Local Government
DPME	Department of Planning and Monitoring Evaluation
DPSA	Department of Public Service and Administration
FFC	Financial and Fiscal Commission
GDP	Gross Domestic Product
ICU	Intensive Care Unit
IDP	Integrated Development Plan
IMF	International Monetary Fund
IUDF	Integrated Urban Development Framework
KZN	KwaZulu-Natal
LGSETA	Local Government Sector Education and Training Authority
MFMA	Municipal Finance Management Act, 2003 (Act No. 56 of 2003)
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MOU	Memorandum of Understanding
MSA	Municipal Systems Act, 2000 (Act No. 32 of 2000)
MTEF	Medium Term Expenditure Framework
NDP	National Development Plan
NERSA	National Energy Regulator of South Africa
OECD	Organisation for Economic Cooperation and Development
PMU	Project Management Unit
SALGA	South African Local Government Association
SCM	Supply Chain Management
SPLUMA	Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013)

Foreword

Since 1994, it has been anticipated that local government will play a pivotal role in a new South Africa. The 1998 White Paper on Local Government envisaged a local government sphere at the core of socio-economic development, a vision confirmed by the 2012 National Development Plan (NDP). Numerous indicators, however, suggest that the local government sector is not optimally fulfilling its assigned mandate. Many municipalities are in disarray. An analysis by the Department of Cooperative Governance and Traditional Affairs (COGTA) in 2014 found that only one third of the municipalities were functioning well, while two thirds were either at risk of descending into dysfunctionality or were already dysfunctional. The reasons are many, complex and interlinked. Audit outcomes also show the dismal state in local government; the May 2018 AGSA report reveals that the proportion of municipalities with clean audits declined from a mere 18 per cent in 2015/16 to 13 per cent in 2016/17. Over the years, local government role players have initiated a plethora of interventions in a bid to arrest the poor performance of the sphere. Save for seemingly random pockets of success, however, many have drawn a blank.

Given the precarious situation, it is appropriate to reflect on the local government sphere as a whole; and on whether it's financing, management, governance and institutional models adequately meet theneeds. Thus, the theme of the Financial and Fiscal Commission's (FFC) 2020/21 annual submission is: ***Repositioning Local Government Public Finances***. The Commission argues that the Local Government Fiscal Framework is not in synchronisation with the constitutional mandate of the sphere and requires renewal and rebuilding. The departure point of the submission is a thorough and systematic assessment of local government. Four focus areas underpin the Commission's argument:

Firstly, the lack of fiscal space for the local government sector is placing its sustainability and viability at risk. The apparent disjuncture between expenditure needs, especially for basic services such as refuse removal, electricity, and water, and municipality own income - drive behaviour that may be detrimental for fiscal sustainability. Inequalities and poverty may be exacerbated, and further undermine spending efficiency, accountability and revenue mobilisation efforts of municipalities.

Secondly, many local government interventional programmes have sought to address different aspects of the dysfunctionality inherent in many municipalities. From a capacity building viewpoint such programmes have not worked, and it is imperative that there is a coordinated and holistic approach that addresses weaknesses in the local government

environment, at both the organisational and the individual, human capital levels. The emphasis in interventions to avoid dysfunctionality should be on avoiding duplication and ensuring a coordinated, all-encompassing approach.

Thirdly, in spite of substantial investment in infrastructure since 1994, infrastructural challenges such as poor quality and reliability of water and inadequate sanitation services in not only rural and informal settlements, remain prevalent. This not only places basic service delivery at risk, but also the country's infrastructure led growth. Local government infrastructure management must be reformed for efficiency.

Finally, the institutional arrangements underpinning the Local Government Fiscal Framework appear not to provide the alignment, coordination and innovation required for local government to prosper and achieve the aim of inclusive local economic development and basic services delivery. City-regions may be an organisational structure capable of addressing the issues of local government weakness.

In shaping the contents of this Submission, the Commission drew on the knowledge and insights of municipalities, which participated in an online questionnaire survey or which agreed to a case study. The Commission also acknowledges local government stakeholders who participated in workshops and discussions providing valuable information and support.

This ***Submission for the Division of Revenue 2020/21*** is made in terms of Section 214(1) of the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996), Section 9 of the Intergovernmental Fiscal Relations Act, 1997 (Act No. 97 of 1997) and Section 4(4c) of the Money Bills Amendment Procedure and Related Matters Amendment Act, 2018 (Act No. 13 of 2018).

We, the undersigned, hereby submit the Financial and Fiscal Commission's recommendations for the 2020/21 Division of Revenue in accordance with the obligations placed on us by the Constitution of the Republic of South Africa.

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Executive Summary

Local government plays a pivotal role in South Africa. The 1998 White Paper on Local Government and also the 2012 NDP, placed the local government sector at the center of the socio-economic development agenda. It is now close to 25 years since the new Local Government dispensation, but many indicators suggest that the local government sector remains wanting in the fulfillment of its constitutionally assigned mandate. Municipalities underperform owing to disequilibria in the financing frameworks of the local government sector and misalignments in the governance and institutional structures of the sector. Over the years, many programmes and interventions (legal, policy, financing, etc.) have been undertaken, but they have largely failed.

It is well-known that the capacity and capability of local government varies considerably across the country, especially between metropolitan municipalities on the one hand, and district and local municipalities, on the other. Within local municipalities, the levels of efficiency also vary significantly between urban and rural. Finally, there are serious questions about the effectiveness of district municipalities, especially with regard to their ability to carry out their respective mandates, and indeed their relevance in the intergovernmental make-up of the country at the present time.

Considering that it is exactly 20 years since the White Paper on Local Government was introduced, the FFC reflects on the financing, capacity, investment and developmental challenges in the local government sector. Under the theme of ***Repositioning Local Government Public Finances***, the FFC's 2020/21 Annual Submission assesses the financial viability of local government, the individual, organisational and institutional performance capacity, and infrastructure management challenges facing local government. There are four focus areas that underpin the FFC's findings, which constitute the structure of the 2020/21 submission, namely:

- The performance of the local government fiscal framework;
- Municipal functionality and interventions invoked to improve the performance of municipalities;
- The effectiveness and efficiency of local government infrastructure management; and
- The potential of the city-region development model.

Chapter one provides an overview of the local government sphere focusing on the progress made and the continuing challenges. There is no doubt that significant progress has been

made in a number of areas since the advent of democracy in 1994 especially with regard to re-structuring (e.g. reducing the number of municipalities from more than 800 to 257, and creating different types of municipalities - metropolitan municipalities, districts, locals). Access to basic services has improved; the allocation of resources to local government has improved; and infrastructure spending has increased substantially. Nevertheless, the sector is characterised by a number of persistent challenges, relating to, inter alia, poor financial management; low and declining 'own revenue' in the majority of municipalities; and inefficient delivery of infrastructure, as well as poor maintenance of existing infrastructure.

Chapter two reviews the local government fiscal framework. As local government accounts for almost 40 per cent of the country's Gross Domestic Product (GDP), it requires adequate revenue sources to fulfil its constitutional mandate. In the current economic climate, the sector cannot count on national transfers to close its fiscal gap, either on the capital or operational accounts. The ever-increasing expenditure demands facing local government against this backdrop, require a review of the local government fiscal framework. Considering that the sector has been unable to meet its constitutionally assigned mandate, this chapter set out to achieve three objectives: (i) review the performance of traditional local government revenue sources with a special focus on property rates revenue; (ii) review the sector's debt management capabilities; and (iii) evaluate the potential of supplementary local government revenue sources and financing mechanisms.

On the first objective, this chapter quantifies municipal tax effort, and examines constraints to traditional revenue optimisation with a particular focus on property taxes. To achieve this, the study used both quantitative and qualitative methods. The findings from the quantitative analysis confirm that municipalities are not optimising property tax collection. It was found that the inefficiencies are relatively high in small towns and rural municipalities which collect only between 40 per cent and 56 per cent of the expected revenues from property rates, respectively. Urban municipalities (metropolitan municipalities, secondary cities and large towns) were found to be the most efficient, collecting 84 per cent, 75 per cent and 62 per cent of the expected revenue, respectively. These results further confirm that property tax collection depends on various factors, and the type of municipality. In the case of metropolitan municipalities, property tax effort is driven by disposable income, unemployment, and intergovernmental transfers. In secondary cities, unemployment, formal housing, traditional housing, access to basic services, capacity and intergovernmental transfers are the key drivers of tax effort. The findings showed that disposable income, unemployment, and capacity are the key determinants of tax effort in the case of large and small towns. Intergovernmental transfers were also found to be a key driver of tax effort in small towns. The findings confirmed that the property tax collection effort in rural areas is influenced by traditional authorities. The results from the qualitative analysis correspond with the quantitative results. They confirm that property tax collection effort is high in urban municipalities, but low in rural municipalities. Also, the survey results confirm that poor

billing and credit control systems, affordability and willingness to pay, traditional leadership, and lack of capacity are the key drivers of poor property tax collection in municipalities.

Regarding debt, the chapter notes that South African municipalities are in a debt dilemma. Municipalities are owed over R50 billion, while they in turn owe creditors over R150 billion - far more than their total annual transfers. These debt levels pose a significant risk to service delivery and specifically, the fiscal sustainability of the sector. The chapter demonstrates that non-payment by organs of state has been growing steadily for the period 2011/12 to 2017/18. An analysis of historical municipal consumer debt reveals that debt that is outstanding for over one year, accounts for the largest share of debt and has escalated during the period 2013/14 to 2017/18. The main drivers of non-payment relate to weak debt management capability, poor compliance with relevant debt management rules, lack of forward planning, as well as poor debt record management.

On the third objective, the chapter isolated supplementary revenue sources for local government. Based on the survey results of 23 municipalities, and content analysis of both modern public finance theory and empirical studies, a list of potential revenue sources for local government is identified and subjected to a rigorous evaluation process. The process involved testing the potential of each revenue source against a number of public finance principles for a "good" local government revenue source. In short, the paper isolates development charges for tourism and fire levies, and amusement and advertisement taxes as viable revenue options for local government. These revenue sources rank highly in terms of the five important criteria for a "good" tax handle, i.e. criteria that underpin the principles of efficiency, accountability, transparency, fairness, and ease of administration. The chapter also noted that many municipalities own massive tracts of land. As the most important asset of municipalities, land should provide a steady flow of income for many local authorities. There are various value capture mechanisms which municipalities should assess and consider adopting. Furthermore, municipalities need to harness private sector capital to complement their own. In this regard municipalities should actively pursue public-private partnerships.

Chapter three focuses on the issue of functionality and interventions meant to improve the performance of municipalities. Over the years, government has implemented a range of capacity building interventions to assist poorly performing municipalities. Some of these have been pitched at the institutional level, while others have focused on building the individual capacity of municipal employees.

Following a discussion of the concept of functionality, inclusive of financial sustainability, and how it relates to municipalities in South Africa, this chapter hones in on the Back to Basics (B2B) programme of COGTA. The B2B programme is a recent example of an institutional level response to poorly performing municipalities, and the discussion is intentionally focussed more on efficiency than financial sustainability. The analysis then assesses the Municipal

Regulations on Minimum Competency levels spearheaded by the National Treasury. The minimum competency level initiative is an example of an individual level intervention aimed at improving human capital capacity. The rationale is that an assessment of these two types of interventions may bring to light aspects that could be incorporated into future interventions to improve their chances of success in a municipality.

The Minimum Competency Regulations are assessed specifically as they pertain to the financial competencies of employees who hold various municipal positions. The specific objectives of this analysis are to:

- Interrogate the concept of municipal dysfunctionality as used by various departments and institutions in South Africa and to propose a consolidated framework for assessing dysfunctionality;
- Assess the success of the B2B programme insofar as it brings about an improvement in the institutional efficiency of municipalities; and
- Assess the success of a key human capital related capacity building intervention, namely, the Minimum Competency Regulations, in professionalising the local government financial sector.

Various institutions including the National Treasury, COGTA and the South African Local Government Association (SALGA) are concerned with the functionality of municipalities and acknowledge the existence of dysfunctional municipalities. However, due to the lack of a commonly accepted definition of functionality, and by implication also of dysfunctionality, and a set of attendant measurable indicators, the lists of dysfunctional municipalities and their order of priority differ, depending on the institution undertaking the assessment. Over the years, while government has implemented various interventions to address the poor performance of municipalities, these have had little impact.

However, even if there was a common understanding, from a capacity building viewpoint, it is imperative that there is a coordinated and holistic approach that addresses weaknesses in the enabling environment, at both the organisational and the individual, human capital levels. Importantly, roles, responsibilities and governance arrangements should also be streamlined to support local government capacity building. The emphasis here should be on avoiding duplication and ensuring a coordinated approach.

Chapter four focusses on the improvement of local government infrastructure delivery management and efficiency. The study employs a four-pronged methodological approach including:

- A policy review of the institutional architecture of local government infrastructure delivery
- A budget analysis of infrastructure programmes

- A Malmquist Productivity Index model to evaluate local government spending efficiency and
- Case studies of infrastructure delivery management processes in municipalities and other government spheres responsible for oversight.

This chapter examines the local government infrastructure delivery management systems and spending efficiency with a view to identifying bottlenecks that hamper the development of an effective, efficient and sustainable infrastructure life-cycle management capacity. Municipal infrastructure delivery programmes are characterised by management and spending inefficiencies that include project completion delays, budget overruns, asset deterioration, and under-utilisation among others. The literature ascribes these challenges to the absence of the basic fundamentals of infrastructure delivery management.

The Commission finds that efficient infrastructure delivery processes are hampered by, among other factors, gaps in planning and prioritisation processes, deficient project management capabilities, stringent regulations and weak intergovernmental coordination. South Africa has a well-established legislative and institutional framework to facilitate sound infrastructure delivery management. Legislatively, the Municipal Systems Act (MSA) lays out a clear framework for planning and prioritising service delivery and in particular the steps to be followed when implementing infrastructure projects. The law is complemented by detailed project management guidelines, outlining control frameworks and the delivery value chain across the planning, designing and execution of infrastructure projects, as well as of resourcing of infrastructure delivery units (Project Management Unit (PMUs) and Project Steering Committees). Accordingly, municipalities are expected to roll out an elaborate infrastructure delivery management process that involves the council, the community, sector departments and various municipal divisions. On first appearance, the framework appears overly burdensome for under-resourced municipalities.

Notwithstanding the thorough delivery management framework, municipalities continue to portray serious shortcomings in relation to spending efficiency and the development and maintenance of infrastructure; in particular that projects are not completed on time, workmanship is poor, contractors are not monitored, budgets are overshot, and supply chain processes and proper project management practices are not being adhered to. The AGSA has highlighted numerous incidents where resources are wasted because of infrastructure delivery management deficiencies. Efforts to remedy the situation through a plethora of capacity building interventions have not been found to yield the desired results.

Spending efficiency estimations show mixed results across the various infrastructure municipal services provision types and across provinces. Some municipalities are more efficient in electricity provision, while others are more efficient in water and sanitation infrastructure provision.

There are divergent views between national government as the overseer of infrastructure delivery, planning and funding, and municipalities as to why operational and spending efficiencies persist. In this study, it is not assumed that only intervention support programmes need to be improved; hence the focus was on assessing the full value chain of local government infrastructure delivery management. On the one hand, national government tends to dismiss the infrastructure challenges that prevail on the ground and is divided about its respective oversight roles along sectoral lines. On the other hand, municipalities appear overwhelmed by the scale of infrastructure needs, and ambiguities in execution roles and responsibilities as well as the administrative and regulatory processes associated with the delivery of infrastructure.

There is a need for greater emphasis by management on the full life-cycle of municipal infrastructure and peer learning across municipalities, and not just on the roll out of new infrastructure. Planning for appropriate infrastructure that responds to local circumstances, maintaining infrastructure that has been built, and refurbishing infrastructure that has reached the end of its design life are all key to sustainable infrastructure delivery management. In particular, planning relating to the technical aspects of infrastructure must be linked to proper community need consultations and financial planning, in order to ensure adequate funding for both the capital and operational activity over the life-cycle of the asset. While the local government infrastructure grants system is not a perfect instrument to address this challenge, the design and management of each grant must promote good practice in infrastructure delivery management and spending - with rewards for municipalities that follow best practices, and penalties for those that do not. Tampering with the grant frameworks and increasing technical support interventions alone, without also addressing the underlying structural intergovernmental delivery capacity, are unlikely to have meaningful impact.

Chapter five examines the structure of local government by examining specifically the city-region and its potential to address South Africa's development challenges. It is 25 years since the advent of democracy in South Africa, and it may be appropriate to ask whether the intergovernmental system comprising provinces and three categories of municipalities is still appropriate, particularly in the light of significant continuing challenges in both the provincial (e.g. education and health), and local government spheres (e.g. basic services delivery, capacity, including infrastructure-related services).

Having considered the sustainability and capability of local government in previous chapters and providing recommendations for improvement, this chapter explores the potential of the city-region to promote more effective service delivery and sustainable development, using a review of the international literature and the case study of the Gauteng City-Region.

The methodology applied to this research is the case study approach. It entails international case studies supplemented with secondary quantitative and qualitative data analyses, as well as content analysis of policy documents. The case studies were selected on the basis of three criteria. Firstly, they represent different geographic regions of the world. Secondly, there is the presence and diversity of specific key drivers necessary for the functioning of a city-region. Thirdly, their display an ability to provide better insights into the challenges city-regions are facing. The case studies serve two objectives. First, they are meant to identify the main challenges associated with the transition of cities to city-regions, and to explore innovative and new perspectives to solving urban problems arising from a regional perspective rather than a local perspective. Second, the aim is to learn what can be done to enable the potential of city-regions to be realised.

The four international case studies are:

- Bangkok Metropolitan Region in Thailand
- São Paulo Metropolitan Region in Brazil
- Metropolitan Region of Barcelona in Spain and
- Mexico City Metropolitan Area in Mexico.

The city-region agenda is an important step towards the development of urban areas internationally, both from an efficiency - albeit driven by competitiveness - and a sustainability point of view. However, the establishment of city-region collaboration and cooperation takes time and must be undertaken with caution, and a longer term view of co-existence with or within the currently existing national and sub national institutional arrangements.

There is a need also to demonstrate clearly that city-regions are best able to address a country's development challenges. In South Africa, the impact on the peri-urban and rural areas is important. Also, it must be measurably demonstrated that city-regions will yield better outcomes than, for example, provinces or district and local municipalities delivering against their function mandates. The literature and international case studies have stressed that city-region collaboration should be premised on cooperation between municipalities in the urban area. An important issue relates to whether this could this be extended to rural areas. Internationally, there is an important role for the higher levels of government to initiate and support such types of municipal cooperation, with policy and economic incentives. It is seen as critical that 'higher level' government supports city-region level cooperation rather than envisioning it as competition. The cooperative approach and organisational efforts of the core city towards the smaller municipalities in the city-region are also viewed as absolutely vital, as is the establishment of deliberative platforms to bring together key government and private sector entities. The development of city-regions should begin with the key sectors, such as transport and water, where the potential for positive outcomes is vast.

The international case studies have demonstrated that city-regions are appropriate for the multi-level governance approach in South Africa. However, case studies show that the purpose has not and should not be to create a new level of government. Rather, the intention is to devise an innovative system and mechanism of cooperation and collaboration, as is demonstrated by the South African Gauteng City-Region case study. There are challenges pertaining to making the improvements needed in the institutional and policy frameworks that are supportive of city-regions, as also detailed in the Gauteng City-Region case study. Most importantly, financial incentives, that are crucial for economies of scale, are generally not yet in place. The Gauteng City-Region case study does, however, demonstrate considerable potential for the development of city-regions in South Africa. City-regions provide opportunities to deal with common problems, such as sanitation, transport and waste, efficiently and in a manner that is developmental and innovative. There are indeed good prospects for functional city-regions in South Africa, to the extent that the appropriate institutional and policy framework and financial incentives are put in place.

If the relative success of the Gauteng City-Region can be replicated on a greater scale nationally (mindful, however, of the developmental context of the specific region), there may be a strong case to assess the continued relevance of provinces and district municipalities in the future.

The Commission makes the following recommendations.

Recommendations

Chapter 2

1. With respect to optimising traditional own revenue sources, the Commission recommends that:

(a) The Minister of COGTA, in consultation with the President of SALGA should ensure that the credit control systems of Eskom and municipalities are aligned by means of a Memorandum of Understanding (MOU), and that Eskom assists municipalities with credit control via electricity disconnections within the municipality's area supplied by Eskom;

(b) Provincial governments facilitate the process of municipalities in the same district municipality pooling their resources to attract qualified property valuers, where there is a need do so in order to ensure that properties are accurately valuated, and to share the costs associated with the valuation process;

(c) The Minister of CoGTA, in consultation with the Minister of Finance and provincial governments should assist local municipalities to build capacity for property rates collection.

2. With respect to revenue management, the Commission recommends that:

(a) The Minister of COGTA, in consultation with the Minister of Finance, and provincial governments should assist local municipalities, especially those with limited resources, to develop effective credit control systems;

(b) Municipalities should apply the usual credit control measures (including interruption of electricity and water services) to national and provincial government departments who do not honour their contractual obligations. In this regard it should be noted that a dispute about non-payment constitutes an intergovernmental dispute which may invoke the Intergovernmental Relations Framework Act provisions.

3. With respect to supplementary revenue sources for local government, the Commissionrecommends that:

(a) The Minister of Finance should take steps (including piloting) to add the following supplementary revenue sources to the list of allowable taxes for different types of municipalities in a differentiated manner that could include, the development charges, tourism levies, land value capture mechanisms, tourism levies and fire levies. Fire service levies in particular should be considered for the municipalities that are to be authorised for this function. The greater potential for expansion of own revenue sources in urban areas should be compensated for by changes to the division of revenue to increase transfers to rural areas.

(b) The Minister of Finance should proactively inform municipalities on various land value capture mechanisms, that municipalities can take advantage of in order to supplement their current own revenue sources.

Chapter 3

4. With respect to municipal functionality, the commission recommends that:

The Minister of COGTA, the Minister of Finance and the President of SALGA jointly lead the development of a government-wide accepted definition of 'municipal functionality'. The definition should be based on the six factors put forward by the Commission: maintenance and performance of systems, processes and practices in governance, service delivery, financial management, leadership, political management, and human resources. Further, they should ensure that the accepted indices for measuring dysfunctionality should be explicit. Indicators of dysfunctionality should be chosen carefully and should exclude factors that are outside the current control of municipality. This definition can be used across government, including in targeting capacity support grants and further differentiating conditional grants.

5. With respect to the B2B Support Programme, the Commission recommends that:

The Minister of COGTA narrows the current scope of focus, to performance aspects that are measurable and easily monitored.

6. With respect to capacity building, the Commission recommends that:

(a) The Minister of COGTA (i) defines the roles, responsibilities and governance arrangements underpinning the building of a quality Local Government civil service, and (ii) through MOUs improves and strengthens coordination among government departments that are building capacity of municipalities in order to avoid duplication and gaps between different role-players, while paying specific attention to the requirements of any particular municipality receiving intervention.

(b) Based on an assessment of the specific needs of a municipality, the Minister of Finance and Minister of COGTA jointly, and in consultation with provincial governments, should prioritise technical support for new systems, innovative business process redesign and change management.

(c) The Minister of Finance should conduct regular assessments of the minimum competency regulations to determine their impact and whether there are tangible improvements as a result of complying.

Chapter 4

7. With respect to local government infrastructure management and efficiency, the Commission makes the following recommendations:

(a) The Minister of COGTA and the Minister of Finance jointly should, as part of the ongoing local government infrastructure grant reforms, strengthen the linkage between technical project planning processes and budgeting and foster smooth intergovernmental infrastructure coordination, including the following:

(i) Time-bound plans for consolidating all municipal infrastructure grants into the respective existing sector-specific grants and thereby provide the key sector department with the authority to carry out their infrastructure support mandate;

(ii) Clarification of roles and responsibilities especially in the delivery of water and electricity services between local municipalities and district municipalities on the one hand, and public entities, including the water authorities and Eskom respectively. With respect to specific local geographic areas, these roles and responsibilities must receive further expression in an MOU. This will enable more direct targeting of funding for services in the Division of Revenue Act.

(b) The Minister of COGTA should establish an infrastructure inspectorate through the Municipal Infrastructure Support Agency (MISA) to assess management performance processes and capacity within municipalities to implement grant-funded and non-grant-funded infrastructure projects on a continuous basis.

(c) The MISA inspectorate should undertake infrastructure delivery management capability assessments, quality inspections of new and existing built infrastructure, project management and delivery audits and advise on alternative approaches, materials or technologies for infrastructure delivery through the development of infrastructure blueprints for various types of municipal facilities.

(d) The Minister of COGTA should align inspectorate assessments to the Division of Revenue Bill conditions for allocation, reporting and the disbursement of grants. This must be in line with the recently established Budget Facility for Infrastructure Programme criteria for appraising and budgeting for infrastructure projects.

(e) The Minister of Finance, jointly with the Minister of COGTA, MECs for Finance and other provincial government departments, should within a District Municipality area pull together the various project management resources present from GTAC, MISA, MIG administration and the respective municipal PMUs, to create a shared project management facility to improve the oversight capacity in respect of projects and to protect the financial interest of local government against contractor misconduct.

(f) The MECs of provincial COGTAs should strengthen the existing infrastructure delivery intergovernmental forums to facilitate peer learning of best infrastructure management practices across municipalities and to foster coordinated infrastructure planning.

Chapter 5

(8) With respect to city-region development, the Commission recommends that:

The Minister of COGTA should assess the requirements in respect of key success factors for city-regions to address inclusive development and local government service delivery failures, including:

(i) Legal provisions;

(ii) Institutional setup scenarios - involving provincial government and/or metropolitan municipalities and/or district municipalities and/or local municipalities, depending on the context;

(iii) Financial incentives; and

(iv) Rural and peri-urban developmental impact scenarios.

FINANCIAL AND FISCAL COMMISSION

For an Equitable Sharing of National Revenue

Chapter 1

Addressing Local Government Sustainability

Chapter 1: Addressing Local Government Sustainability

Introduction

It is generally accepted that equitable growth and development in South Africa depends critically on a well-functioning local government sphere. To address the national challenges of low economic growth, high unemployment and socially unacceptable levels of poverty and inequality in the country, it is vital that municipalities are able to perform efficiently and effectively across the country.

It is also well-known that the capacity and capability of local government varies considerably across the country, especially between metropolitan municipalities on the one hand, and district and local municipalities, on the other. Within local municipalities, the levels of efficiency also vary significantly between urban and rural. Finally, there are serious questions being raised about the effectiveness of district municipalities in executing their respective mandates, and indeed their relevance in the intergovernmental make-up of the country at the present time.

The 2020/21 Submission for the Division of Revenue (DoR) focuses on addressing issues relating to local government sustainability. In particular, the following chapters focus respectively on financial sustainability of local government, municipality dysfunctionality and capacity, infrastructure delivery management and efficiency, and local government structure, specifically through the example of the Gauteng City-Region. The present chapter provides some background information to the submission.

Local government: Twenty five years on from the advent of democracy

Local government is the sphere closest to people and it is the face of government in communities. The sphere plays a crucial role in the governance of the country and in the provision of basic services. In the past 25 years local government has significantly improved access to basic services to poor households. As at 2016, 90 per cent of households in South Africa had access to piped water; 88 per cent to electricity from 8 per cent in 2002; and 64 per cent had waste removed regularly. Access to sanitation remains low compared to other services (Statistics South Africa, 2016). As at 2016, 13.7 per cent of households used unventilated pit toilets, 2.2 per cent relied on bucket toilets and 2.4 per cent had no sanitation at all (*Ibid*).

Although access to all basic services has improved since 1994, the quality and reliability of these services remains a big challenge. Inefficiencies are not uncommon, as are the resource leakages and corruption. Infrastructure is poorly maintained, leading to poor quality services and losses in revenue. The current Intergovernmental Fiscal Relations system incentivises over-provision of new infrastructure without providing for related operating/maintenance costs (FFC, 2018).

In the past 25 years the local government sector has experienced significant structural, policy and financial transformation that still has a bearing on the state and performance of local government today. The following three sections discuss briefly some of the structural, policy and financial changes that the sector has undergone in the past 25 years.

Structural changes

In the pre-1994 political dispensation, the local government sector comprised 1 262 different local authorities. In 1994 they were consolidated to 843. In 1999, the number of municipalities was reduced to 284, 283 in 2006, 278 in 2011, and finally, 257 in 2016. These successive amalgamations of municipalities have resulted in South Africa having one of the lowest number of municipalities in the world relative to its population. Conversely South Africa has the highest average population sizes per municipality (Vacu and Ncube, 2017). The assumption throughout most amalgamations was that economies of scale would be achieved in larger municipalities. The view was that the consolidation of municipalities improves their effectiveness and efficiency, or simply "bigger is better" or "bigger is cheaper". And bigger is more financially viable and sustainable. Although there is merit in this argument, recent FFC (2016) research has shown that the successive demarcation processes have been costly, and in the short run affect the financial sustainability of affected municipalities. Short run costs[1] often undermined the viability and sustainability of municipalities. FFC research also noted that demarcations cannot correct dysfunctionality or make municipalities financially viable as the 2016 demarcations were purported to do.

Policy and legal changes

The development of local government today owes its origins to the 1998 White Paper on Local Government (Department of Provincial and Local Government (DPLG), 1998). The White Paper, which has remained the guiding policy and legislative framework for local government, originally envisaged a sector that is well funded and enabled by different policy, legislative and regulatory measures to discharge its mandate effectively and efficiently. The period since the White Paper was introduced has been marked by a number of initiatives meant to assist in building a modern local government sector. On the legal front, the sector

[1] Costs included the integration and consolidation of programmes, upgrading of data services; rationalisation of services, fees and tax rates, payroll systems, voters roll and administrative policies; change management costs; harmonisation of systems, harmonisation of asset registers, human resources policies, wages, salaries and allowances; and costs associated with coordination, communication, and retraining and retooling of workers.

has seen the introduction of several laws, namely the Municipal Structures Act (1998); the Municipal Systems Act (2000); Municipal Fiscal Powers and Functions Act (2007); the Municipal Property Rates Act (2004); and the Municipal Finance Management Act 56 of 2003, and Intergovernmental Relations Framework Act (2005). The Municipal Fiscal Powers and Functions Act (2007) and the Municipal Property Rates Act (2004) in particular are relevant to the present study as they respectively regulate the imposition of municipal taxes and surcharges, and the levying of municipal property rates. In various ways these pieces of legislation are designed to ensure that the local government fulfils its constitutional mandate.

Other initiatives that have underpinned developments in the local government are the Local Government Turnaround Strategy of 2009 (COGTA 2010); the 2011 National Development Plan (Chapter 13) (NPC, 2012); the Spatial Planning and Land Use Management Act (SPLUMA) of 2013 (COGTA, 2013)and the Integrated Urban Development Framework of 2016 (COGTA, 2016). To enhance the performance of the sector, initiatives such as the 2004 Project Consolidate (DPLG, 2004); 2006 Siyenza Manje Project (DPLG, 2006); the Local Government Five-year Strategic Agenda (COGTA, 2014) and the 2014 B2B programme (COGTA, 2014) have been adopted. These initiatives, collectively meant to build a strong local government, have achieved mixed results. While the sector has recorded significant progress in the provision of services and the building of infrastructure (as noted above), deficiencies in the quality of local government services and capacity remain the sector's biggest challenges.

Fiscal changes

As the local government was experiencing these structural, legal and policy changes, the Local Government Fiscal Framework (i.e. revenue sources and expenditure responsibilities) was also undergoing transformation. Over the last 20 years, the total resource envelope to the whole of local government has increased modestly, but not in line with the expenditure demands of the sector's services. The local government share of the DoR increased from three per cent (which translated to R6 billion in 2000) to 9.1 per cent share of the DoR, translating to R120 billion in the current financial year. Although the 9 per cent allocation takes into account the fact that local government raises its own revenue, the fairness of this vertical division of revenue has remained a bone of contention, especially considering that demands for local government services have expanded in the past two decades.

In terms of the composition of the fiscal framework, the funding of municipalities is structured such that approximately 25 per cent of it comes from transfers and 75 per cent from own revenue sources. The transfers are intended to fund poor households' services while own revenues are conceptually meant to fund non-poor households as well as businesses.

Own revenues are raised from property rates and tariffs from "trading services": electricity, water supply, sanitation and solid waste removal. In the case of property rates, property valuations remain a big challenge. For rural municipalities, the property rates revenue base is also limited by the communal tenure system. The potential of property rates revenues is also hamstrung by consumer resistance and poor billing systems.

With regard to tariffs, larger municipalities have historically generated surpluses on their electricity, water and sanitation trading accounts, which has allowed them to subsidise some of their services. These surpluses are facing tremendous pressures partly due to regulatory measures (electricity specifically), and partly due to affordability. Consumers of electricity and water services are having to face high increases in tariffs which have had a significant impact on household budgets, and consequently revenues collected by municipalities. Revenue shortfalls have led to many municipalities failing to settle their bills, especially to Eskom and water boards.

Transfers are divided into two streams: unconditional (Local Government Equitable Share (LES)) and conditional grants. The LES, which is allocated through a formula to the country's 257 municipalitiesis, is meant to subsidise free basic services for poor households. In 2012 the LES was reviewed and the new system has a more redistributive structure as more money is being channelled to poorer rural municipalities. However, this review looked only at the LES formula, and did not examine the total amount allocated to the LES ("vertical division"). The new formula (or even the old one) is still largely population driven. The FFC (2017) has previously underscored the point that the LES needs to be based on a sound costing framework for basic goods and services. The Commission has suggested that the costs of basic services should depend on objectively derived cost estimates. Without a proper costing framework, the adequacy (or otherwise) of the subsidy will remain unknown

Conditional transfers fund mainly the capacity building initiatives and capital accounts of municipalities. Metropolitan municipalities and intermediate cities finance about half of their own capital requirements either with debt finance, reserves and other "own sources" of capital. At the other extreme, rural municipalities rely on transfers from the national fiscus to fund 80 per cent of their capital expenditure. However, FFC research has shown that many municipalities face huge fiscal gaps on their capital accounts, even after taking into account all transfers. Another challenge on the capital account is the persistent under-spending of capital budgets, which is believed to be related to problems with planning, administrative and technical capacity.

Local government challenges

Many municipalities are dysfunctional and barely viable. In 2018, the functionality levels of the majority of municipalities had not improved, but worsened. In his 2018 budget statement, the Minister of COGTA painted a very grim picture of the current state of local

government: only 7 per cent of the municipalities are functioning well; 31 per cent are reasonably functional and 62 per cent are either almost dysfunctional or outright dysfunctional. District municipalities in particular are in a more precarious situation. Of the 55 municipalities regarded as dysfunctional, half of them (27) are district municipalities, i.e. over 60 per cent of district municipalities are in the dysfunctional category (Mkhize, 2018). The AGSA has also painted the same grim picture. The last general audit report on municipal accounts (2015-16) stated that "the financial health of 65 per cent of the municipalities was either concerning or requiring intervention" (AGSA of South Africa, 2017). The AGSA noted that in total, 27 per cent of municipalities were in "a particularly poor financial position by the end of 2015-16, with material uncertainty with regard to their ability to continue operating in the foreseeable future" (*Ibid*).

The sustainability of municipalities continues to be at risk, because of the following factors:

- ***Poor financial management***. Financial mismanagement is rampant in the local government sector. Many municipalities are spending more than the resources they have available, i.e. their budgets are unfunded. In 2017 just over half of the municipalities (56 per cent - 145 of 257), passed funded budgets; and for the rest (44 per cent), municipal councils voted to adopt budgets that they knew were not funded. In such cases, a municipality will inevitably find itself in financial distress.
- ***Endemic profiteering from procurement processes*.** As elsewhere in government, local government has also been prone to corruption. Corruption hampers the provision of basic services and constrains the growth and development of municipalities. In January 2018, the AGSA of South Africa noted that there was "widespread 'rent-seeking and corruption' between public representatives and businesses were at the heart of the infrastructure crisis bedevilling municipalities" (*Business Day,* 30/01/ 2018.
- ***Declining or stagnant own revenue.*** Municipal own revenues streams have become less buoyant. There are many causes for own revenue not growing including the stagnant economy and rising unemployment; the static nature of current taxing powers; the political reticence to collect to the fullest from residents but preference to rely on transfers; and the "culture of non-payment" (not only by residents, but now also by national and provincial departments not paying their electricity and water accounts). The consequence of declining or stagnant own revenues has been an increase in reliance on transfers, and consequently vertical fiscal imbalances.
- ***Slow growth of transfers.*** Municipalities are no longer able to count on transfers to meet their ever increasing obligations as transfers are also under pressure (due to, among other factors, the slow-down in the economy, fiscal consolidation measures and revenue under collection). For instance, during the 2018 Medium Term Expenditure Framework (MTEF), local government grants were cut by R13.9 billion. What was worrying with these cuts was that they disproportionately fell on

infrastructure grants, depriving municipalities of essential investment resources, and thus undermining their future infrastructure led growth.

- ***Unhealthy balance between core and non-core municipal services.*** Section 153 of the Constitution requires municipalities to prioritise basic services and social and economic development in their budgets. However, many municipalities spend a high proportion of their budgets on administration and non-core functions. An FFC (2017) study on the cost of basic services has shown that there is an unhealthy balance between administration costs and costs for core services. Scarce resources are expended on personnel, at the expense of core service delivery. The National Treasury has also noted that many municipalities used resources gained from the new local government equitable share formula (introduced in 2013/14) to increase salaries rather than expand service delivery. Similarly, the AGSA (in the audit of MISA 2018) has also observed that municipalities used funds meant for infrastructure to pay salaries and creditors.
- ***Poor asset management.*** Evidence shows a mismatch between repair and maintenance requirements in municipalities. Municipalities tend to prioritise new assets, and neglect budgeting for the repair or maintenance of such infrastructure. As a result, the performance and longevity of the infrastructure assets is undermined, leading to poor quality service delivery.
- ***Weak municipal accountability and oversight institutions***. The 2016/17 FFC research showed that oversight committees in municipalities (i.e. Municipal Public Accountability Committees and Audit Committees) are weak and not adequately empowered with research capacity. This means these oversight structures cannot effectively hold the executives to account. In addition, councils lack accountability. For example, the AGSA has reported (2015/16) that there is little or no response from councils to their annual findings and advice. Particularly irksome was the failure to take into account anti-corruption measures in procurement: The AGSA brought to the attention of councils "1 648 instances of suppliers submitting false declarations of interest as part of the procurement processes, and 47 per cent of the municipalities did not investigate any of the cases we reported to them." The AGSA further noted that "instances of employees not declaring interests had an even lower investigation rate, with 64 per cent of the municipalities not investigating any of the cases."
- In summary, the challenges facing local government continue to undermine its capability to discharge its constitutional mandate. This is despite many solutions put forward over the years by the FFC and many other stakeholders.

Under the theme of ***Repositioning Local Government Public Finances,*** the FFC 2020/21 Annual Submission assesses in detail the above challenges, and specifically in each of the following Chapters considers the issues of:

- financial sustainability,

- dysfunctionality and capacity,
- infrastructure efficiency and,
- the potential of the "city-region" to address South Africa's development challenges.

FINANCIAL AND FISCAL COMMISSION

For an Equitable Sharing of National Revenue

Chapter 2

Reviewing the Local Government Fiscal Framework

Chapter 2: Reviewing the Local Government Fiscal Framework

Introduction

The local government sector plays a critical role in delivering basic public services and providing fundamental public infrastructure. The 1998 White Paper on Local Government envisaged local government playing a distinctive role in "promoting socio-economic development" in South Africa (Department of Provincial and Local Government (DPLG, 1998, pp. 1, now known as the Department of Cooperative Governance and Traditional Affairs (COGTA)). It is more than 20 years since the White Paper was published, and nearly a decade into the NDP 2030. Critical questions are being raised about local government's ability to fulfil its principal constitutional mandate. Many municipalities are dysfunctional and barely viable. As noted in Chapter One, a diagnostic analysis by the COGTA undertaken in 2014 found that two thirds of municipalities were not functioning well. (COGTA, 21/03/2018). In 2018 the Minister of COGTA painted even a gloomier picture of the current state of municipalities: that is 62 per cent were either at risk of being, or were, outright dysfunctional. What was more worrying with the 2018 figures was that over 60 per cent of district municipalities were categorised as dysfunctional.

The sources of municipal dysfunctionality and the weak performance in the sector are many, complex and often interlinked and include inadequate financing, inefficient use of resources, and misalignment in the governance and institutional structures in the sector.

Municipalities also face many other endogenous challenges, which contribute to less than optimal performance. Infrastructure in many municipalities is in serious need of expansion, upgrading and/or repair. Poor financial and revenue management is widespread across local government, including, among others, inefficient budgeting, unfunded budgets, inadequate internal controls, cash flow management inefficiencies, tariff structures that do not correctly reflect costs, poor billing and debt management processes, leakages in the system (funds not used for municipal business), corruption, and inefficient procurement processes. In addition, supply chain management processes are in a parlous state in many municipalities, caused by a number of factors, including the absence of proper supply chain management systems, a culture of non-compliance and non-accountability, corruption, lack of skills, and a dearth of knowledge of and capacity in supply chain management processes.

Property rates, the main own revenue source of municipalities have virtually stagnated in the past decade (see National Treasury, 2018). Revenue from property rates has decreased, as have those from service fees such as electricity and water - key drivers of revenues. For many years, municipalities have been heavily dependent on electricity revenues, and surpluses from electricity charges subsidise other municipal services. Recently, however, the steep Eskom tariff input cost increases, coupled with the capping on prices that municipalities may charge final consumers by the National Energy Regulator of South Africa (NERSA), have meant that such surpluses have diminished.

Water revenues have also been under pressure. Payment for water services has declined from 61.9 per cent of the billed amount in 2005 to 43.9 per cent in 2015 (FFC, 2018). The reasons include the culture of non-payment (FFC, 2018), inadequate billing systems, climate change induced droughts, water conservation awareness, and water losses associated with decaying infrastructure. Besides affecting service delivery, the decline or stagnation of own revenues has also seen many municipalities failing to service their debt.

As a result, many municipalities are trapped in a severe debt crisis. Following the recession of 2008/09, the cost of bulk electricity increased significantly, resulting in businesses reducing their electricity consumption (Steytler and Powell, 2010). In addition, increasing unemployment and poverty have led to more households defaulting on their electricity payments (Steytler and Powell, 2010; FFC, 2015). These have resulted in municipalities experiencing cash flow problems, affecting their ability to meet their debt obligations and deliver basic services in line with their constitutional mandate.

In his 2016/17 local government report, the AGSA reported that 31 per cent of South African municipalities recorded significant deficits emanating from their inability to collect debt which, in turn, contributed to their failure to pay creditors. As at 30 September 2017, municipal consumer debt (i.e. non-payment of property rates and fees for the delivery of municipal services) amounted to R143.6 billion (National Treasury, 2017a). This was equivalent to 41.9 per cent of total municipal operating revenue and far greater than the quantum of intergovernmental transfers (R342.5 billion) to the local government sphere for that year (2017).

Households account for the bulk of what is owed to municipalities (70.8 per cent), followed by government departments (5.7 per cent) (National Treasury, 2017a). Poor debt collection has a negative impact on service delivery, as municipalities (in terms of legislation), are expected to fund the major share of their budgets from their own revenues - which in many cases are low or even non-existent.

The ability of municipalities to pay their creditors has been deteriorating over the past ten years. This is evidenced by the doubling of outstanding debt between 2008/09 and the

second quarter of 2017/18 (National Treasury, 2018). During 2017/18 alone, municipal debt increased by 40 per cent (*Ibid*). As at 31 December 2017, the total long term outstanding debt of municipalities stood at R68.1 billion (*Ibid*). Currently, bulk electricity is at the top of the creditor list, with the top ten defaulting municipalities owing Eskom close to R10 billion, followed by bulk water, with municipalities owing water boards close to R7 billion (*Ibid*).

In the past 20 years, expenditure needs in many municipalities have increased sharply because of the increasing demand for additional infrastructure and public services from a growing and rapidly urbanising population. At the same time, the revenue streams to finance the expanding expenditure needs have been lagging. Many South African municipalities are thus trapped in between diminishing revenues on the one hand, and growing expenditure demands on the other.

Problem statement

Since the White Paper on local government was adopted in 1998, the roles and responsibilities assigned to this sector have expanded against a backdrop of subdued revenue growth. The plethora of challenges facing local government, including high levels of unemployment and poverty, rapid and unplanned urbanisation, and growing infrastructure needs, have shown that the funding model for local government is not sustainable and in need of urgent review.

Service delivery capability aside, the most fundamental problem confronting most municipalities is the widening gap between available financial resources and spending needs. Given the limitation of the resource pool, many municipalities are unable to fulfil their constitutional mandates.

Debt levels facing many municipalities pose a significant and direct risk to the fiscal sustainability of many municipalities. Consumer debt currently stands at R150 billion, i.e. more than the total of all transfers to municipalities (National Treasury, 2018). Municipalities in turn owe other organs of state (such as Eskom, water boards, South African Revenue Service (SARS), etc.) close to R48 billion (National Treasury, 2018). Taken together, these challenges raise serious questions regarding the sustainability of the Local Government Fiscal Framework itself, especially revenue mobilisation and management, as well as debt management.

Expenditure management and municipal service delivery efficiency are dealt with in the next chapter. Three sets of questions inform this chapter. First, based on the fact that the current revenue instruments cannot cover the funding gap: are municipalities making sufficient effort to collect their own revenue; and what are the constraints to optimising current revenue streams? Second, as virtually all municipalities face diminishing own revenue, the

urgency to find supplementary revenue sources to augment conventional ones cannot be overemphasised. This then raises the following additional questions:

- What are the supplementary revenue sources for different tiers of South African local government?
- How applicable to municipalities are these supplementary revenue sources? What is the revenue potential of these supplementary revenue sources?

Third, by focusing on better debt management, how can municipalities leverage revenue management? Given the central role that municipalities play in the delivery of basic services, especially to indigent households, addressing the current dilemma around municipal debt is critical if the public finances and, ultimately, service delivery performance of municipalities are to be renewed.

The main objective of this chapter is to provide a comprehensive review of all conventional and supplementary sources of local government financing and debt management practices. The specific objectives are to:

- Assess the performance of traditional revenue sources and constraints to their optimisation;
- Identify possible ways, with particular focus on property rates, through which traditional revenue sources can be optimised;
- Investigate the drivers of municipal debt and examine the implications of municipal debt for the financial wellbeing of municipalities;
- Identify supplementary financing instruments and arrangements for local government, focussing on sustainability as the most critical element to combat dysfunctionality; and
- Propose a coherent financing model for local government that takes into account contextual factors of each local government tier and includes changes in their mandates.

Overview of the local government financing framework

The evolution of the Local Government Fiscal Framework

The Local Government Fiscal Framework[2], established in 1998, is broadly anchored in Sections 227-230 of the Constitution. Sections 229 and 230 grant municipalities powers to raise own revenues through taxes or borrowing, albeit subject to the provisions of other legislation. To supplement own revenue, Section 227 entitles municipalities to an "equitable share" grant from nationally raised revenue. This transfer window enables some municipalities with low own revenue sources to provide basic services and perform other constitutionally assigned mandates. It also enables all municipalities to give effect to the national policy of free basic services.

Municipalities are also entitled to additional conditional or unconditional grants from national or provincial governments. Although the Constitution provides municipalities with powers to access own revenues, these powers are, to a large degree, restricted. Powers to levy taxes are limited "in that they cannot unreasonably prejudice national economic policies and economic activities", while borrowing powers are limited by the "requirement that borrowings do not fund budget deficits" (FFC, 2012:8).

The Constitution envisages a local government sector that plays a distinctive role in the development and governance of South Africa, well-funded and enabled by different policy, legislative and regulatory measures to discharge its mandate effectively and efficiently.

The period since the White Paper was read has been marked by several initiatives designed to craft a new local government. First, a number of laws that underpin the local government fiscal framework have been passed. These are the Municipal Structures Act, 1998 (Act No. 117 of 1998); the Municipal Systems Act, 2000 (Act No. 32 of 2000); Municipal Fiscal Powers and Functions Act, 2007 (Act No. 12 of 2007); the Municipal Property Rates Act, 2004 (Act No. 6 of 2004); the Municipal Finance Management Act, 2003 (Act No. 56 of 2003), and the Intergovernmental Relations Framework Act, 2005 (Act No. 13 of 2005). The Municipal Fiscal Powers and Functions Act and the Municipal Property Rates Act have particular relevance to the present study as they regulate the imposition of municipal taxes and surcharges respectively, and the levying of municipal property rates.

Second, a number of national policies and programmes have evolved to assist local government. To enhance the performance of the sector, initiatives such as the 2004 Project Consolidate, 2006 Siyenza Manje Project, the Local Government Five-year Strategic Agenda and the 2014 B2B programme have been adopted (National Council of Provinces, 2018). Other initiatives that have underpinned developments in local government are the Local

[2] According to the FFC (2012:8) the Local Government Fiscal Framework can be broadly defined as the funding arrangement or framework required to ensure that municipalities are sufficiently financed to fulfil their constitutional mandates to render adequate services to communities.

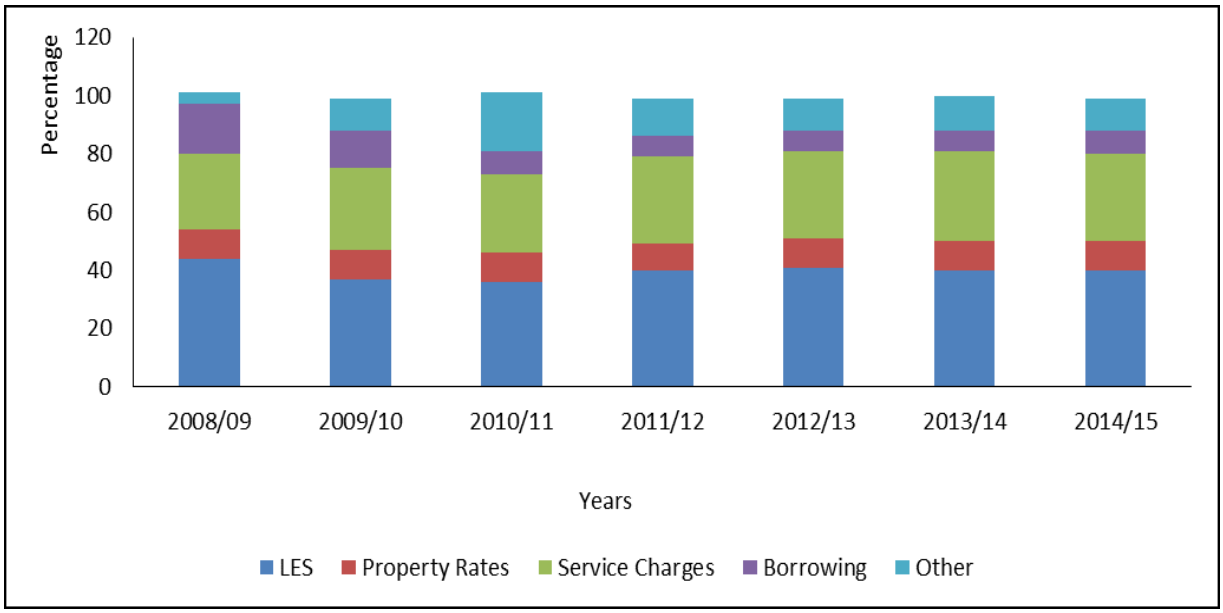
Government Turnaround Strategy of 2009; the 2011 National Development Plan (Chapter 13); the Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013) (SPLUMA) and the Integrated Urban Development Framework of 2016 (IUDF).

The initiatives listed above, designed to build a strong local government, have had mixed results. Some progress has been made to enhance access to services and build infrastructure to provide basic services. However, challenges still remain in the areas of governance, infrastructure reliability and maintenance, and overall service delivery. In summary, the sustainability of local government is at stake.

Structure of the Local Government Fiscal Framework

Local government relies on three types of revenue sources: transfers (conditional and non-conditional) and, property rates, and service charges. Transfers are by far the largest source, followed by service charges, and then property rates. Debt financing makes up revenue shortfalls. The distribution of municipal financing is shown in Figure 1. Service charges remain the most dominant of own revenue sources for municipalities. Figure 1 also shows that the share of property rates has remained stagnant at 10 per cent for the past decade. The share of borrowing, which is mainly the preserve of metropolitan municipalities and a few intermediate cities, declined in the post financial crisis, but has since moderated at 8 per cent of total municipal revenues.

Figure 1: Municipal revenue shares

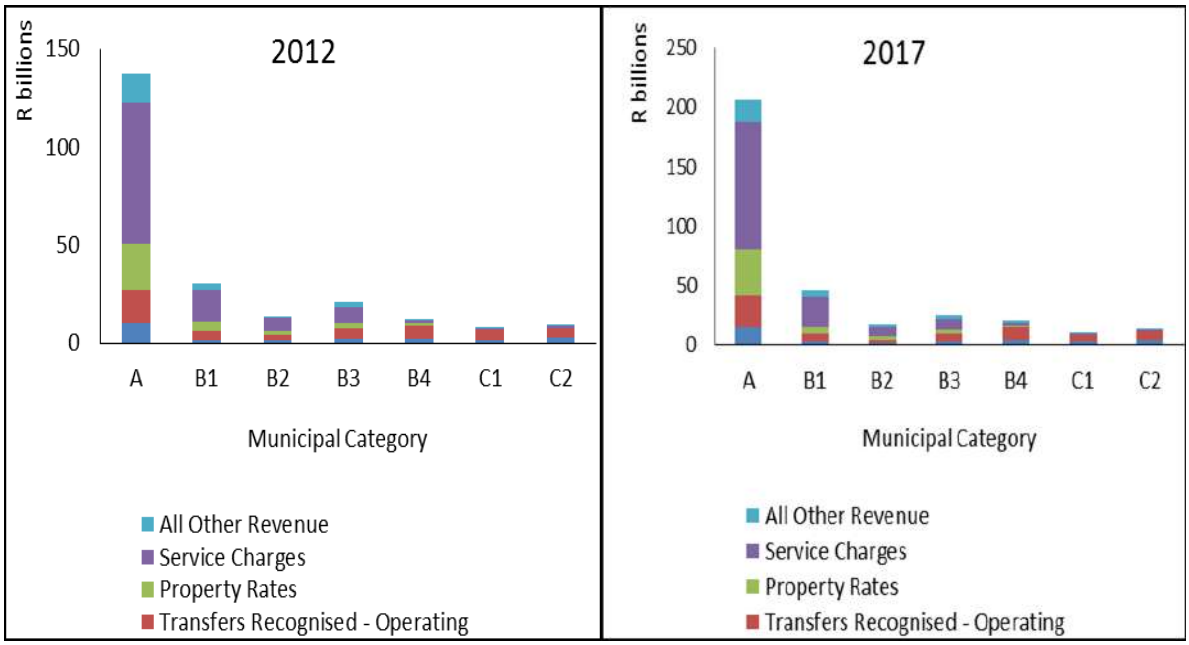


Source: FFC calculations based on National Treasury database

Figure 1 masks many disparities in the local government fiscal framework. The mix of own revenues and transfers varies substantially by type of municipality. For the whole of local government, own revenues fund, on average 75 per cent of budgets, but in rural areas (with

higher poverty rates) transfers can fund up to 80 per cent of budgets (Figure 2). Cities are highly dependent on service charges, which account for close to 40 per cent of the revenue of metropolitan municipalities and intermediate cities. Property rates contribute 18 per cent and 17 per cent of the revenue of metropolitan municipalities and intermediate cities respectively, while they account for only 10 per cent of revenue in rural municipalities. As shown in Figure 2, district municipalities and rural municipalities are highly transfer-dependent as they have few own revenue sources.

Figure 2: Major sources of revenue by municipality type

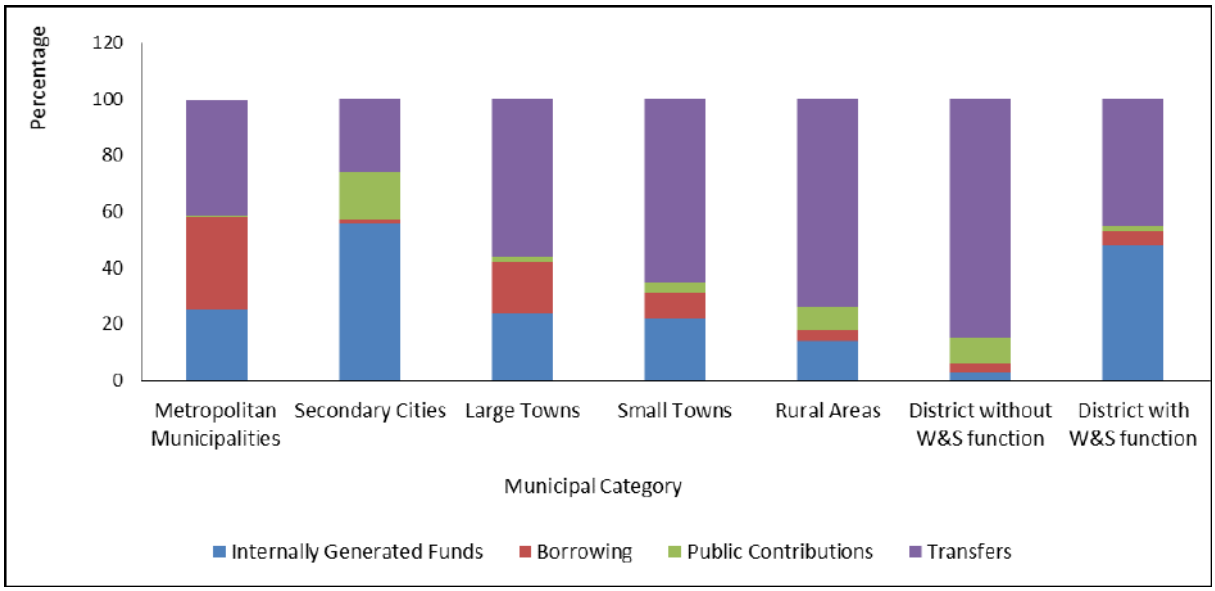


Source: FFC calculations based on National Treasury database[3]

Transfer dependency is also evident from a review of the municipal capital expenditure accounts (Figure 3). With respect to capital expenditure inclusive of fundamental infrastructure provision, all municipalities rely heavily on transfers, except for metropolitan municipalities and intermediate cities that finance more than half of their own capital requirements through debt financing, reserves and other "own sources". At the other extreme, 75 per cent of the capital finance profiles of rural municipalities depend on transfers. The capital accounts also show that borrowing is largely concentrated in metropolitan municipalities and intermediate cities. On the whole, borrowing as a financing mechanism remains heavily concentrated in a few municipalities,metropolitan municipalities and intermediate cities. However, some studies, (e.g. Klaus *et al*, 2007) show that metropolitan municipalities and intermediate cities are not fully exploiting borrowing as a mode of funding.

[3] *The seven municipality categories are: A (metropolitan municipalities), B1 (intermediate cities), B2 (large towns), B3 (small towns), B4 (rural) C1 (districts that are not water serving authorities), and C2 (districts that are water serving authorities).*

Figure 3: Capital finance profiles



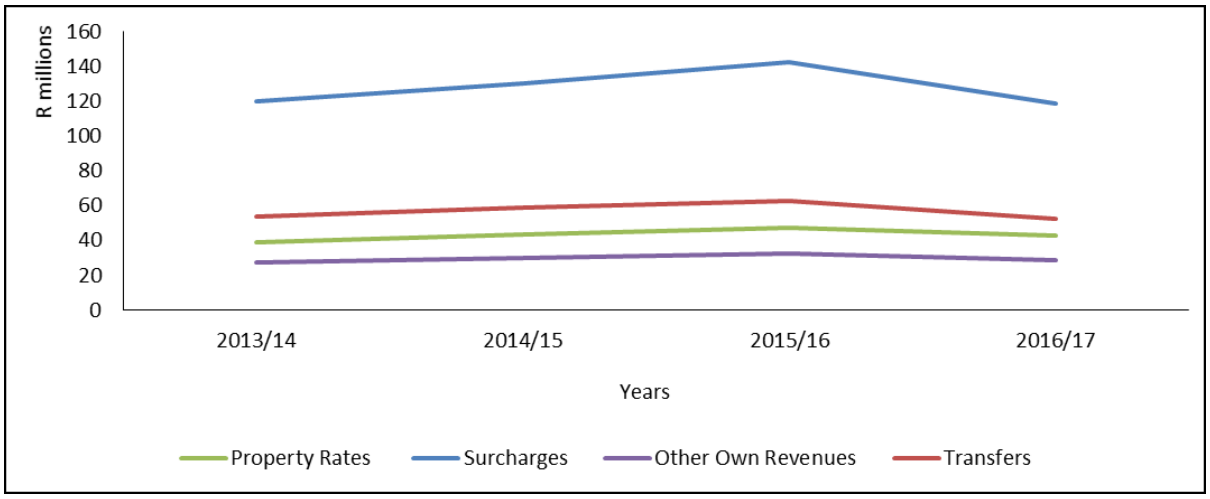
Source: FFC calculations based on National Treasury database

Property tax in the South African Local Government Fiscal Framework

Property rates performance

Municipal operating revenue consists of intergovernmental transfers, revenues from property rates, service charges and other revenue sources. On average, property rates account for 10 per cent of the total operating revenues and remain the lowest contributor, relative to service charges and intergovernmental transfers (See Figure 1). Figure 4 shows revenues from different sources over time.

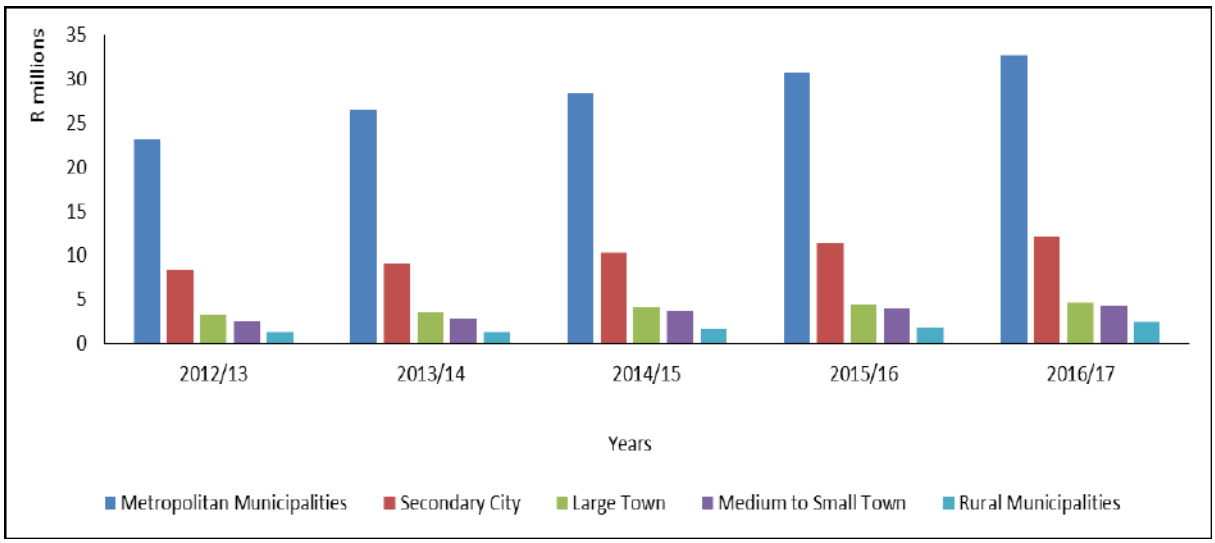
Figure 4: Property rates vs other operating municipal revenue sources



Source: FFC calculations based on National Treasury database

Over the period 2013/14 to 2016/17, municipal revenues from all sources have been generally increasing, with revenues from surcharges being the highest, followed by intergovernmental transfers. Property rates remain the lowest revenue source across all the years. Furthermore, the property rates revenue experienced a decline over the last two years from R47 billion to R43 billion. Figure 5 shows property rates in different municipal types over the period 2013/14 to 2016/17.

Figure 5: Property rates by municipal type



Source: FFC calculations based on National Treasury database

Revenues from property rates appear to have been increasing across all five municipal types depicted. However, there is a huge gap between the different categories. Figure 5 shows, as expected, that metropolitan municipalities (Category A) collect the most in property rates, followed by secondary cities, while rural municipalities collect the least. Figure 5 also shows that in large towns, revenues increased over the years from R4 billion in 2013/14 to R5 billion in 2016/17.

Property rates in South Africa are calculated based on the market value of the property, hence changes in the market value of a property should lead to a change in property taxes. Figure 6
presents the indexed property price changes against changes in property tax collection level.

Figure 6: Property rates and property prices (annual growth rates)

Source: EasyData Quantec

As Figure 6 shows, property prices and property rates have been generally moving in tandem over the years. However, property prices appear have increased at a faster rate than property rates for the period 2004 to 2017. Estimates from Quantec (2018) covering the period 2004 to 2017, show that, on annual average, property prices have increased at an average annual rate of 13 per cent, while property rates increased at 8 per cent. According to Ntinyiso Consulting (2017) the misalignment between property rates and property prices could be due to delays in updating municipal valuation rolls and property rates.

Approach

The findings of this chapter are based on a multi-pronged approach, that included (i) budget analysis of secondary municipal data; (ii). a survey to collect primary data; (iii) data envelopment analysis to measure municipal tax effort, and (iv) Tobit regression analysis to identifying constraints to optimal tax collection.

The survey response rate by municipality category is indicated in Table 1.

Table 1: Response rate by municipality category

Category of Municipality	Total Number of Municipalities	Response Rate (%)	Actual Number of Municipalities
Metropolitan Municipalities	8	50	4
Intermediate Cities	19	11	2
District Municipalities	44	11	5
Local Municipalities	186	8	15
All Municipalities	**257**	**10**	**26**

Source: FFC calculations based on National Treasury database

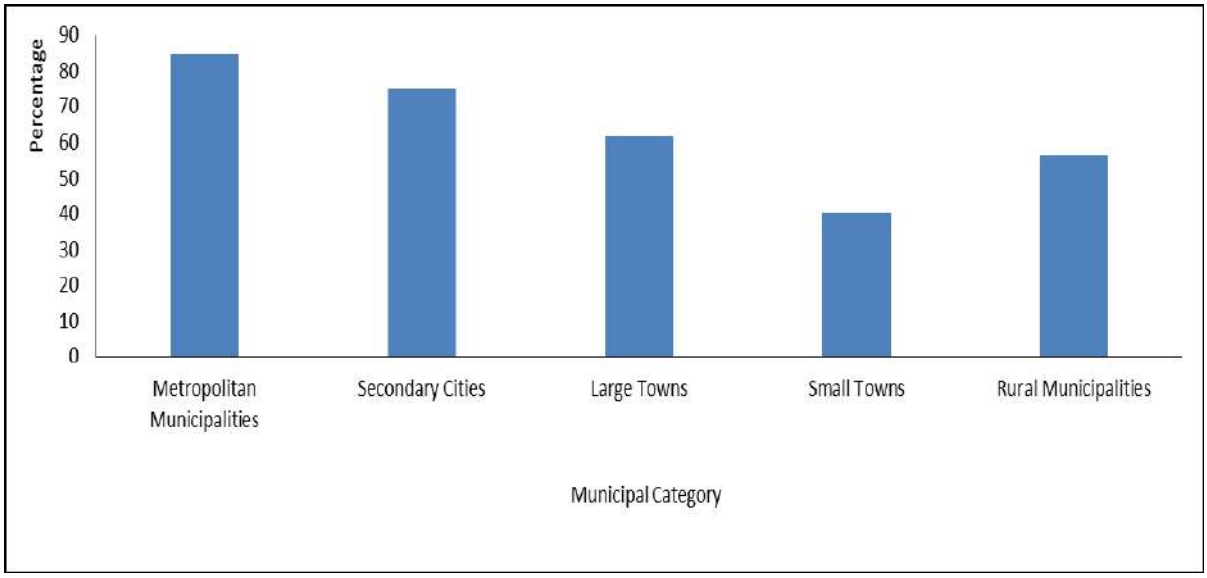
Although the response rate for non-metropolitan municipalities is low, the survey does reveal some qualitative insights into municipalities in all three categories, which are useful in understanding the issues at hand.

Findings

Municipality revenue collection effort

The property tax collection effort is quantified for each of the (number) municipalities in the data sample using the data envelopment analysis method. The results are in the form of efficiency scores[4], where a municipality with a score of one (100 per cent) is regarded as efficient, while a municipality with a score less than one is considered inefficient. Figure 7 shows the achieved average scores of property tax effort by municipal type.

Figure 7: Fiscal effort in raising property taxes by municipal type



Source: FFC calculations using Stata

The results confirm that on average, none of the municipal tiers has an efficiency score of one, which implies that none of the groups is fully utilising the property tax revenue source potential. As expected, metropolitan municipalities are the most efficient followed by secondary cities and large towns, while small towns and rural municipalities are the least efficient. As Figure 7 shows, small towns and rural municipalities are only collecting 40 per cent and 56 per cent, respectively of what they are supposed to collect given their property tax base.

[4] The efficiency scores were computed by applying the data envelopment analysis model on a secondary data that was sourced from the National Treasury and Global Insight. The method requires input variables and output variables, so in this case, gross value added (GVA) was used as a proxy for existing municipal tax capacity. The number of employees in measure the collection capacity, while employee cost measures administrative cost. In terms of the output, the study used the actual revenues collected from property rates.

Looking at the individual municipalities within each municipal tier, the data envelopment analysis results show that all the metropolitan municipalities are collecting above 60 per cent of what they are expected to collect. However, in secondary cities, two municipalities, namely, Mbombela and Rustenburg are collecting only 40 per cent of their property tax base. The results also show that in large towns 10 out of 27 municipalities are collecting only between 30 per cent and 40 per cent of the property tax base. In the case of small towns and rural municipalities, it is clear that the tax effort is very low, as most of the municipalities are collecting less than 50 per cent of potential revenue. Rural municipalities such as Amahlathi, Blue Crane Route, Laingsburg, Mohokare, Intsika Yethu and Senqu are demonstrating the lowest effort as they only collect 10 per cent of what is expected, given their property tax base. The municipalities in this group are predominantly small towns.

Constraints to optimising property rates revenue

Having found that municipalities are not optimising the property tax as a revenue base, the study further examined the constraints to municipal tax effort by using the Tobit regression method. Following Bahl and Vazquez (2008), Gimenez and Marco (2017), and Mahabir and Vacu (2013), the study considered the following factors as potential constraints: income measured as disposable income for households in a municipality, the unemployment rate, formal housing measured as a ratio of the number of formal households to total number of households in a municipality, traditional housing measured as a ratio of the number of traditional households to total number of households in a municipality, access to basic services measured using the infrastructure index, administrative capacity measured using the number of employees in the finance department, total intergovernmental transfers and population above the age of 65 as potential determinants of property tax effort. Table 2 presents the coefficients of each of the estimated determinants of the property rates tax effort in the different groups of municipalities.

Table 2: Determinants of the property rates revenue effort by municipal type

Explanatory Variables	Metropolitan Municipalities	Secondary Cities	Large Towns	Small Towns	Rural Municipalities
Disposable Income	0.01**	0.03	0.02**	0.02***	0.04
Unemployment	-0.18**	-0.15***	-0.40*	-0.09*	0.08
Formal Housing	0.54	1.29***	-0.43	0.2	0.37
Traditional Housing	0.08	-0.66***	-2.74	0.51	-0.63*
Basic Services	-0.49	1.18***	-1.39	0.27	-0.9
Capacity	0.09	-0.01**	-0.03***	-0.01*	-0.05
Transfers	0.36**	-0.20***	-0.14	-0.20***	-0.11*
Population Above 65 Years	-0.83	12.32	3.03	0.63	0.24
Constant	2.69	2.51	4.3	0.99	1.29

*Note: ***, ** and * indicate statistical significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.*
Source: FFC calculations using Eviews

Factors affecting revenue collection efforts

Poor Billing and credit control systems: A number of municipalities identified poor billing and credit control systems as a major constraint to municipal tax effort. They indicated that the failure to correctly bill consumers and to even bill them in the first instance, can be attributed to various factors. The respondents highlighted unreliable and unavailable data in some instances as a major cause of inaccurate billings for property rates. Also, one of the municipalities indicated that the manner in which valuations are conducted has a negative effect on the ability of municipalities to correctly bill consumers, as the bills and tariffs applied on properties are based on the valuation rolls. The municipalities indicated that in most cases, valuations are done on a sample of properties and are not comprehensive, and this leads to imprecise data. Furthermore, some municipalities indicated that they do not have the correct information to inform the billings and collection due to delays at the deeds office. Another key issue that the participants highlighted was that municipalities find it difficult to enforce payment in areas supplied electricity by Eskom, as they have no enforcement tool in those areas. The respondents highlighted the unwillingness of Eskom to assist municipalities with non-payment disconnections in those areas. The biggest effect of this is that even if a municipality has an effective credit control policy, it cannot be applied when the municipality is not responsible for the enforcement instrument.

Affordability and willingness to pay: The respondents highlighted the issue of affordability as a hindrance to municipal tax effort. They indicated that in some cases consumers are willing to pay but cannot afford to, while in other instances consumers can pay but are not willing. Ability and willingness to pay is driven by a number of factors, which some municipalities have highlighted in their responses. One of the key issues which affect affordability is income level and general economic activity. Low levels of economic activity lead to low income levels, high poverty levels and unemployment, which makes it impossible for some consumers to pay property rates. In some instances, consumers can afford to pay but are not willing due to dissatisfaction with the services provided by the municipality, incorrect invoices and lack of awareness about the benefit of paying for property rates.

Areas under traditional leadership, lack of political will and land invasion: The interviewed municipalities indicated that they are unable to bill in areas where land is controlled by traditional leaders. They indicated that municipalities do not have a record of the properties falling under these areas because property owners do not submit building plans and have no formal title deeds since they acquire land from traditional leaders. With regard to land invasion, the respondents indicated that they are unable to bill unregistered properties.

Poor human resource capacity: The participants highlighted lack of capacity as one of the key constraints to municipal tax effort. Some do not have the required human resource capacity to do proper and reliable valuations. Furthermore, some emphasised poor administrative capacity.

Source: FFC computation based on a survey

The results suggest that, in metropolitan municipalities, household disposable income level and size of intergovernmental transfers are the positive drivers of municipal tax effort, while unemployment is a negative driver. In the case of secondary cities, the municipal tax effort is positively influenced by formal housing, and access to basic services, but negatively affected by unemployment, lack of administrative capacity, traditional housing and intergovernmental transfers. For both large and small towns, the results show that municipal tax effort is positively influenced by disposable income, but negatively influenced by unemployment and lack of administrative capacity. Intergovernmental transfers also have a negative effect on tax effort in small towns.

The findings from the survey further identify a number of internal and external factors that negatively impact on the ability to optimise property tax collection. The issues are interrelated and can be categorised as follows: poor billing and credit control systems, affordability and willingness to pay, areas under traditional leadership and land invasion, and

poor institutional capacity. The effect of these determinants of revenue collection effort is discussed above.

On the survey results, the participants indicated three key areas that need to be addressed in order to enable municipalities to optimise property rates collection. The first issue is that although municipalities have a Constitutional mandate to distribute electricity within their jurisdictions, they are unable to enforce payment in areas supplied by Eskom. Therefore there is a need to ensure that the credit control systems of Eskom and municipalities are aligned and that Eskom assists municipalities with credit control via electricity disconnections within the municipality's area supplied by Eskom. Secondly, the respondents emphasised the need to support local businesses in order to boost the local economy and create employment. Lastly, they indicated that one of the major internal constraints to property collection effort is the lack of institutional capacity and poor billing systems. To address this, municipalities should be capacitated through training. Poor billing systems can also be addressed by correctly recording the required information.

The debt crisis: evolution, causes and implications

Legislative provisions and state interventions

The key pieces of legislation that are intended to provide municipalities with a foundation for sound financial management practices are the Municipal Finance Management Act, 2003 (Act No. 56 of 2003) (MFMA) and the MSA. The MFMA, together with the MSA, provides direction on revenue and debt management, which includes possible recourse mechanisms. Section 64 of MFMA sets out the accounting officer's responsibilities for revenue management. Amongst other things, the accounting officer must ensure that the municipality has effective revenue collection systems in place, and that it has and is able to maintain a system of internal control in respect of debtors and revenue. The accounting officer is also responsible for informing the National Treasury in instances where organs of state do not comply with the 30-day payment rule. Chapter six of the MFMA details the requirements or conditions for the borrowing of funds by municipalities with respect to short-term and long-term debt. The chapter also discusses other provisions that relate to security, disclosure and municipal guarantees. Chapter nine of the MSA speaks to the issue of credit control and debt collection. It outlines the need for a sound customer management system to be established. It further outlines the debt collection responsibility of municipalities and the steps that can be taken to recover the amounts owed to them. Chapter nine of the MSA also provides guidance on what the contents of the municipal credit control and debt collection policy should be.

Non-payment of municipal creditors

The ability of municipalities to pay their creditors has remained poor over the period 2011/12 to 2017/18. As shown in Table 3, the proportion of outstanding municipal debt to operating expenditure grew steadily between 2013/14 and 2018/19. With the exception of metropolitan municipalities and rural municipalities, which experienced a decline between

2016/17 and 2018/19, there is a rising trend across all the other municipal categories. Notably, in 2018/19, the outstanding municipal debt as a proportion of operating expenditure for small towns (39 per cent) and secondary cities (23 per cent) is relatively high, which means that the rising costs associated with interest payments to service the debt in these municipalities may be threatening the sustainability of the operating budget.

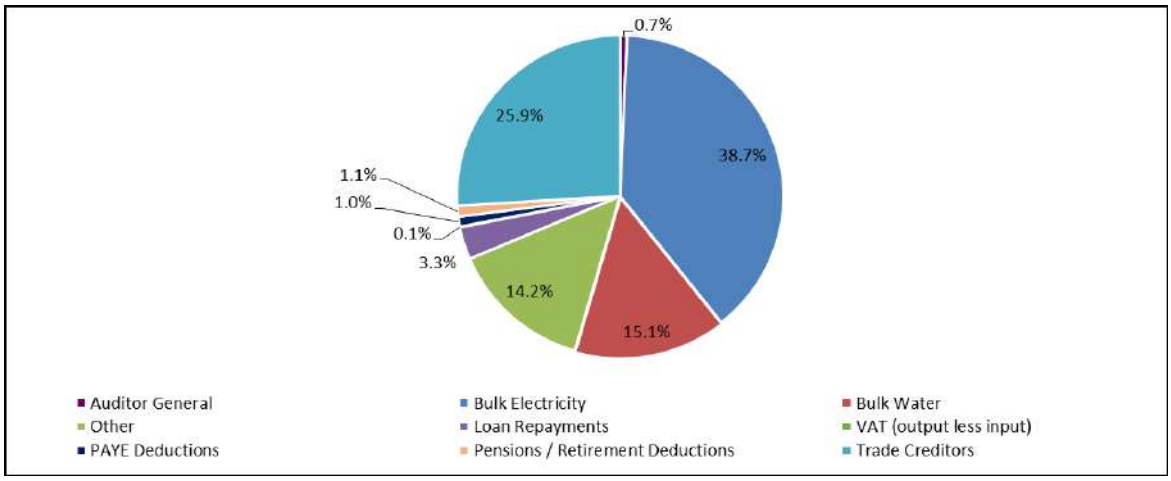
Table 3: Real outstanding municipal debt as a percentage of real operating expenditure

Municipal Category	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Metropolitan Municipalities	7.92	8.84	9.46	13.22	9.14	9.54
Secondary City	9.01	9.94	15	22.67	19.43	23.27
Large Town	6.39	8.66	10.86	12.71	14.70	16.06
Medium to Small Town	9.67	13.03	20.41	37.75	35.17	39.36
Rural	4.84	6.47	5.99	5.01	4.27	3.27
All Municipalities	**7.44**	**8.65**	**10.48**	**14.96**	**12.48**	**13.62**

Source: FFC calculations based on National Treasury database

Figure 8 illustrates the total debt of municipalities by category of creditor. It reveals that in 2017/18, bulk electricity providers (38.7 per cent) accounted for the largest proportion of the debt owed by municipalities. The second largest driver of the debt owed by municipalities was trade creditors (25.9 per cent) followed by bulk water providers (15.1 per cent).

Figure 8: Creditors as a share of total debt owed by municipalities, 2017/18

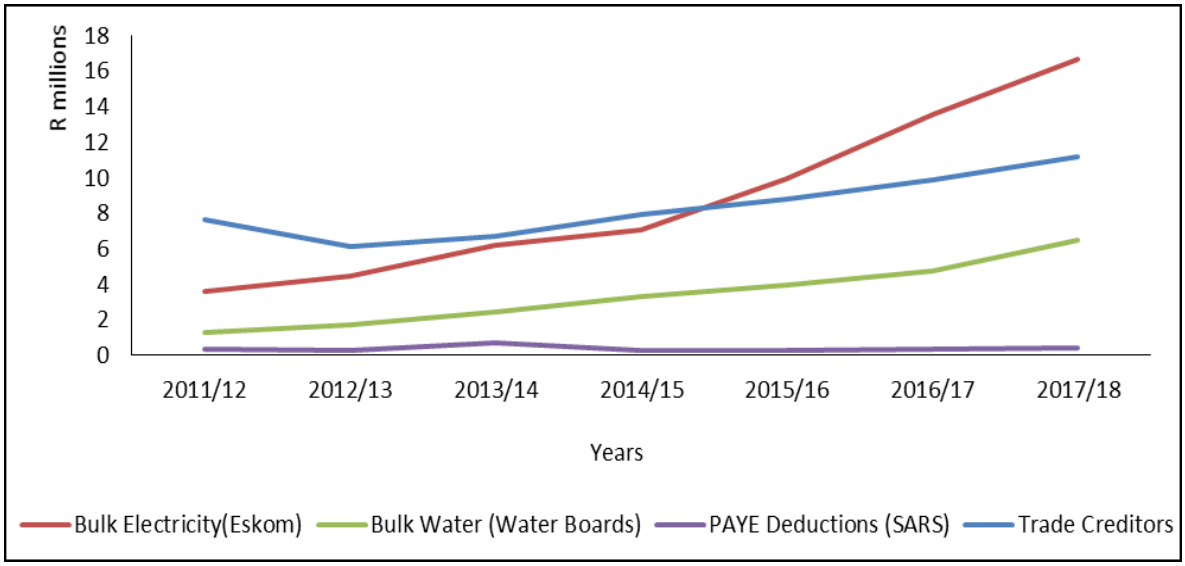


Source: FFC calculations based on National Treasury database

With respect to the non-payment of SARS, which is a statutory obligation, and the three largest municipal creditors - Eskom, water boards and trade creditors - local municipalities faced significant challenges in meeting their debt obligations over the period 2011/12 and 2017/18. As shown in Figure 9, the total outstanding debt owed to Eskom has been

increasing, particularly between 2013/14 and 2017/18 where a sharp rise can be observed. Similarly, total outstanding debt owed to water boards and trade creditors also increased over the period observed. By contrast, municipal debt owed to SARS experienced a steady decline between 2013/14 and 2017/18.

Figure 9: Total outstanding municipal debt, 2011/12 - 2017/18



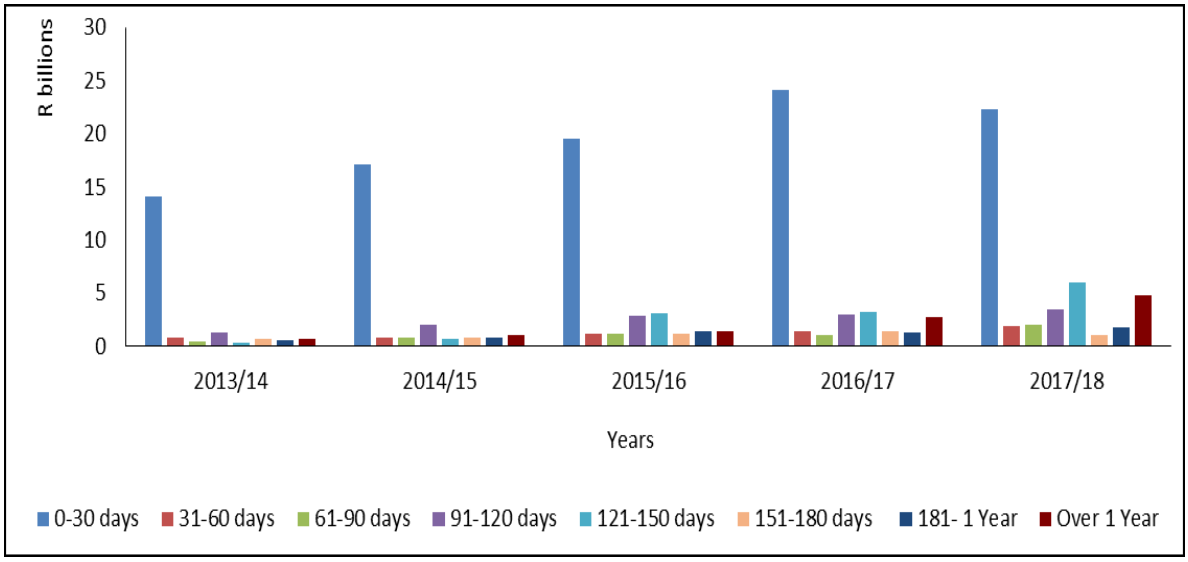
Source: FFC calculations based on National Treasury database

Historical debt: creditor age analysis

An analysis of historical debt gives an indication of the extent to which municipalities are prudently managing their finances. According to the MFMA, municipalities are expected to pay their creditors within 30 days of receiving the relevant invoice and statement.

As shown in Figure 10, over the 5-year period between 2013/14 and 2017/18, debt outstanding for 0-30 days was dominant, which suggests that municipalities may be experiencing cash flow or administration efficiency issues. Although municipalities have an arrangement to settle their older debt first, it is worth noting that as from 2015/16, the debt outstanding for 91-120 days, 121-150 days and over one year began to grow more rapidly, suggesting that there were other broader issues or challenges facing municipalities when it came to the management of their payments.

Figure 10: Period for which debt owed by municipalities was outstanding



Source: FFC calculations based on National Treasury database

Non-payment by municipal debtors

The analysis reveals that municipal consumer debt has been increasing for the period 2011/12 to 2017/18, particularly for rural municipalities. As shown in

Table 4, the real annual average growth rates for municipal consumer debt for the period 2011/12 to 2017/18 declined for metropolitan municipalities (-14.4 per cent) and secondary cities (-0.5 per cent), while there has been a phenomenal increase for large towns (24.7 per cent), small towns (43.1 per cent) and rural municipalities (127 per cent). A possible reason for urban municipalities experiencing a decline in the growth rate of municipal consumer debt when compared to their rural counterparts is linked to urban municipalities tending to have adequate financial control systems in place, a finding that emerged from the interactions with the relevant stakeholders. Furthermore, unlike their rural counterparts, urban municipalities have the required technical skills or capacity to manage their resources.

Table 4: Real year-on-year growth in municipal consumer debt per municipal category per cent

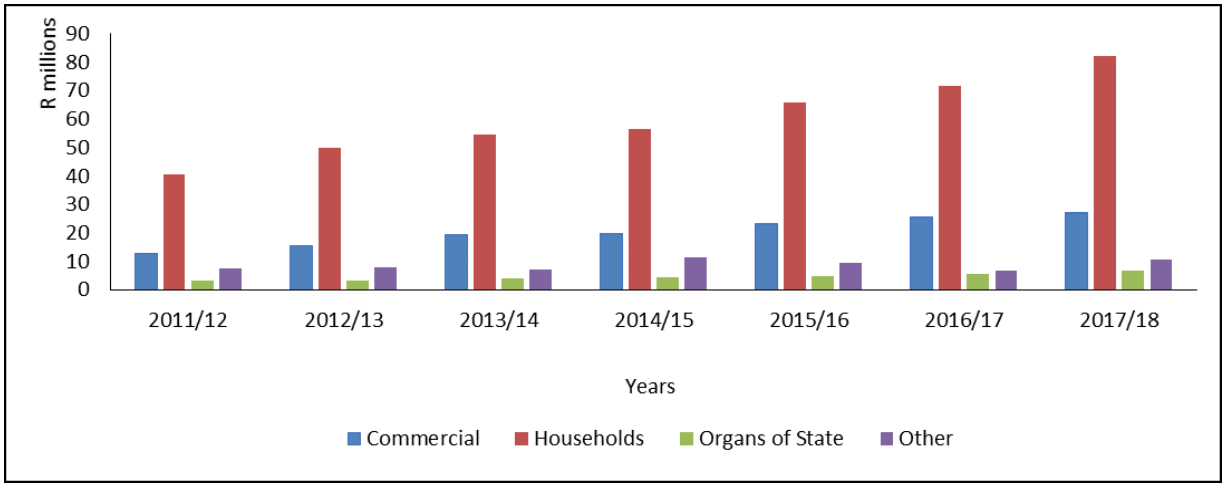
Municipal Category	2011/12-2012/13	2012/13-2013/14	2013/14-2014/15	2014/15-2015/16	2015/16-2016/17	2016/17-2017/18	2017/18-2018/19	Real Annual Average: 2011/12-2017/18
Metropolitan Municipalities	13	-1	3	5	-9	-98	-32	-14
Secondary City	15	11	0	16	7	-52	14	-1
Large Town	14	4	0	-3	19	114	-4	25
Medium to Small Town	18	5	10	7	15	203	13	43
Rural	5	51	2	-3	8	699	12	127
All Municipalities	**14**	**4**	**3**	**7**	**0**	**9**	**10**	**6**

Source: FFC calculations based on National Treasury database

Figure 12, it is evident that households account for the bulk of the amount owed to municipalities, followed by businesses. Whilst the organs of state (like national departments, provincial departments and other public institutions) are not responsible for the largest share of municipal consumer debt, it should be noted that non-payment by this consumer group has been growing steadily over the period reviewed**.**

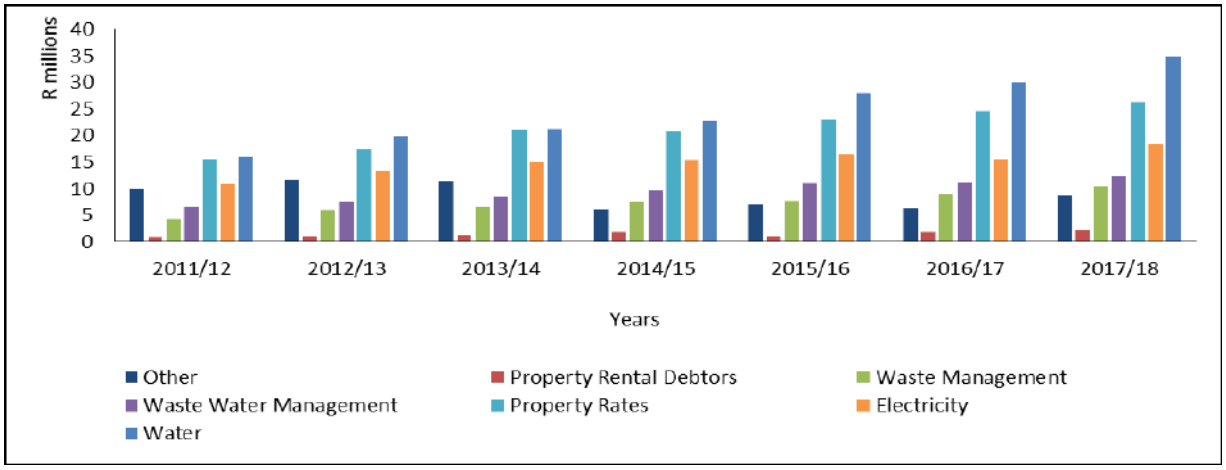
Figure 12, which shows municipal debt by revenue income source, reveals that the water sector is responsible for the largest share of municipal consumer debt, followed by property rates, and electricity.

Figure 11: Disaggregation of municipal consumer debt by customer grouping



Source: FFC calculations based on National Treasury database

Figure 12: Disaggregation of municipal consumer debt by revenue income source



Source: FFC calculations based on National Treasury database

Non-payment by organs of state

This section hones in on non-payment by organs of state, namely national and provincial government departments as well as other public institutions[5].

As highlighted in Table 5, the analysis reveals that between 2013/14 and 2017/18, provincial governments have consistently made up the bulk of the debt owed by organs of state, followed by national government departments.

Table 5: Non-payment by national and provincial government departments as a share of the total owed by organs of state

Organs of State	2013/14	2014/15	2015/16	2016/17	2017/18
National Overnment	25.7	36.9	44.3	33.9	37.4
Provincial Government	64.6	52.3	43.2	55.0	46.3
Other Public Institutions	9.7	10.8	12.5	11.1	16.3

Source: FFC calculations based on National Treasury database

While provincial government departments make up the bulk of the debt owed by organs of state, Table 6 shows that between 2013/14 and 2017/18, these departments have experienced the lowest real growth in debt (6.3 per cent). By contrast, other public institutions and national government have experienced significant increases over the same period of 30.1 per cent and 28.1 per cent respectively. Between 2016/17 and 2017/18, other public institutions and national government departments recorded real increases of 48.3 per cent and 11.2 per cent respectively, while provincial government departments saw a decline of 14.9 per cent in the real growth of their debt.

Table 6: Real growth of municipal consumer debt by organ of state (%)

Organ of State	2013/14-2014/15	2014/15-2015/16	2015/16-2016/17	2016/17-2017/18	Real Annual Average: 2013/14-2017/18
National Government	68.7	45.2	-12.7	11.2	28.1
Provincial Government	-5.0	0.0	45.2	-14.9	6.3
Other Public Institutions	30.9	39.9	1.4	48.3	30.1
All Departments	**17.5**	**21.0**	**14.1**	**1.0**	**13.4**

Source: FFC calculations based on National Treasury database

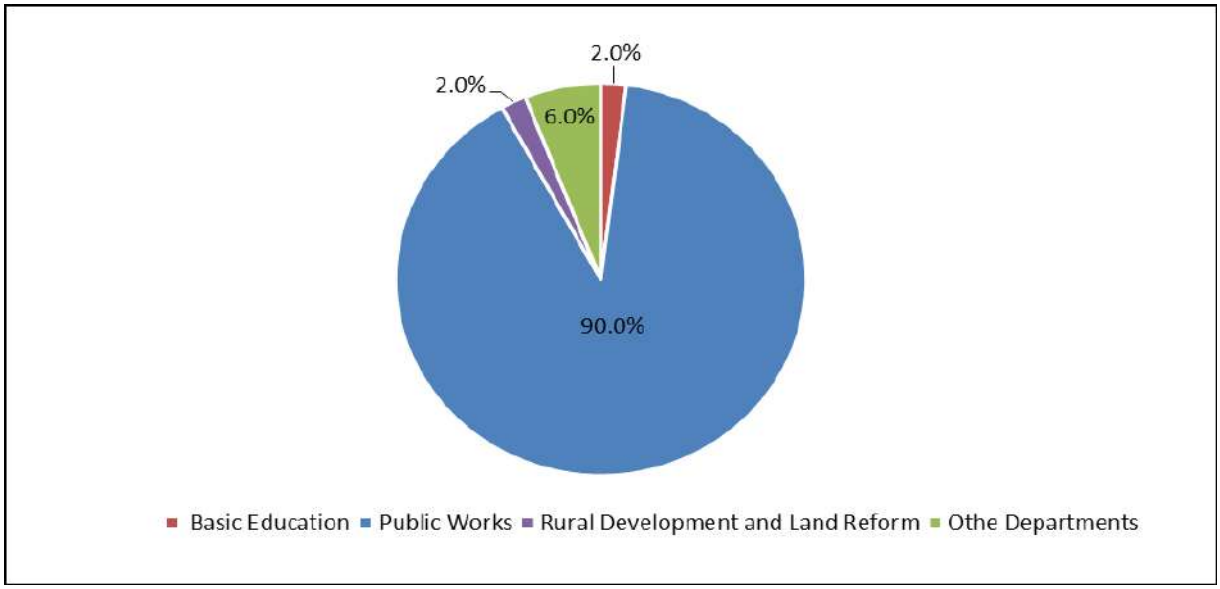
[5] Other public institutions include major public entities and institutions such as national government enterprises, national public entities, provincial government enterprises and provincial public entities, other municipalities and traditional authority property.

Disaggregation of non-payment by government departments

An analysis of non-payment by the top three defaulting national departments reveals that the Departments of Public Works, Basic Education, and Rural Development and Land Reform are responsible for the bulk of the debt owed to municipalities.

Figure 13 shows, in 2017/18, the Department of Public Works owed R2.7 billion, which represents about 90 per cent of the outstanding debt, while the Departments of Basic Education, and Rural Development and Land Reform together owed R120 million, about 4 per cent of the total debt owed by national departments.

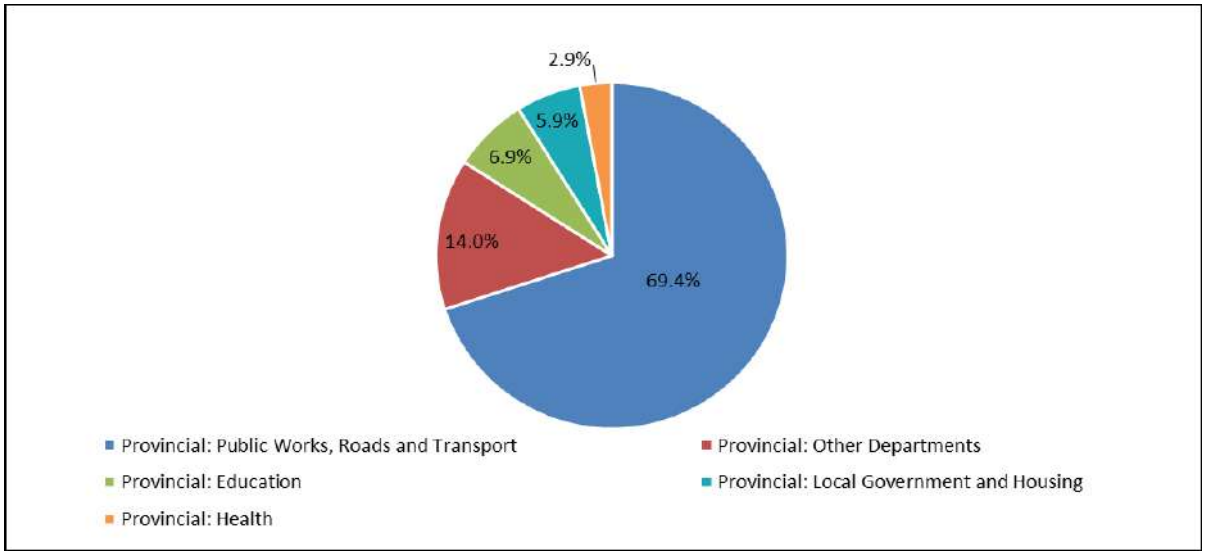
Figure 13: Per cent share of debt owed by national departments, 2017/18



Source: FFC calculations based on National Treasury database

Figure 14 shows that the provincial departments of education, health, local government and housing, public works, roads and transport make up the bulk of the debt owed to municipalities. In 2017/18, the Department of Public Works, Roads and Transport owed R2.5 billion, which means that it is responsible for about 69 per cent of the debt owed by provincial departments. The departments of education, health, local government and housing as well as other departments that exclude the provincial departments of agriculture, office of the premier, social development and sports, arts and culture collectively owed R960 million, which makes up the remainder of the total outstanding debt of provincial departments.

Figure 14: Per cent share of debt owed by provincial departments, 2017/18



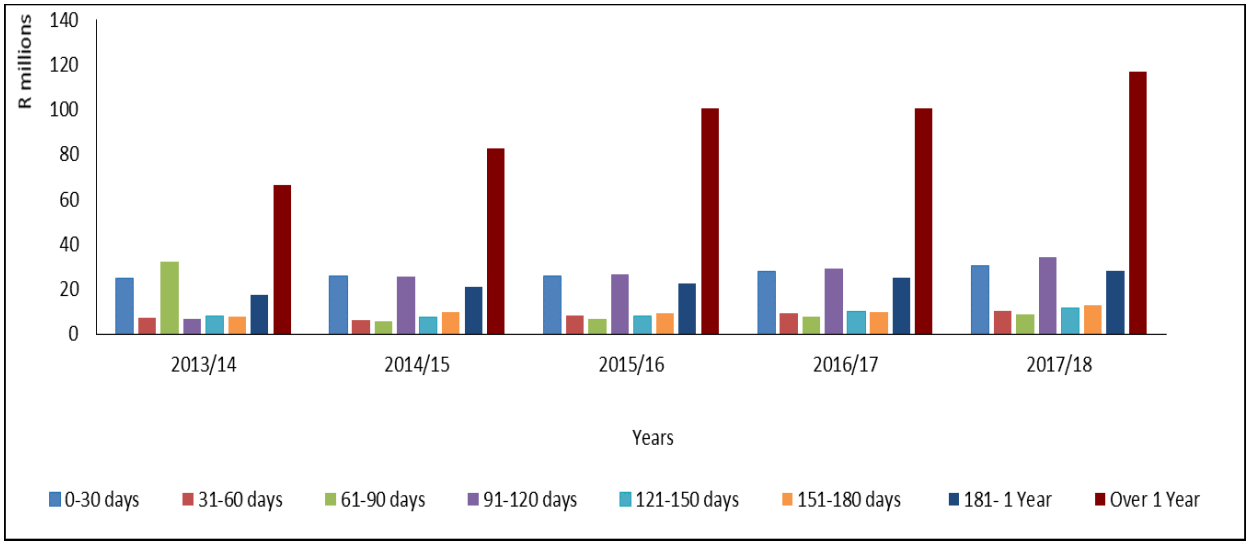
Source: FFC calculations based on National Treasury database; Other departments excluding the provincial departments of agriculture, Office of the premier, Social development and Sports, arts and culture.

Historical debt: debtors age analysis

As alluded to earlier, an analysis of historical debt can give us an indication of the effectiveness of municipal financial management.

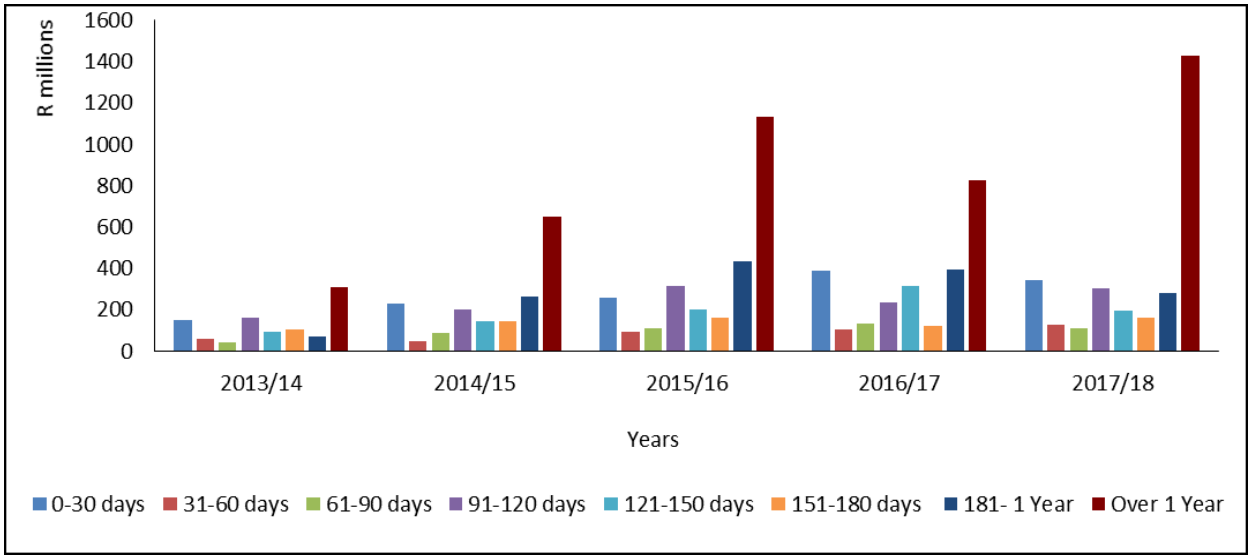
Figure 15 illustrates the period for which municipal consumer debt was outstanding for the period from 2013/14 to 2017/18. It reveals that debt outstanding for over one year is dominant and has been increasing for the period reviewed, pointing to a current status of poor debt management. A similar story emerges from the debtor age analysis for organs of state as shown by Figure 16 and Figure 17. The debt outstanding for over one year accounts for the largest share of debt for national and provincial departments. This finding highlights the need for more effective revenue management policies and mechanisms to enforce payment, other than informing National Treasury of non-payment by organs of state. A key challenge for many municipalities is the inadequate write-off of debt as a result of not fully implementing credit control and debt collection policies; not writing-off of very old debt artificially inflates the amounts outstanding.

Figure 15: Period for which municipal consumer debt was outstanding



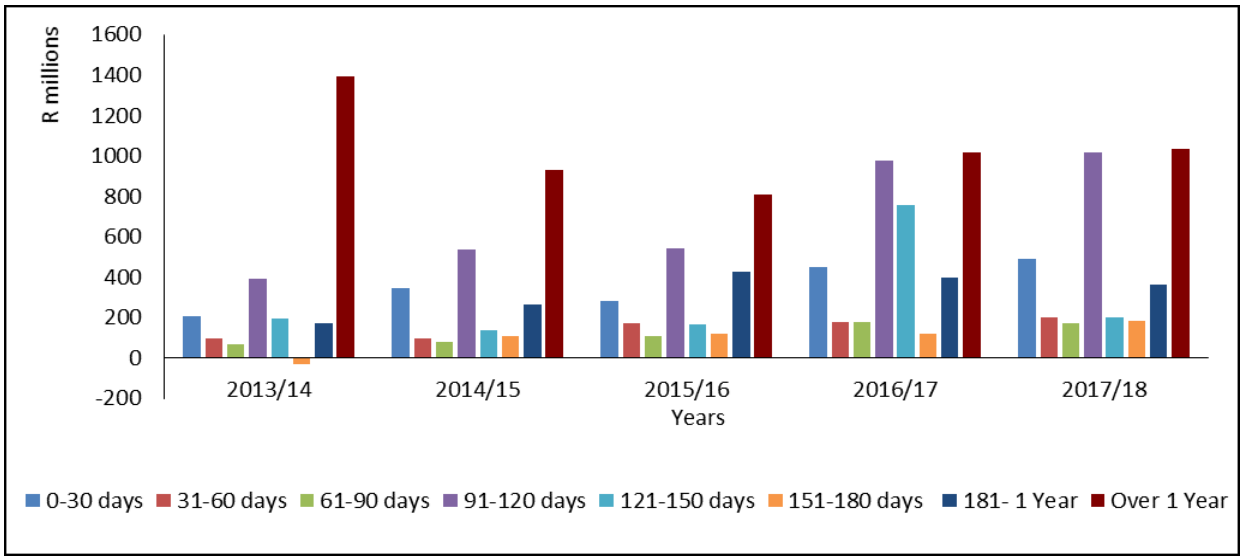
Source: FFC calculations based on National Treasury database (2013-2017)

Figure 16: Period for which debt owed by national departments was outstanding



Source: FFC calculations based on National Treasury database

Figure 17: Period for which debt owed by provincial departments was outstanding



Source: FFC calculations based on National Treasury database

What drives debt?

This section highlights some of drivers of non-payment of debt that have been cited by the surveyed municipalities.

These municipalities indicated that the main factors driving municipal default and non-payment or late payment of creditors are cash flow problems, disputes over invoices, and instances where officials do not follow proper supply chain management processes.

With respect to household debtors, owing to high unemployment levels, the inability to pay is the main driver of non-payment. In the case of organs of state, the drivers of non-payment relate not only to the lack of accountability but also to poor municipality record management which contributes to disputes and delayed payments by departments. The key driver of non-payment for businesses, is cash flow constraints.

Supplementary revenue sources for municipalities

This section assesses the potential of supplementary revenue instruments for local government. It is critical to consider current financing challenges and dynamics of different categories of municipalities in assessing the potential of supplementary tax instruments. The principle of differentiation is therefore critical in the assessment of the suitability of each supplementary instrument. It is important to note that there will always be a group of municipalities that will be dependent on transfers because their revenue base is limited, and they will have limited ability to pursue significant supplementary revenue sources in any significant way. The majority of rural municipalities fall into this category. At the other extreme are metropolitan municipalities and intermediate cities which have robust and sophisticated economies. If well incentivised metropolitan municipalities and intermediate

cities will rely less on transfers, and more on own revenue. This group of municipalities has the greatest potential to exploit supplementary revenue sources. Between these two extremes are many urban local municipalities and district municipalities. Urban local municipalities are diverse and some have well run systems to absorb supplementary revenue sources. District municipalities, on the other hand, are in a precarious position because they rely heavily on the Regional Services Council levy replacement grant - the existence of which defies all principles of a good grant instrument. Districts have the potential to absorb supplementary financing instruments as their current portfolio of own revenue sources is limited or non-existent. However, for districts, the potential of any supplementary revenue sources can only be fully tested and operationalised when their assigned functions are fully understood[6].

The survey results provide a number of possible revenue instruments. Revenue instruments cited by municipal managers are listed in Table 7.

Table 7: Supplementary revenues as suggested by different categories of municipalities

Metropolitan Municipalities and Secondary Cities	District Municipalities	Local Municipalities
Lease of optic fibre cables and sell bandwidth	Fire levies	Fees for driver testing grounds
Local Business tax	Rental fees	Fire levy
Parking lot taxes	Roads fines	Dumping site usage fees
Pooled financing	Mining rights levies	Tourism levy
Public–Private Partnerships	Weigh bridges	Weigh bridge
	Air pollution	Mining rights fees
	Harbour taxes	Parking lot taxes
	Licensing of mortuaries	Street advertising

Source: FFC calculations based on FFC survey

From the survey, respondents were asked to list possible reasons or constraints for not levying the supplementary revenue sources they cited. The responses were categorised by municipal category as shown in Table 8.

[6] Currently, there is no uniformity in the number of services that district municipalities provide. The Municipal strictures Act, 1998 allocates 14 major function to district municipalities, this excludes the revenue related function stated in Section 84(0-P). However, the MDB capacity assessments report of 2011 indicates that district municipalities were only performing eight (53 per cent) functions on average, with non-rural and rural municipalities performing 54 per cent and 52 per cent respectively. During this period, more than half (57 per cent) of the districts were performing eight or less of the functions. In fact, there has been a decline in the number of functions performed by district municipalities, as they are constantly being shifted to local municipalities, particularly the strong LMs (see Vacu and Ncube, 2017).

Table 8: Constraints to levying supplementary revenue sources

Metropolitan Municipalities and Secondary Cities	District Municipalities	Local Municipalities
Onerous process of approval by Minister	Prohibitive legislation	Prohibitive legislation
Prohibitive legislation	Lack of capacity	Lack of capacity
	Lack of political will	Lack of political will

Source: FFC calculations based on FFC survey

Interestingly, respondents suggested many factors that prohibit them from exploiting supplementary revenue sources. Metropolitan municipalitiess pointed out that they are deterred by the onerous process of getting approval for the introduction of a new revenue source and the prohibitive legislative prescripts that govern the introduction of new revenue instruments. District and local municipalities cite legislation, lack of political will, and lack of capacity on their part to design and obtain approval for new revenue sources as the limiting factors. It is not surprising that political will is cited as a factor because the introduction of a revenue source in any setting, can be a gamble on loss of voter support which risk for many politicians is not worth taking.

This list of revenue instruments, and ones sourced from a literature review were evaluated against 14 modern public finance principles listed in **Error! Reference source not found.** in t he Appendix for their potential in the South African local government space. The approach adopted follows that of Martinez-Vazquez (2013), in which the potential of each supplementary revenue source was rated against each of the "good" revenue raising criteria. The scale has five categories: ranging from high potential to low potential. A numeric score (ranging from 0 to 4) for each rating was attached. The numeric scores should be interpreted with great care. The example of a hotel tax suffices to illustrate how the numeric scores are derived. On revenue potential, the rating is low as relatively low revenues can be generated from this tax. The numeric score is therefore zero. Compliance costs for hotel taxes are relatively low but this latter low rating means hotel taxes are a "good" tax in terms of compliance costs and thus obtain a numeric score of 4 on compliance costs[7]. The higher the score the more it represents a "good" tax instrument.

After scoring, the different tax sources were ranked as shown in Table 9.

[7] An important caveat is that although, the scores seek to capture the advantages or disadvantages of each tax instrument, there is no scientific basis of assigning the precise scores within the two extremes, but rather they represent the author's interpretation and reading of contextual factors. As there is some subjectivity in the scoring, the scores are therefore subject to different interpretations and readings.

Table 9: Ranking of conventional and supplementary local government tax handles

Types of Tax	Points	Ranking
Utility Fees	46	1
Property Taxes	44	2
Royalties on Mines	37	3
Development Charges	35	4
Business Tax	35	4
Weigh in Bridge in Mining Areas	32	6
Advertisement Tax	31	7
Fire Levy	31	8
Amusement Tax or Public Amenity Levies	30	9
Hotel Tax	27	10

Source: FFC calculations based on FFC survey

The rankings in Table 9 highlight the fact that there is no revenue instrument that is able to fulfil all the principles set out in Appendix A. The most desirable revenue instrument is therefore the one that closely approximates most of the principles. Table 9 suggests that the three traditional local government revenue sources, i.e. user charges, property taxes and mining royalties, closely satisfy most of the principles of a "good" local government tax. The traditional revenue sources are closely followed by development charges and local business taxes. Although development charges are provided for in the constitution, they remain under-exploited by municipalities in South Africa. Local business taxes are also identified as a source of local government revenue. However, the challenge with this as a possible recommendation is that it may have a negative impact on investment and economic growth, both of which are sorely needed in the country. However, a comprehensive analysis of this revenue source, taking into account its implications for investment, will be necessary before any concrete proposal is made. The Cities Network (2018) has recently examined this and found it to be an ideal revenue source for local government.

Development charges

The general under-utilisation of development charges is a function of many factors, including uncertainty and confusion around what they are levied for, what their legal basis is, or whether it is a tax or charge, and what method of calculation is used, (Graham and Berrisford, 2015, National Treasury 2017). The absence of a development charges policy framework has not augured well for the optimal utilisation of development charges. It is important to note that there are significant developments in the area of development charges now, which may see many municipalities exploiting this revenue source. National Treasury in consultation with metropolitan municipalities, is in the process of developing a National Policy Framework on Development Charges. Parallel to the policy development process, the MFPF Amendment Bill is also being developed which, among other provisions, will define development charges, set out the principles for calculation of the development charges, and further clarify the reporting and accounting principles of the proceeds from the development charges contributions.

Local business tax

On the basis of empirical evidence, a Cities Network (2018) report indicates that the Local Business Tax is an ideal replacement for the Regional Services Council levies. The Cities Network concludes that an Local Business Tax is an easy revenue source for local government and would have a medium revenue impact. The tax is also implementable in the current political and legal environment. However, the report also argues that in the current economic environment, the tax will have some negative effects on economic growth and investment.

Table 9 also shows that there are other revenue sources that local government can exploit. Examples include weigh in bridges in mining areas, advertisement levies, fire levies, amusement taxes and hotel taxes. Weigh-in bridges will enable municipalities to recoup part of the costs of infrastructure damage associated with haulage trucks. This revenue instrument would benefit rural municipalities. Similarly fire levies can provide municipalities with revenues to deal with veld fires or repair infrastructure damaged as a result of fires. As firefighting is one of the responsibilities of district municipalities and fires know no boundaries, district municipalities as they overlay local municipality jurisdictions, are better placed to exploit this revenue source.

Potential external financing instruments for local government

South African municipalities are under immense pressure to increase their infrastructure investments (FFC, 2017). However, resources at their disposal are insufficient to meet the growing demand for infrastructure. The result of a shortfall of infrastructure funding has been a vertical imbalance on the infrastructure account. There is pressure for the municipal sphere to look beyond current financing arrangements to close this gap. The literature proposes a number of methods to close this gap (Ahmad 1997; FFC, 2017). Debt financing is one common and very efficient method for bridging the revenue gap on the capital account. Although South Africa has one of the best borrowing frameworks, the low uptake of municipal debt finance has been the biggest challenge. While metropolitan municipalities and a few large cities utilise debt finance, the amounts are low relative to need. The trends in borrowing are also surprisingly on a downward spiral. Many factors account for this. First, municipalities have not found a reason to participate in credit markets because grant finance has been an easy way out for them. Second, many municipalities cannot participate because they are not creditworthy. The survey results of the FFC study give more reasons for the low levels of debt finance. The surveyed municipalities noted that there is neither political will nor capacity to pursue debt finance as an option for closing the infrastructure funding gap.

Municipalities also need to capitalise on one of their most important assets: land. Land value capture mechanisms are an avenue with which municipalities can finance their infrastructure requirements (see Cities Network 2017, Peterson 2009, FFC 2017, UN Habitat 2015). Options under value capture include:

- Acquisition and sale of excess land: A municipality buys land adjacent to some public investment and then sells it later when its value has improved as a result of the public project;

- Betterment levies: These, usually once-off , levies/taxes capture the increment value of land as a result of public investment;
- Developer exactions: Property developers are required to install on-site public infrastructure at their own cost;
- Development impact fees: Once-off levy charged on approval of a permit to build (see Burge 2010);
- Sale or leasing of municipal land: Local authorities sell or lease land that is near new infrastructure and use the proceeds to invest in additional infrastructure; and
- Tax increment financing: A method of capturing the gain in tax revenue from an increase in property value due to public investment.

Finally, local government infrastructure projects can be financed through private public partnerships . Private public partnerships infrastructure projects can take various forms, e.g. designing, financing, building, operating and transferring projects; designing, financing and operating projects; designing, building, operating and transferring projects; equity partnership projects; and facilities management projects (National Treasury, 2017), and full privatisation of a function as is done in Brazil (Alm, 2010).

Towards supplementary funding sources for local government

In summary, the preceding analysis indicates that there is a need for local governments to improve their revenue bases by exploiting some of the highlighted supplementary revenue sources as supplementary sources.

However, some revenue sources suit certain municipalities and not others. In proposing supplementary revenue instruments, and ultimately a new revenue model for municipalities, the process should be guided by the differentiation principle. The 257 municipalities in South Africa are characterised by different economies and revenue bases. Metropolitan municipalities and intermediate cities, for example, have stronger economies than rural municipalities. In the long run, the expectation is that if metropolitan municipalities are granted more supplementary revenue instruments they can rely less on national government transfers. In this context, metropolitan municipalities and intermediate cities need to be incentivised to exploit supplementary instruments more. On the other hand, the revenue base of many rural and district municipalites is too limited to sustain their activities, and transfers will always be the mainstay of their fiscal frameworks. Figure 18 shows the revenue model for different categories of municipalities. Against this background, and based on theory and best practices around the world, and suggestions from surveyed South African municipal respondents, Table 10 attempts to locate the best possible local government structure to levy each of the supplementary revenue sources.

Figure 18: Ideal funding framework for different categories of municipalities

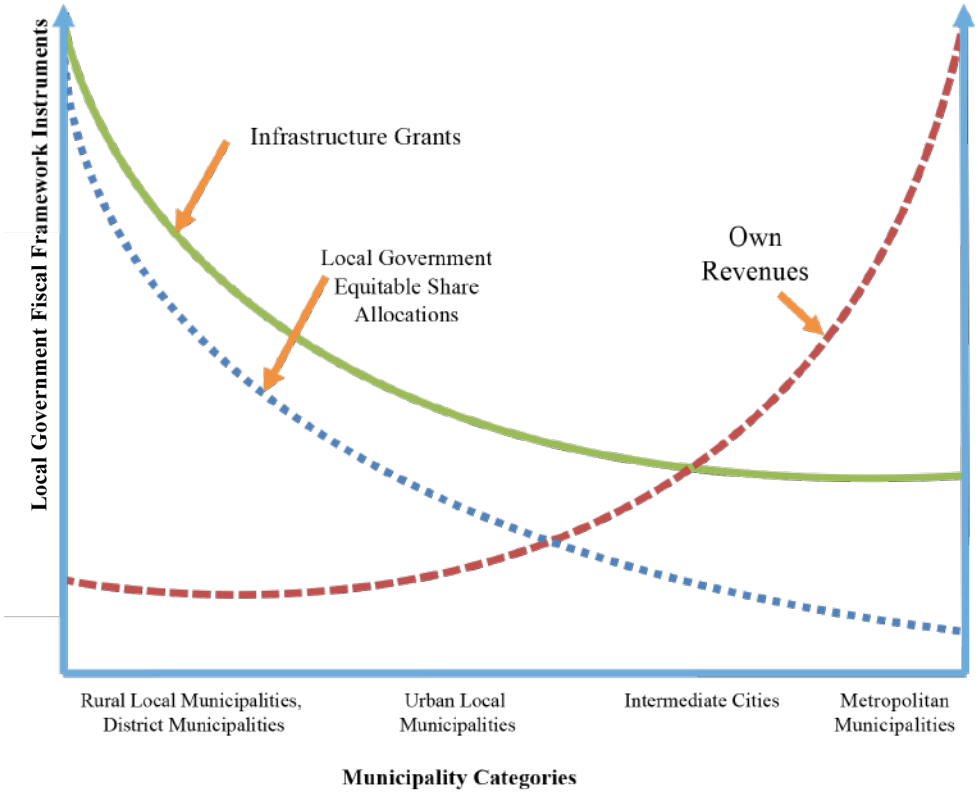


Table 10: Supplementary revenue options for each type sphere of local government

	Metropolitan Municipalities	Secondary Cities	Other Urban Municipalities	District Municipalities	Rural Municipalities
Revenue Instruments					
Development Charges	✓	✓	✓		
Fire levy				✓	✓
Advertisement Tax	✓	✓	✓		
Tourism Levies/Occupancy Tax	✓	✓	✓		✓
Amusement Tax	✓	✓	✓		
Weigh in Bridges in Mining Areas				✓	✓
Financing Arrangements					
Impact Fees	✓	✓			
Tax Increment Financing				✓	
Public-Private Partnerships	✓	✓	✓	✓	✓

Source: FFC calculations

Figure 18 and Table 10 propose more and higher revenue yielding revenue instruments for metropolitan municipalities and intermediate cities, while few and less complex revenue instruments are proposed for rural district and local municipalities. These instruments cannot be ranked within each tier of local government as the appropriateness of any specific supplementary revenue source is dependent on the specific context within each municipality.

Conclusion

Local government is a critical sphere for the country's growth and development. It accounts for almost 40 per cent of the country's GDP, therefore local government requires adequate revenue sources to fulfil its constitutional mandate. In the current economic climate, the sector cannot count on national transfers to close its fiscal gap, either on the capital or operational accounts. The ever-increasing expenditure demands facing local government against this backdrop, require a review of the local government fiscal framework. Considering that the sector has been unable to meet its constitutionally assigned mandate, this chapter set out to achieve three objectives: (i) review the performance of traditional local government revenue sources with a special focus on property rates revenues; (ii) review the sector's debt management capabilities and (iii) evaluate the potential of supplementary local government revenue sources and financing mechanisms.

On the first objective, this chapter quantified municipal tax effort, and examined constraints to traditional revenue optimisation with a particular focus on property taxes. To achieve this, the study used both quantitative and qualitative methods. The findings from the quantitative analysis confirmed that South African municipalities are not optimising property taxes. It was found that the inefficiencies are relatively high in small towns and rural municipalities as they are only collecting 40 per cent and 56 per cent of the expected revenues from property rates, respectively. Urban municipalities (metropolitan municipalities, secondary cities and large towns) were found to be the most efficient, collecting 84 per cent, 75 per cent and 62 per cent of the expected revenue, respectively. These results further confirm that property tax collection depends on various factors, and the type of the municipality. In the case of metropolitan municipalities, property tax effort is driven by disposable income, unemployment, and intergovernmental transfers. In secondary cities, unemployment, formal housing, traditional housing, access to basic services, capacity and intergovernmental transfers are the key drivers of tax effort.

The findings showed that disposable income, unemployment, and capacity are the key determinants of tax effort in the case of large and small towns. Intergovernmental transfers were also found to be a key driver of tax effort in small towns. The findings confirmed that the property tax collection effort in rural areas is influenced by traditional authorities. The results from the qualitative analysis correspond with the quantitative results. They confirm that property tax collection effort is high in urban municipalities, but low in rural municipalities. Also, the survey results confirm that poor billing and credit control systems, affordability and willingness to pay, traditional leadership, and lack of capacity are the key drivers of poor property tax collection in municipalities.

Regarding the debt issue, the chapter notes that South African municipalities are in a debt dilemma. Municipalities are owed over R50 billion, while they in turn owe creditors over R150 billion - far more than the total annual transfers they receive. These debt levels pose

a significant risk to service delivery and specifically, the fiscal sustainability of the sector. The chapter found that non-payment by organs of state has been growing steadily for the period 2011/12 to 2017/18. An analysis of historical municipal consumer debt reveals that debt that is outstanding for over one year accounts for the largest share of debt and has been increasing during the period 2013/14 to 2017/18. The main drivers of non-payment relate to weak debt management capability, poor compliance with relevant debt management rules, lack of forward planning, as well as poor debt record management.

In its Submission for the Divison of Revenue 2010/11, the Commission recommended that:

- the Minister of COGTA, the Minister of Finance and the President of SALGA jointly establish guidelines/norms for the management of municipal consumer debt. Such guidelines should cover aspects such as interest charges on outstanding amounts, debt impairment and the writing-off of bad debt.

On the third objective, the chapter isolated supplementary revenue sources for local government. Based on the survey results of 23 municipalities and SALGA, and content analysis of both modern public finance theory and empirical studies, a list of potential revenue sources for local government was identified and subjected to a rigorous evaluation process. The process involved testing the potential of each revenue source against a number of public finance principles for a "good" local government revenue source. In short, the paper isolated development charges, weigh in bridges in mining areas, advertisement levies, fire levies, amusement taxes and hotel taxes. These revenue sources rank highly in terms of the five important criteria for a "good" tax handle, i.e. criteria that underpin the principles of efficiency, accountability, transparency, fairness, and ease of administration.

Besides internal revenue supplements, the chapter reviewed the potential of external financing arrangements. This assessment was informed by the need to find options to close the ever-growing infrastructure funding gap. The chapter noted that many municipalities own massive tracts of land. As the most important asset of municipalities, land should provide a steady flow of income for many local authorities. There are various value capture mechanisms which municipalities should assess and consider adopting. Furthermore, municipalities need to harness private sector capital to complement their own. In this regard municipalities should actively pursue Private-Public Partnership deals. On the part of government, it is important that the process of approving Private-Public Partnerships is made less onerous.

Recommendations

1. ***With respect to optimising traditional own revenue sources, the Commission recommends that:***
   (a) The Minister of COGTA, in consultation with the President of SALGA should ensure that the credit control systems of Eskom and municipalities are aligned by means of

an MOU, and that Eskom assists municipalities with credit control via electricity disconnections within the municipality's area supplied by Eskom;

(b) Provincial governments facilitate the process of municipalities in the same district municipality pooling their resources to attract qualified property valuers, where there is a need do so in order to ensure that properties are accurately valuated, and to share the costs associated with the valuation process;

(c) The Minister of COGTA, in consultation with the Minister of Finance and provincial governments should assist local municipalities to build capacity for property rates collection.

2. With respect to revenue management, the Commission recommends that:

(a) The Minister of COGTA, in consultation with the Minister of Finance, and provincial governments should assist local municipalities, especially those with limited resources, to develop effective credit control systems;

(b) Municipalities should apply the usual credit control measures (including interruption of electricity and water services) to national and provincial government departments who do not honour their contractual obligations. In this regard it should be noted that a dispute about non-payment constitutes an intergovernmental dispute which may invoke the Intergovernmental Relations Framework Act provisions.

3. With respect to supplementary revenue sources for local government, the Commission recommends that:

(a) The Minister of Finance should take steps (including piloting) to add the following supplementary revenue sources to the list of allowable taxes for different types of municipalities in a differentiated manner that could include, the development charges, tourism levies, land value capture mechanisms, tourism levies and fire levies. Fire service levies in particular should be considered for the municipalities that are to be authorised for this function. The greater potential for expansion of own revenue sources in urban areas should be compensated for by changes to the division of revenue to increase transfers to rural areas.

(b) The Minister of Finance should proactively inform municipalities on various land value capture mechanisms, that municipalities can take advantage of in order to supplement their current own revenue sources.

FINANCIAL AND FISCAL COMMISSION

For an Equitable Sharing of National Revenue

Chapter 3

Municipal Government Capacity Building

Chapter 3: Municipal Government Capacity Building

Introduction

In South Africa, municipalities are imperative as they are responsible for the delivery of basic infrastructure and services, namely water, sanitation, electricity and refuse removal. In his 2018 budget statement, the Minister of COGTA described a "well-functioning municipality" as one characterised by stability, a functional council and oversight structures, consistent spending of the capital budget, unqualified audit outcomes and good financial management (Mkhize, 2018). Municipalities often fail to achieve this and face numerous challenges. According to COGTA in 2018, 87 of the 257 municipalities were declared either dysfunctional or in financial distress[8]. It should be noted, however, that this does not imply that the remaining 170 municipalities are functional, as many are at risk of dysfunctionality to varying degrees. Only seven per cent are considered to be well-functioning. As noted in chapter two, the challenge of "dysfunctional" municipalities seems to have worsened in the past five years. The challenge facing municipalities is also demonstrated by the fact that in 2018, 19 per cent of the municipalities were under "Section 139" oversight by provinces[9]. This is of grave concern as a "dysfunctional municipality" deprives citizens of service delivery and fails to improve economic and social conditions.

This chapter focuses on the issue of functionality and interventions meant to improve the performance of municipalities. Over the years, government has implemented a range of capacity building interventions to assist poorly performing municipalities. Some of these have been pitched at the institutional level, while others have focused on building the individual capacity of municipal employees. The previous chapter focused specifically on the sustainability and the financial health of municipalities. Following a discussion of the concept of functionality, inclusive of financial sustainability, and how it relates to municipalities in South Africa, the present chapter hones in on the B2B programme of COGTA. This programme is a recent example of an institutional level response to poorly performing municipalities, and the discussion is intentionally focussed more on efficiency than financial sustainability. The analysis then assesses the Municipal Regulations on Minimum Competency levels spearheaded by the National Treasury. This initiative is an example of an individual level intervention aimed at improving human capital capacity. The rationale is that

[8] See a list of dysfunctional/distressed municipality from COGTA at http://www.cogta.gov.za/?p=4088

[9] [9]According to Section 139 of the Constitution, the responsible province may intervene when a municipality is unwilling or unable to meet its obligations.

an assessment of these two types of interventions may bring to light aspects that could be incorporated into future interventions to improve their chances of success in a municipality. The Minimum Competency Regulations are assessed specifically as they pertain to the financial competencies of the employees who hold various municipal positions. The specific objectives of this analysis are to:

- Interrogate the concept of municipal dysfunctionality as used by various departments and institutions in South Africa and to propose a consolidated framework for assessing dysfunctionality;
- Assess the success of the B2B programme insofar as it brings about an improvement in the institutional efficiency of municipalities; and
- Assess the success of a key human capital related capacity building intervention, namely, the Minimum Competency Regulations, in professionalising the local government financial sector.

Research method

In order to fulfil the research objectives outlined above, the analysis adopted a multipronged methodological approach. A selected number of district and local municipalities were visited and relevant officials were interviewed to obtain a full understanding of the causes of dysfunctionality in municipalities, including financial distress.

The three provinces with the highest number of dysfunctional/distressed municipalities as identified by COGTA were selected for the study, namely, KwaZulu-Natal (KZN), the Eastern Cape, and Limpopo with 18, 14 and 13 dysfunctional municipalities, respectively. Combined, these provinces constitute 51.7 per cent of identified dysfunctional municipalities. In KZN, Umzinyathi district municipality and Endumeni local municipality were selected. In the Eastern Cape, the following municipalities were selected: Alfred Nzo district municipality, Matatiele local municipality and Mbizana local municipality. In Limpopo, the Vhembe district municipality and both its local municipalities of Makhado and Collins Chabane were visited.

To assess the success of the B2B programme, a difference in differences (DID) approach[10] was employed, using 2015 as the year of treatment for the B2B support programme. The data sources for this research are drawn from Statistics South Africa's annual Non-Financial Census conducted in June each year, and the audited municipal finance data from the National Treasury. The total number of observations in the multi-year dataset is 1 647, each with 129 financial and non-financial variables as potential explanatory variables of dysfunctionality. The observation units are the municipalities, which numbered 278 between 2011 and 2016 and 257 in 2017 due to re-demarcation effective from 3 August 2016.

[10] Difference in differences studies the differential effect of a treatment on a 'treatment group' versus a 'control group'. It calculates the effect of a treatment (i.e., an explanatory variable or an independent variable) on an outcome (i.e., a response variable or dependent variable) by comparing the average change over time in the outcome variable for the treatment group, compared to the average change over time for the control group.

Municipal sub-category classification is imported from the Statistics South Africa Community Survey of 2016 and has 14 missing values for municipalities in 2017 due to the amalgamation of municipalities. Of the 14 municipalities, five were identified as dysfunctional using non-financial information. The sample treatment group consists of the 87 priority municipalities identified as distressed or dysfunctional and requiring urgent intervention (in the 2018 COGTA Budget Speech), whereas the control (non-treatment) group comprises the remaining municipalities.

Finally, to assess the success of the Minimum Competency Regulations in professionalising the local government sector specifically as it pertains to financial management, a combination of data analysis and interactions with stakeholders was relied on. Data on municipal compliance with the Minimum Competency Regulations was sourced from the National Treasury, which oversees compliance with these regulations. The data is provided by municipalities and reflect the compliance status of municipalities (and their entities) as at October 2018. The data was analysed to ascertain the overall rate of compliance, the rate of compliance per occupation, and compliance by municipal category.

In addition to consulting national stakeholders, an electronic survey was also distributed to all 257 municipalities, using the online Survey Monkey platform. The survey questions focussed on understanding, among other things, the:

- Level of compliance with the Minimum Competency Regulations and the timeframe to achieve compliance;
- Views on the suitability of training provided through the Local Government Sector Education and Training Authority (LGSETA);
- Value of training interventions and whether capacity building interventions have led to sustained improvements in municipal performance;
- Extent of transfer of skills acquired through training; and
- Strategies for using existing capacity more efficiently.

To ensure representation, the 257 municipalities were stratified by category. The aim was to achieve a 10 per cent response rate for each of the categories. Table 1 in chapter two describes the response rate by municipal category.

Research findings

This section summarises and discusses the main findings emanating from the analysis. The section has three parts. The first part looks at the issue of functionality. The second one focuses on the example of institutional capacity building in the form of the B2B programme, and the third looks at human capital compliance with the Minimum Competency Regulations.

The functionality status of municipalities

The key issue that emerged from the Commission's analysis is the lack of a common, government-wide definition of a dysfunctional municipality. This is despite the COGTA characterisation of a well-functioning municipality. Generally, the word 'dysfunctional' refers to all municipalities that are not functioning normally or as expected. This approach is conceptually flawed as many municipalities are neither functional nor dysfunctional, but somewhere in between.

In line with the current approach, a dysfunctional municipality is therefore simply characterised by the failure to deliver expected outcomes and comply with key processes. While a number of institutions acknowledge the dysfunctionality of municipalities and some refer to municipalities in the 'red zone' or in the intensive care unit (ICU), the specific indicators used to reach that conclusion, and the standard of delivery against which the identifying indicators are measured, differs. A more discerning and nuanced approach is needed, given that the categorisation is meant to guide specific interventions in municipalities across the country in order to improve their performance.

COGTA has defined functional municipalities on the basis of three factors,[11] namely good financial management, good governance, and the ability to deliver services. Further engagements with COGTA revealed that in determining the 2018 list of 87 dysfunctional/distressed municipalities, it had to take into account the following financial management factors as well:

- Municipalities identified as being in financial distress by the National Treasury;
- Those municipalities banking with VBS; and
- The inability of municipalities to pay service providers such as Eskom.

Interactions with an official from SALGA revealed that SALGA uses four pillars to determine dysfunctionality or municipalities in the "red zone" for the purpose of implementing its Municipal Audit Support Programme. The four pillars are: leadership, institutional capacity, governance, and financial management. The National Treasury, on the other hand, relies more on financial indicators to determine dysfunctionality.

Municipal IQ[12] has also compiled an index on dysfunctional municipalities using seven key variables that relate to service delivery, governance, and financial management. According to Municipal IQ, if a municipality is flagged for fewer than three indicators, it is regarded as doing well and for more than three indicators, it is placed on a watch list. Municipalities with

[11] See COGTA back to basics document - http://www.cogta.gov.za/?page_id=386
[12] See Municipal IQ – Municipal Intensive Care Unit- http://www.municipaliq.co.za/index.php?site_page=icu.php&ShowVariables=1

four flags are placed in a "high-care unit" and the ones with five or more flags enter the "ICU" list. Table 11 shows different indicators taken into consideration by different institutions to determine dysfunctionality.

Table 11: Indicators of municipal dysfunctionality by different institutions

Institution	Indicators	Institution	Indicators
National Treasury	1. Cash coverage	**COGTA**	1. Service delivery (access to piped water, sanitation, electricity and refuse removal and service delivery maintenance)
	2. Cash balance		
	3. Reliance on capital grants		2. Governance (issues of Section 39 intervention and unauthorised, irregular and fruitless and wasteful expenditure)
	4. Overspending on operational budgets		
	5. Underspending on capital budgets		3. Financial management
	6. Debtors growth		
	7. Debtors as a percentage of cash		4. Current support (MISA)
	8. Creditors as a percentage of cash		
SALGA	1. Institutional capacity	**Municipal IQ**	1. Backlogs on 4 basic services;
	2. Leadership		2. Ability to deliver to indigent support relative to poverty levels;
			3. Spending per capita lagging peers;
	3. Financial management		4. High discrepancy between actual and planned expenditure;
			5. Underperformance on audit outcomes relative to peers;
	4. Governance		6. Underperformance on compliance and governance index (CGI) relative to peers; and
			7. Service delivery protests

Source: FFC compilation

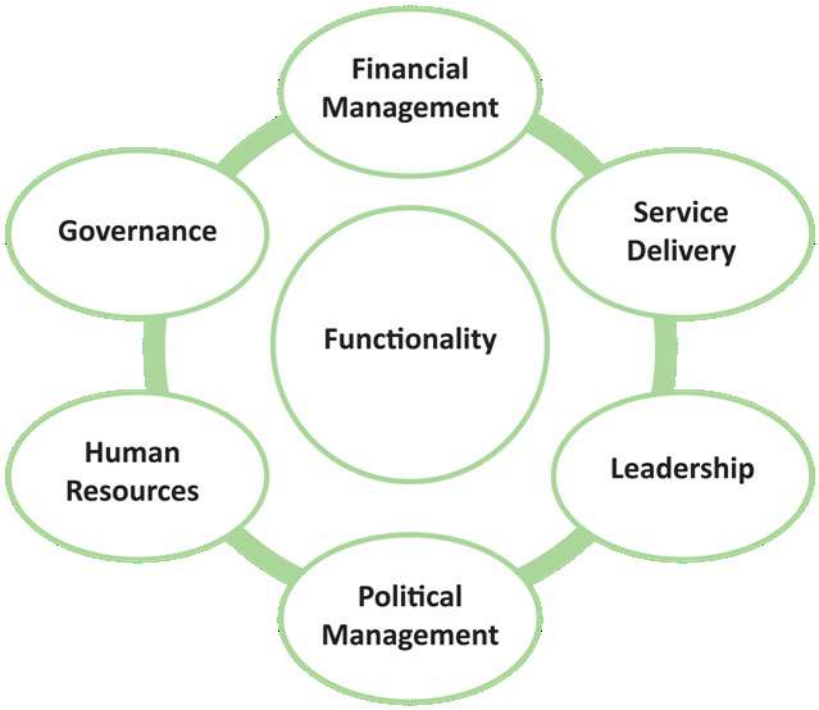
One of the key challenges with the absence of a government-wide definition of dysfunctionality, is that it creates contradictions within the system. For example, in 2018, Ray Nkonyeni, a municipality in KwaZulu-Natal, was on COGTA's list of dysfunctional municipalities. In 2019, however, the same municipality passed the test and qualified to receive the Integrated Urban Development Grant proposed by the National Treasury. This grant is allocated only to selected municipalities that have demonstrated good performance in areas such as governance, spending and reporting. In essence, National Treasury made a grant to a municipality considered 'dysfunctional' by COGTA.

Based on the Commission's interviews with municipalities (i.e. the case studies selected from KwaZulu-Natal, Eastern Cape and Limpopo), there are two key elements that are currently not considered (by the different institutions in Table 11) when classifying municipalities as dysfunctional – these are political management[13] and human resources, which include high

[13] In this context, political management refers to how municipal councils are politically constituted and how such arrangements impact on the efficient and effective functioning of a municipality. It is about how the political composition of municipal councils impacts on its day to day activities, e.g. holding of meetings in order to take key and strategic council decisions. Political management challenges, (e.g. coalition-run municipalities), have been identified as one common hindrance to the smooth functioning of municipalities. Political management should be viewed differently from governance

vacancy rates in key positions such as Chief Financial Officers and Municipal Managers. Following on from this, Figure 19 illustrates the factors that the Commission proposes should be used to determine the functionality status of municipalities, namely: financial management, governance, ability to deliver services, leadership, political management and human resources.

Figure 19: Indicators and areas determining functionality status of municipalities inconsistency



Source: FFC computation based on FFC survey

The factors contained in the proposed definition are interrelated – so for example, poor governance could lead to poor financial management and possible bankruptcy of a municipality, resulting in the inability to deliver services.

Based on Table 11, the Commission is therefore of the view that municipal functionality refers to the maintenance and performance of systems, processes and practices in governance, service delivery, financial management, leadership, political management and human resources within a municipality that yields high performance in terms of its legislative mandate. Therefore, if a municipality fails in any one or more of the factors indicated in the definition, it should be classified as dysfunctional. Importantly the Commission believes that factors beyond the influence of municipal management, such as historical backlogs in the

which refers to the effectiveness of municipal structures (e.g. Mayoral Committees, Municipal Public Accounts Committees and Audit Committees) in exercising their fiduciary duties, and in particular, holding the executive to account. Usually if these structures are not able to hold the executive to account (e.g. due to poor capacity), the council will be rendered dysfunctional.

provision of basic services and demographic reliance on capital grants, should not be considered for the purpose of classifying a municipality as dysfunctional.

Institutional level support: The Back to Basics programme

In response to growing concerns related to systemic problems in the local government sphere, COGTA introduced the B2B programme in 2014. An assessment by COGTA at the time found that 63 per cent of municipalities were either dysfunctional or almost dysfunctional (COGTA, 2014). The B2B programme was aimed at getting the basics right in five priority areas, namely: basic services to create decent living conditions; good governance; public participation; financial management; and institutional capacity (see Table 12).

Table 12: Back to Basics priority areas and associated performance indicators

Priority Outcome	Indicators
Basic Services: Creating Decent Living Conditions	Develop fundable consolidated infrastructure plans
	Ensure infrastructure maintenance and repairs to reduce losses with respect to:
	o Water and sanitation
	o Human settlements
	o Electricity
	o Waste Management
	o Roads
	o Public Transportation
	Ensure the provision of Free Basic Services and the maintenance of Indigent register
Good Governance	Holding of Council meetings as legislated
	The functionality of oversight structures, s79 committees, audit committees and District IGR Forums
	Progress following interventions over the last 3-5 years
	Existence and efficiency of Anti-Corruption measures
	Compliance with legislation and the enforcement of by-laws
	Rate of service delivery protests and approaches to address them
Financial Management	The number of disclaimers in the last three to five years
	Realistic budgets based on cash available
	Percentage revenue collected
	Extent of debt serviced
	Efficiency and functionality of supply chain management
Institutional Capacity	Filling of top-six posts with competent and quality persons:
	o Municipal manager
	o Finance
	o Infrastructure
	o Corporate services
	o Community development and
	o Development planning
	Realistic organograms, underpinned by an affordable service delivery model
	Human resources development and management programmes
	Platforms to engage organised labour to minimise disputes and disruptions
	Established systems such as billing
	Maintaining experience and institutional memory
Public Participation	Required number of functional Ward committees
	Number of public participation programmes conducted by Councils
	Regular community satisfaction surveys

Source: COGTA, 2016.

The results relating to the impact of the B2B programme in the 87 dysfunctional municipalities are presented in Table 13. It should be noted that all available information in the compiled dataset of Stats SA's non-financial censuses and the National Treasury's municipal finance data were analysed exhaustively as outcome indicators of the B2B programme for the analysis. Only the indicators that showed a significant B2B influence are presented.

More specifically, for B2 municipalities (i.e. local municipalities with a large town as a core), although the full-time councillor positions' occupancy rate increased by 35 per cent on average, domestic consumer units benefiting from free basic sewerage, sanitation and waste removal services declined by 4.8 and 5.6 consumer units, respectively. B3 municipalities (i.e. local municipalities with small towns, with relatively small population and significant proportion of urban population but with no large town as core), witnessed a decline of 11 per cent in the proportion of households receiving indigent support for sewerage, together with full-time community and services employment rate at seven per cent for institutional capacity. Municipal borrowing increased significantly for municipalities that are mainly rural with communal tenure and with, at most, one or two small towns in their area (i.e. B4 municipalities) albeit from a low base, significant at R6.7 million. The district municipalities that are not water services authorities (C1 municipalities) saw an increase in consumer units for waste removal at 1.2 units, while free basic electricity consumer units in district municipalities that are water services authorities (C2) declined. Overall, the full-time employment rate for waste management reduced despite the implementation of the B2B support programme.

Table 13: Difference-in-difference impact results for the Back to Basics programme, 2012 – 2017

Explanatory Variables	Large Town	Small Towns	Rural Municipalities	Districts (C2)	Districts (C1)	All Municipalities
Consumer Units: Waste Removal				1.181*		
Consumer Units: Free Basic Electricity					-1.006*	
Consumer Units: Free Basic Sewerage and	-4.867**					
Consumer Units: Free Basic Waste Removal	-5.59***					
Indigent Sewerage		-0.111*				
Municipal Borrowing			6.7**			
Full-Time Councillors Occupancy Rate	0.4***					
Full-Time Community and Services Employment Rate		-0.071*				
Full-Time Waste Management Employment Rate						-0.091**

*Note: ***, ** and * indicate statistical significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.*

In terms of the design of the B2B support programme, the Commission's assessment, based on the details in Table 13, is that the priority areas covered are too wide ranging to be useful, and some indicators are subjective in nature. As a result, it is an impossible task to measure the impact based on all the indicators listed in Table 13 as the outcome variables. Broad concepts of performance such as "fundable", "functional" and "efficient", "anti-corruption measures", and "ward meetings" should be unilaterally avoided as they make poor performance indicators and are difficult to measure accurately.

Taken together, these empirical results suggest that the broad nature of the concepts in the B2B support programme, combined with the lack of availability and disjointed use of performance data for monitoring, has rendered the B2B programme ineffective in identifying, targeting and supporting distressed municipalities to yield demonstrably improved results.

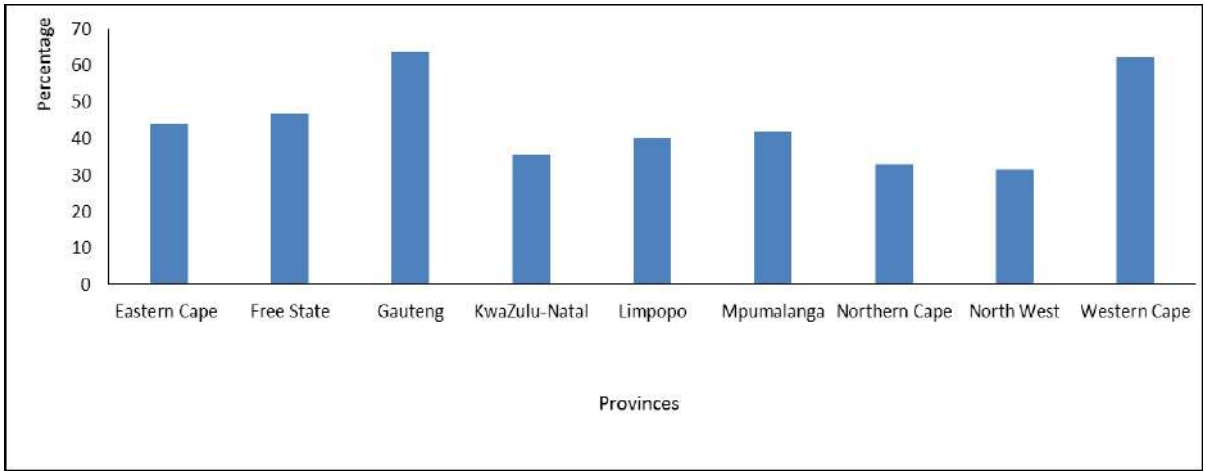
Individual level support: Minimum Competency Regulations

This subsection focuses on efforts to build human capital capacity. Individual or human capacity refers to the particular skills' sets that individuals gain through education, training, experience and the formation of networks. The MFMA (see Sections 83(1), 107 and 119(1)) requires that selected municipal personnel meet specific competency levels. The Municipal Regulations on Minimum Competency Levels (2007) devised by the National Treasury are applicable to the following positions in a municipality or municipal entity, namely: municipal manager, Chief Financial Officer, senior manager, head of supply chain management, managers and middle managers. The objectives of the regulations are to ensure a high standard with respect to strategic and finance-related skills and to specify the academic qualifications and work-related experience for personnel in specific posts[14]

Figure 20 shows municipal compliance with the regulations by province as at October 2018. Municipalities in the Western Cape and Gauteng showed the highest level of compliance. The level of compliance in all other provinces is significantly lower, particularly in KwaZulu-Natal, the North West and the Northern Cape.

[14] So, for example, a municipal manager must possess a bachelor's degree, have five years' senior management experience, and complete nine unit standards or courses related to financial management and supply change management competencies.

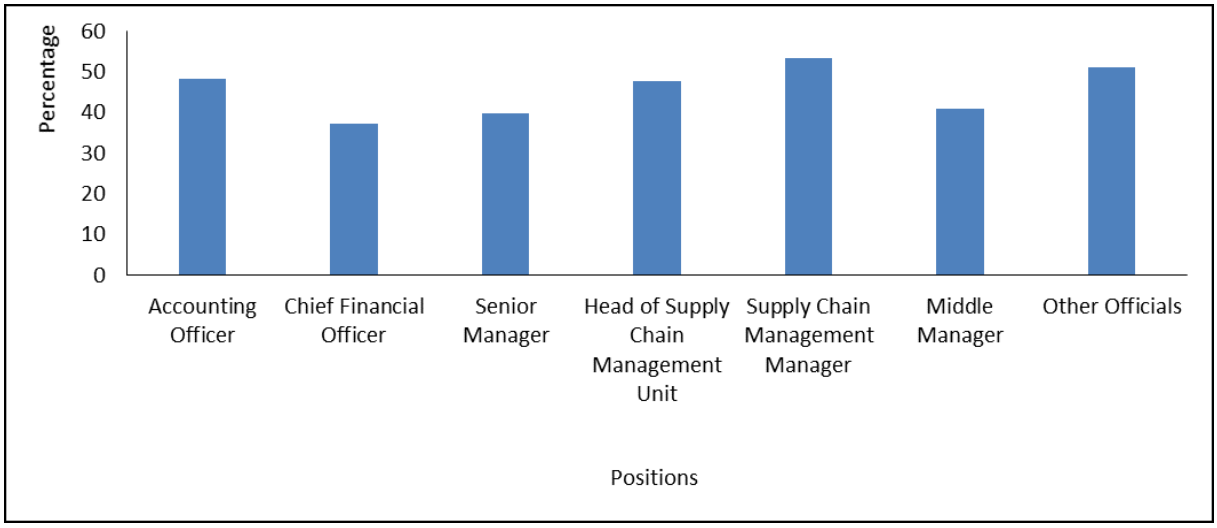
Figure 20: Compliance by provinces as at October 2018



Source: FFC calculations based on National Treasury database

Figure 21 focuses on compliance with the regulations by type of position. Whereas compliance is generally low, the lowest level of compliance is with respect to the Chief Financial Officer at 37 per cent, in spite of this being a highly strategic position that goes to the centre of municipal sustainability.

Figure 21: National compliance by position type as at October 2018



Source: FFC calculations based on National Treasury database

Based on survey data sent to all 257 municipalities using the Survey Monkey platform, four key issues are highlighted:

First, in terms of abiding by the requirements of the regulations, no distinction is made according to municipal category – all municipalities have to meet more or less the same criteria in the same timeframe. Given the heterogeneity of South African municipalities, even

among those in the same category, there is a need to implement a differentiated approach to competency reforms. Whilst the Minimum Competency Regulations incorporate slight variations in terms of the competency requirements based on the size of the municipal budget, consideration should be given to implementing a differentiated requirement and varying timelines for complying with the regulations. This could be based on municipal category and overall performance of municipalities. For example, it may not be practical to expect a poor municipality to comply as quickly as a better resourced, wealthy municipality that is performing relatively well.

Second, the Minimum Competency Regulations were gazetted in 2007. From the preceding analysis it is clear that compliance is significantly low. There is thus a need for a thorough and comprehensive assessment of the impact of this intervention to date to understand municipality-level views of the intervention and whether tangible improvements flow as a result of complying. Additionally, a critical component of such an assessment would be to understand whether the content of the unit standards (courses) that individuals have to complete in order to be compliant, are still relevant and/or whether and how often they require updating.

Third, compliance with the Minimum Competency Regulations are a necessary, but not sufficient criterion, for good performance. An assessment of the 87 municipalities identified as dysfunctional by COGTA shows that, even within those municipalities, there are strategic positions, such as that of Municipal Manager and/or Chief Financial Officer that are compliant with the Minimum Competency Regulations. Thus, a strong focus on academic competence and years of experience is insufficient to guarantee good leadership and performance. Aspects related to behavioural competence such as transparency, accountability and being ethical, need to be assessed as having equal status as other aspects such as financial acumen.

It is thus critical to ensure that the individual, institutional and environmental elements of capacity building are coherent and that progress in one area is able to be accommodated in the other two types of capacity. For example, it would be of little use to provide high level technical training to municipal employees when, at an organisational level, a municipality does not have the requisite equipment to put newly acquired skills into practice. Ensuring that the organisational and enabling environment incentivises positive behavioural competencies can also serve to prevent officials from pursuing training for the sake of training (certification) but rather understand the requirement to implement and transfer the skills gained. Essentially what is required is a holistic approach to capacity building, focussing on all three elements of capacity, namely: individual, institutional and environmental – one of the FFC's recommendations in its Annual Submission for the Division of Revenue (FFC, 2009 and 2011). This recommendation is reiterated and municipal intervention programmes must be devised and implemented accordingly.

Fourth, and related to the need for a holistic and coordinated approach to capacity building, the roles, responsibilities and governance arrangements underpinning the building of a quality civil service need revising. COGTA has the primary responsibility for setting the regulatory context for municipalities, but various other role players are tasked with related responsibilities for a well capacitated local government sphere.

Table 14 provides an overview of key departments/entities involved in municipal capacity building. It is apparent from the snapshot in Table 14 that regulatory and training interventions are being initiated across government. While COGTA has primary responsibility for setting the regulatory context for municipalities, the National Treasury also has certain responsibilities, including regulatory powers that relate to the competency of municipal officials. The Department of Public Service and Administration (DPSA), through the Public Administration Management Act, 2014 (Act No. 11 of 2014), also has the right to determine competency levels. A similar situation exists with respect to training initiatives. The LGSETA, which is key to facilitating training in the local government sector, reports to the national Minister of Higher Education and Training. This type of governance arrangement has the potential to dilute accountability where it should be directed, that is, to the primary local government policy-making sector department and municipalities in general.

Table 14: Role-players in local government capacity building

Department/Entity	Mandate	Role regarding capacity building/professionalization of the sector
COGTA	COGTA's mission is to ensure that municipalities fulfil their constitutional mandate in terms of the services and functions it must perform. One of the ways in which it ensures this is through building administrative capability	Sets and controls the policy/regulatory environment. Established the Local Government Regulations on Appointment and Conditions of Employment of Senior Managers (2014)
National Treasury	The National Treasury coordinates intergovernmental financial relations, manages the budget preparation process and exercises control over the implementation of the annual national budget, including any adjustments budgets. The National Treasury also performs functions assigned to it in other legislation such as the MFMA	Minimum Competency Regulations, established in 2007 and amended in 2018, which determine the minimum educational qualification and years of experience for specific finance-related positions
SALGA	Salga's mandate is to transform local government so as to enable it to fulfil its developmental mandate. To fulfil this mandate, one of Salga's focus areas is capacity building.	Capacity building entails assisting municipalities through strengthening policy analysis, research and monitoring of capacity and assisting municipalities in developing guidelines responding to their needs
LGSETA	The LGSETA facilitates the training and up skilling of employees and people involved in local government structures	Various training modules and skills building programmes
NSG	The NSG was established in aims to professionalise the public service is responsible for developing and/or providing training and development programmes aimed at developing a professional, responsive and capable public sector	Various training modules, including local government-specific courses for example: municipal supply chain management, municipal finance management programme
DPSA	The DPSA is responsible for establishing norms and standards relating to, amongst other things, the functions of the public service and transformation, reform, innovation and any other matter to improve the effectiveness and efficiency of the public service and its service delivery to the public	Public Administration Management Act of 2014. This Act allows the Minister of DPSA to prescribed minimum norms and standards regarding capacity development and training (S16(1b)). The Act also allows the Minister (in consultation with the Minister responsible for local government) to determine compulsory educational requirements for employment (S13)

Source: *FFC compilation based on FFC survey*

Conclusion

Various institutions including the National Treasury, COGTA and SALGA are concerned with the functionality of municipalities and acknowledge the existence of dysfunctional municipalities. However, due to the lack of a commonly accepted definition of functionality, and by implication also of dysfunctionality, and a set of attendant measurable indicators, the lists of dysfunctional municipalities and their order of priority differ, depending on the institution undertaking the assessment. Over the years, while government has implemented various interventions to address the poor performance of municipalities, these have had little impact.

In its Submission for the Divison of Revenue 2013/14, the Commission recommended that:

- the Minister of Finance and Minister of COGTA jointly, and in consultation with provincial governments should holistically coordinate the individual, organisational and institutional level dimensions of capacity building interventions in a particular municipality over the medium term.

However, even if there was a common understanding, from a capacity building viewpoint, it is imperative that there is a coordinated and holistic approach that addresses weaknesses in the enabling environment, at both the organisational and the individual, human capital levels. Importantly, roles, responsibilities and governance arrangements should also be streamlined to support local government capacity building. The emphasis here should be on avoiding duplication and ensuring a coordinated approach.

Recommendations

1. With respect to municipal functionality, the commission recommends that: The Minister of COGTA, the Minister of Finance and the President of SALGA jointly lead the development of a government-wide accepted definition of 'municipal functionality'. The definition should be based on the six factors put forward by the Commission: maintenance and performance of systems, processes and practices in governance, service delivery, financial management, leadership, political management, and human resources. Further, they should ensure that the accepted indices for measuring dysfunctionality should be explicit. Indicators of dysfunctionality should be chosen carefully and should exclude factors that are outside the current control of municipality. This definition can be used across government, including in targeting capacity support grants and further differentiating conditional grants.

2. With respect to the B2B Support Programme, the Commission recommends that:
The Minister of COGTA narrows the current scope of focus, to performance aspects that are measurable and easily monitored.

3. With respect to capacity building, the Commission recommends that:

(a) The Minister of COGTA

(i) defines the roles, responsibilities and governance arrangements underpinning the building of a quality Local Government civil service, and

(ii) through MOUs improves and strengthens coordination among government departments that are building capacity of municipalities in order to avoid duplication and gaps between different role-players, while paying specific attention to the requirements of any particular municipality receiving intervention.

(b) Based on an assessment of the specific needs of a municipality, the Minister of Finance and Minister of COGTA jointly, and in consultation with provincial governments, should prioritise technical support for new systems, innovative business process redesign and change management.

(c) The Minister of Finance should conduct regular assessments of the minimum competency regulations to determine their impact and whether there are tangible improvements as a result of complying.

FINANCIAL AND FISCAL COMMISSION

For an Equitable Sharing of National Revenue

Chapter 4

Local Government Infrastructure Delivery Management and Efficiency

Chapter 4: Local government infrastructure management and efficiency

Introduction

Chapter two dealt with understanding and improving the financial sustainability of local government, and chapter three extended the focus to municipal capacity in general. This chapter focuses on the improvement of local government infrastructure delivery management and efficiency.

Municipalities spend more than R40 billion per annum on local infrastructure. However, the infrastructure delivery programme has been flawed by pervasive management inefficiencies (National Treasury, 2017; Ndzelu, 2016; CIDB, 2007). The debate about infrastructure delivery generally focuses on the financing challenges – that is, specifically on how to raise funding for new infrastructure projects – while the broader infrastructure delivery management and efficiency dimensions are overlooked. At the most basic level, the goal of infrastructure delivery management is about eliminating wasteful spending, selecting the right projects, allocating the right resources to ensure on-time and on-budget completion, and managing the asset over its useful life (Oracle, 2014).

Key elements of infrastructure delivery management entail planning, budgeting, coordination, project management and evaluation throughout the project lifecycle, transparency, accountability and adherence to the regulations for making infrastructure services available to the public and the Organisation for Economic Cooperation and Development (2015). At the strategic level, efficiency is about ensuring that municipalities attain a given economic objective at lower investment costs, or making the attainment of a bigger economic impact for a given level of investment possible (Kyriacou and Muinelo-Gallo, 2018).

Infrastructure lies at the heart of the South African government's current fiscal stimulus package (National Treasury, 2018). Projections by National Treasury (2017) indicated that a one-percentage point increase in infrastructure investment will increase long-term GDP by 1.3 per cent and increase employment by 0.7 per cent. Consequently, effective planning and funding of infrastructure investment is at the forefront of the country's current development agenda.

The NDP target for public sector investment is to reach a level of 10 per cent of GDP, with gross fixed capital formation reaching 30 per cent of GDP by 2030. In the 2013/14 budget speech, the then Finance Minister, Pravin Gordhan, announced an infrastructure expenditure plan of R827 billion for the 2013/14 to 2015/16 Medium Term Expenditure period to construct new, and also upgrade existing, infrastructure[15]. The public sector infrastructure update (Plan *et al.*, 2016:3) reveals that total public infrastructure expenditure in 1998/99 was R48 billion. This increased to R249.9 billion in 2016/17. Of the total spent on infrastructure over these years (1998/99 – 2016/17), state-owned companies had the largest share, (R1.2 trillion), followed by municipalities with total expenditure of R643 billion (*Ibid*).

Infrastructure represents the basic physical and organisational structures and facilities which are prerequisites for the effective operation of a business or nation and for sustainable economic growth (Saxena, *et al.*, 2018). The Organisation for Economic Cooperation and Development (2018) concurs that public investment is a potentially growth-enhancing form of public expenditure. However, the Organisation for Economic Cooperation and Development, (2018) study notes that capital expenditure on infrastructure alone does not guarantee economic growth *per se.* Rather, growth, particularly in developing countries, where socio-economic challenges such as unemployment, poverty and inequality are highest, is enhanced by the efficiency with such resources are used.

Efficient economic infrastructure investment can bring about sustainable and inclusive economic growth. In South Africa, local government infrastructure delivery performance is lagging behind expectations. The infrastructure delivery programme of local government is marred by a combination of external and internal efficiency constraints. Externally, municipalities are hamstrung by the growing pressure placed on existing infrastructure due to many years of neglect of upgrades and maintenance, growing population demands, escalating input costs, and the general shortage of resources (DPME, 2014). Internally, the infrastructure delivery programme is constrained by weaknesses in technical capacity, especially with respect to planning, contracting, and quality assurance (*Ibid*). In a fiscally constrained environment, close attention must be paid to the efficiency of municipal public investment in infrastructure.

In 2012, the South African government adopted a National Infrastructure Plan through the Presidential Infrastructure Coordinating Commission, mainly to develop the capacity and skills for infrastructure delivery, and to ensure that investments are properly managed and well-coordinated (Presidential Infrastructure Coordinating Commission, 2013). This presidential intervention was in addition to a number of budgetary and capacity building infrastructure delivery improvement initiatives implemented in the early 2000s when the new local government system began to take shape. Evidence from the International

[15] https://www.gov.za/issues/national-infrastructure-plan

Monetary Fund (IMF, 2015) confirms that substantial cost and asset longevity benefits can be realised from better infrastructure life-cycle management.

Nevertheless, several years and successive interventions later, the 2018 AGSA report on local government audit outcomes bears testimony to the infrastructure delivery management challenges that continue to beset municipalities. Among others, the report reveals that municipalities often fail to spend the total allocated budget for infrastructure. Even where the budget is fully utilised, the intended delivery targets are either not evaluated or simply not achieved. In other instances, municipalities fail to undertake the necessary assessment of infrastructure condition in order to inform the maintenance plan, the priority list and the budget for renewal or routine maintenance. The report further highlights numerous cases of infrastructure projects being delayed, abandoned, or municipalities reallocating new budgets to rectify poor project workmanship (AGSA, 2018) (see Table 15).

Table 15: Project delay and cost overruns

Municipality	Project type	Financial implications
Mangaung	Airport development node	The municipality has spent R141 million in planning and establishment costs since 2013/15 and no approval for township planning has been obtained to date.
City of Johannesburg	Housing	A R221 million housing projected due to be completed in March 2016 was only 55 per cent complete by year end and abandoned by the contractor. The contractor was paid R22 million in excess of the original contract value for additional work scope, for which there is no evidence and approval.
Alfred Duma and Umngeni	Roads	Payment was made to contractor for incomplete roads.
Govan Mbeki	Sewer reticulation network	A R25 million project was abandoned for two years, with the municipality failing to terminate the contract and appoint another contractor to rectify the defects. The construction defects resulted in sewage flowing into the street and houses.
Ngaka Modiri Molema	Water treatment plant	A project which started in 2011/12 with a May 2014 completion timeline, remained incomplete as at June 2017, with the budget having escalated from R68 million to R104 million.
Rustenburg	Rapid transport system	Phase 1 of the R3 billion project that commenced in 2012, with an expected completion date of 2016, was only 40 per cent complete in 2017 – with no records of the total costs incurred.

Source: AGSA, 2018

Providing infrastructure is crucial for sustainable and inclusive economic growth in South Africa; however, without efficient management of the infrastructure delivery process and

optimal use of available resources, it is impossible to maximise the wellbeing of citizens. Infrastructure delivery management failures can have devastating effects not only by denying citizens access to basic services, but also on the environment and the health and safety of communities. This chapter proceeds from the premise that inefficient local government infrastructure delivery management compromises inclusive growth and the integrity of Intergovernmental Fiscal Relations system. Municipalities are the first tier of frontline service provision to citizens and are required to provide the most basic human needs.

Against this background, and given the current context of declining infrastructure budgets[16], this chapter assesses the local government infrastructure delivery chain and management system to identify bottlenecks that hamper the development of an effective, efficient and sustainable infrastructure delivery programme It specifically assesses the efficiency of past municipal infrastructure investments. This is a continuation of the Commission's focus on local government infrastructure outlined in the submission to the Division of Revenue for 2016/17.

The next section provides an overview of the research methodology. This is followed by an outline of the policy framework for infrastructure delivery management. This section focuses on infrastructure delivery guidelines and the level of municipal compliance with the regulations and good practice. It also focuses on how intergovernmental funding arrangements affect infrastructure delivery processes at the local level and how efficient municipalities are in spending their infrastructure allocation. The final sections present the conclusion and recommendations.

Research methodology

The study employs a four pronged methodological approach including:

- A policy review of the institutional architecture of local government infrastructure delivery;
- A budget analysis of infrastructure programmes;
- A Malmquist Productivity Index model to evaluate local government spending efficiency; and
- Case studies of infrastructure delivery management processes in municipalities and other government spheres responsible for oversight.

The policy review assesses regulatory requirements of the infrastructure delivery chain to determine compatibility with the current local government delivery processes. The review includes the MSA as well as other ancillary infrastructure delivery guidelines such as the

[16] Infrastructure grants experienced the largest baseline cuts of the country budget over the 2017 Medium Term Expenditure Framework – (FFC, 2017)

Municipal Integrated Development Plan (IDP) and the Infrastructure Delivery Improvement Programme. The budget analysis looks at the appropriations comprising the intergovernmental financing arrangements for local government infrastructure delivery, the composition of infrastructure conditional grants, and the size of allocations.

The methodological framework for measuring the efficiency of production units, in this case of municipal infrastructure production, is based on a production function approach of inputs that are combined to produce outputs, subject to a given level of know-how or technology usage. The chapter employs the Malmquist Productivity Index to statistically measure the efficiency of local government infrastructure spending across all municipalities. The Malmquist Productivity Index is a cross-section extension of the widely used data envelopment analysis which "measures the productivity changes along with time [period] variations and can be decomposed into changes in efficiency and technology [know-how]" (Lee and Lee, 2010).

The Malmquist Productivity Index decomposes efficiency into "technical efficiency", which relates to returns to investment using a given technology, and "technological efficiency" (improvements in know-how). Technical efficiency is then further broken down into pure technical efficiency and scale efficiency. Scale efficiency, also termed allocative efficiency, refers to the size of operations being sufficiently large to allow making use of resources in such a way that maximises the use of inputs and outputs by reducing the unit cost of production. Technical efficiency, on the other hand, is efficiency which is directly affected by the management of an organisation, and refers to efficiency which is influenced by the level of technology used in the production process. In this study we are interested in pure technical efficiency, i.e., the efficiency of the management of infrastructure delivery, scale efficiency related to size of operations, and technological (or know-how) efficiency.

The Malmquist Productivity Index links the infrastructure outcomes to spending in a prior period to account for the time lag between when funding is made available for spending and the and when the actual physical investment outcome is achieved. This model calculates a ratio of the inputs to outputs. The higher the ratio, the greater the efficiency.

The output indicators (dependent variables) selected to examine the efficiency levels of local government are the set of services that municipalities are constitutionally mandated to provide citizens in their jurisdictions, i.e., the number of households with access to municipal infrastructure services of (i) water; (ii) electricity; (iii) sewerage and sanitation; and (iv) solid waste management. For the input (independent) variables, this study uses expenditure on new assets, the renewal of existing assets, and repairs and maintenance of existing assets. The analysis made use of public investment data from 2012[17], for all local municipalities

[17] The municipal finance data provided by the National Treasury is available by financial year end. In other words, data for 2012 refers to data for the financial year end which would have occurred in 2012.

where data is consistently available, to the most recent year i.e., 2017) for which data is available.

The study sample for the case studies targeted five local (Category B) and three district (Category C) municipalities (see Table) - selected on the basis of being among the district municipalities with the highest level of dysfunctionality in 2018, according to the National Treasury's list of municipalities in distress and COGTA (COGTA, 2018). Complementary interviews were conducted with the National Treasury, COGTA and the MISA for validation purposes. Interviews were conducted in a semi-structured manner allowing for the respondent to freely discuss the issues of interest to the investigation. The researchers took detailed notes during interviews which were then analysed and categorised according to the recurring themes.

Table 16: Breakdown of municipalities used in the case studies

Province	District Municipality	Local Municipality	Total Number of Municipalities
Eastern Cape	Alfred Nzo	Matatiele	3
		Mbizana	
KwaZulu Natal	Umzinyathi	Endumeni	2
Limpopo	Vhembe	Makhado	3
		Collins Chabane	

Source: FFC compilation

Results, findings and discussions

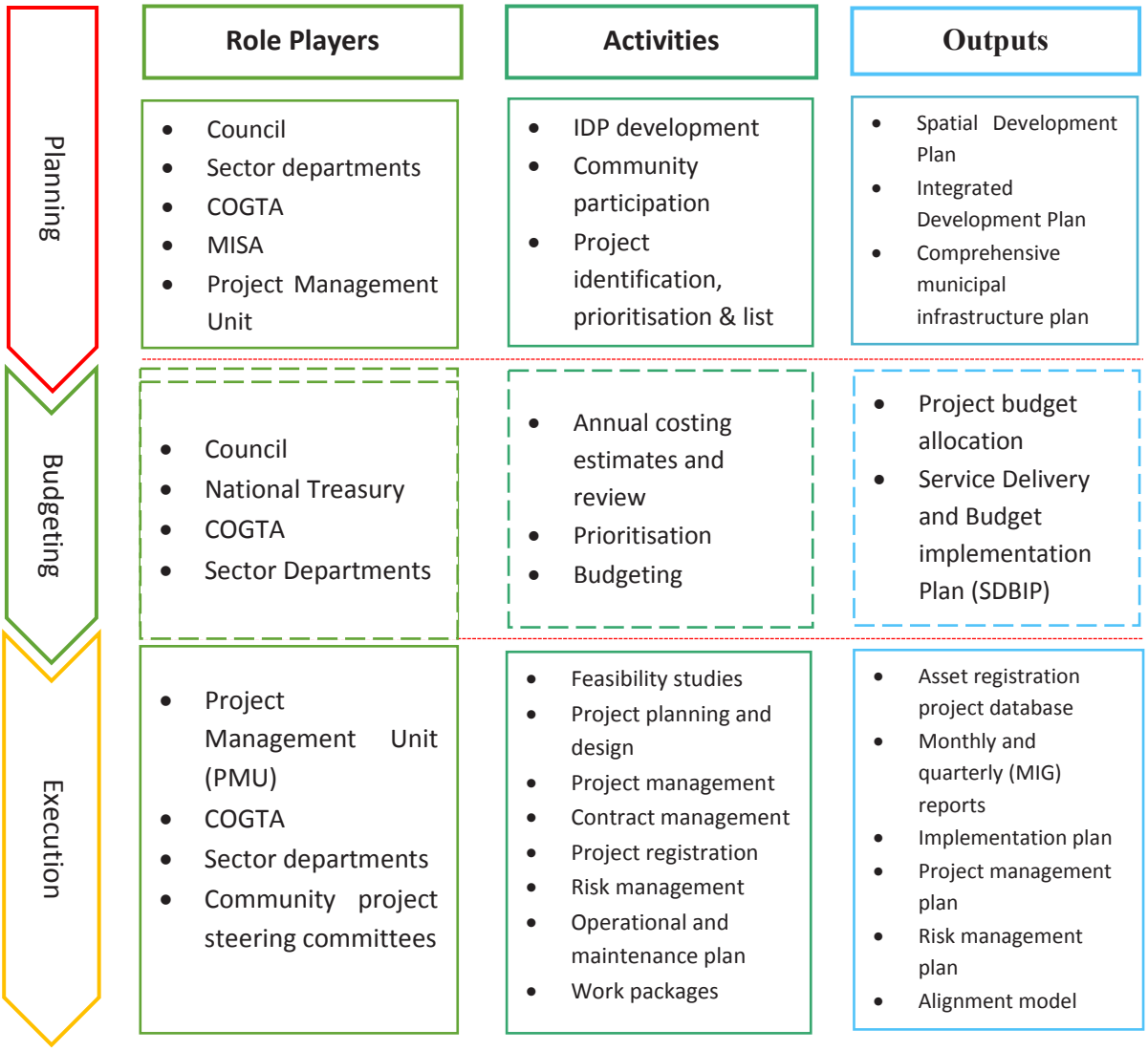
Policy framework for infrastructure delivery

The MSA establishes the IDP as the overarching strategic framework for guiding and informing infrastructure delivery and overall development in local government. Legislatively, the IDP must outline a range of factors including service delivery backlogs, municipal development priorities, alignment of municipal development plans with the national and provincial sector plans, the land use development patterns and a financial plan (DPLG, 2006).

Sections 78 and 79 of the MSA, in particular, lay out the framework that needs to be followed by municipalities when implementing their infrastructure plans. Most notably, municipalities are required to assess their internal and external capacity to deliver infrastructure projects with particular emphasis on the cost and benefits associated with each delivery arrangement, the future capacity of the municipality to deliver projects internally, different service delivery options and the views of the local community. Municipalities are further required to conduct a feasibility study on each selected infrastructure project, taking into account value for money, the needs of the poor, affordability, and the broader organisational and budget implications.

Local government infrastructure is delivered in accordance with the delivery chain set out by the Infrastructure Delivery Management System overseen by the National Treasury as well as the Project Portfolio Management methodology developed by the MISA. The Infrastructure Delivery Management System is a guiding tool which outlines best practices in infrastructure delivery management, with a particular focus on life-cycle management and the procurement management systems necessary to acquire, operate, and maintain infrastructure, develop skills, and comply with legislation.

Figure 22: Local government infrastructure delivery chain



Source: FFC compilation

As can be seen from Figure 22, infrastructure delivery management entails an elaborate process of planning, budgeting and project execution. During the IDP process, municipal councils interact with the community, sector departments, and other stakeholders to identify and prioritise projects informed by the needs and availability of resources. The consultation processes culminate in a compilation of the Comprehensive Municipal

Infrastructure Programme (CMIP) that serves as an input into the IDP. Once the planning phase is complete, the process moves into a second phase where budgets are allocated in accordance with council priorities, and project cost estimates as well as the MTEF. Finally, the execution phase entails a number of activities, many of which place a huge financial burden on municipalities in the infrastructure delivery process. For instance, every municipality is expected to establish a fully resourced Project Management Unit, headed by a qualified engineer, responsible for, among others, the administration of the Municipal Infrastructure Grant funds, project identification, feasibility studies, coordination, and management. Municipalities are further required to establish a community Project Steering Committee for every infrastructure project to assist in monitoring contractors, in conjunction with their internal project management unit (DPLG, 2006; CIDB, 2010).

The review indicates that the regulatory, institutional and management arrangements for the delivery of local government infrastructure are well established. There are sufficient guidelines informing municipalities on what legislation to comply with and what activities to undertake in the process of procuring infrastructure and managing it throughout the life cycle. However, what is required in theory may not always be practically feasible. Some municipalities may lack the resources to put in place the requisite structures or to follow the necessary processes, leading to poor infrastructure delivery performance. Furthermore, the multiple layers of regulations, standards, controls and activities may be overly burdensome and costly for some municipalities. For instance, the need for municipalities to conduct feasibility studies and appoint project steering committees for every infrastructure project diverts substantial resources from the budget for infrastructure. Some municipalities may simply lack the capacity to conduct these activities, notwithstanding that feasibility studies are a crucial component of infrastructure delivery management.

Financing arrangements and implications for infrastructure delivery management

The composition and structure of local government infrastructure allocations play an important role in determining the infrastructure delivery management arrangements within municipalities. Infrastructure grants are supposed to fund projects identified and approved through the IDP processes as indicated earlier. Yet national grant administrators often seek to dictate the investment priorities of municipalities thus compromising the delivery management framework laid out in legislation and existing guidelines. (See section for 3.4.2).

The level of interference is particularly prevalent and problematic with indirect infrastructure conditional grants. National sector departments advocate indirect transfers[18] on the basis that municipalities lack adequate capacity to implement projects effectively and expediently. However, often infrastructure is rolled out without provision for life-cycle operational and maintenance costs on subnational institution budgets. Further, stringent

[18] In its submission to the 2018/19 submission to the division of revenue, the Commission found that indirect perform less better than direct grants both in terms of spending and outcomes.

conditions attached to grant funding by national administrators often leads to project implementation delays or shoddy workmanship as municipalities attempt to avoid under-spending (average spending on long-standing infrastructure conditional grants is generally below 90 per cent).

Table shows the structure and the composition of local infrastructure funding and its likely impact on infrastructure delivery management. First, infrastructure grants are supposed to fund projects identified and approved through the IDP processes as indicated earlier. Yet, national grant administrators or custodians often seek to dictate the investment priorities of municipalities thus compromising the delivery management framework laid out in law and existing guidelines. As seen in Table the infrastructure delivery function and funding are overseen by multiple departments and shows a strong element of indirect grants.

Table 17: Infrastructure grants to local government

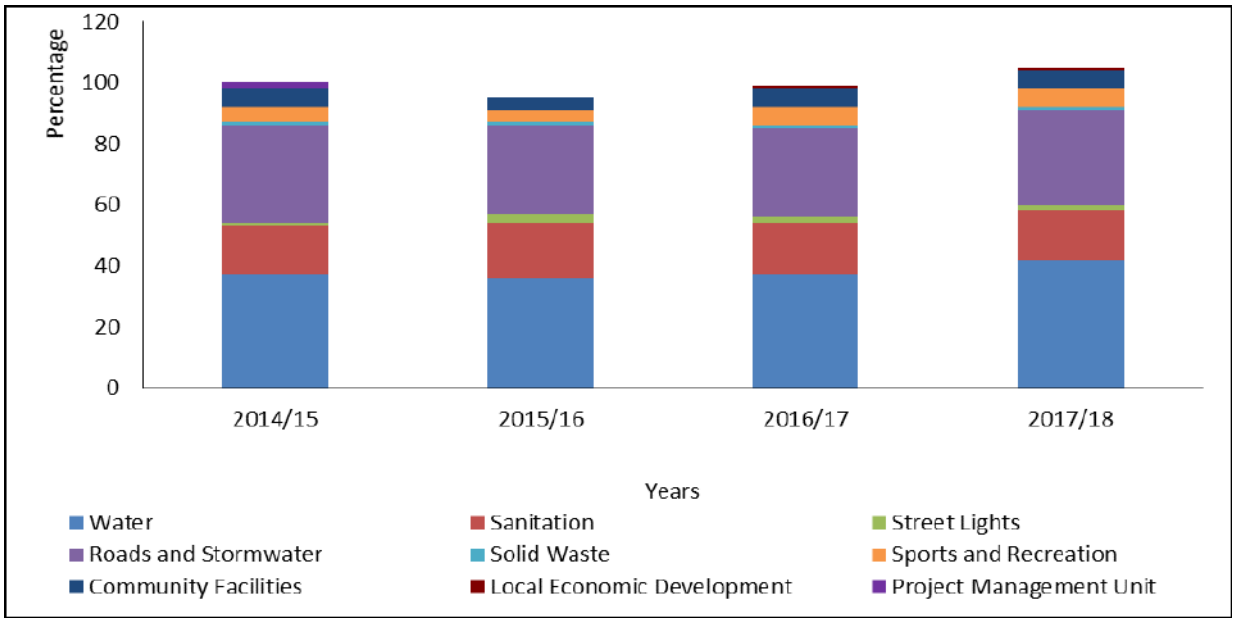
R millions	Allocations Rural 2018/19				
	Custodian	Direct	%	Indirect	%
Municipal Infrastructure Grant	COGTA	15 288	67	-	-
Regional Bulk Infrastructure Grant	COGTA	1 865	8	2 774	37
Water Service Infrastructure Grant	Water and Sanitation	3 481	15	852	11
Intergrated National Electrification	Energy	2 087	9	3 846	51
Rural Roads Asset Management	Transport	108	-	-	-
Municipal Disaster Recovery	COGTA	21	-	-	-
Total Rural Allocations		**22850**		**7472**	
Urban Settlement Development Grant	Human Settlements	11 382	62	-	-
Public Transport Network Grant	Transport	6 160	33	-	-
Neighbourhood Development Partnership Grant	National Treasury	663	4	29	100
Integrated City Development Grant	National Treasury	294	2	-	-
Total Urban Allocations		**18499**		**29**	

Source: FFC calculations based on National Treasury database

Ambiguity regarding roles and responsibilities creates unnecessary duplication of grants and processes and congests the infrastructure delivery management machinery. This is especially evident in the water sector where the Bulk Water Infrastructure Grant and the Municipal Water Infrastructure Grant co-exist alongside the multi-sectoral MIG (responsible for financing water, roads, and sport facilities, among others). While the MIG is administered by COGTA, spending guidelines require that national sector departments such as Departments of Water and Sanitation, Energy, and Sports and Recreation should support and monitor municipal project implementation and even go as far as identifying MIG projects. By their nature, such funding arrangements are at risk of causing intergovernmental tensions and infrastructure delivery bottlenecks. First, municipalities as autonoMOUs governments are likely to reject or abandon projects identified outside their own local IDP prioritisation processes. Second, it is unclear how national sector departments can support the

infrastructure activities of 257 municipalities and assume responsibilities for a function whose funding is administered by COGTA. Figure 23 shows that over 50 per cent of MIG is spent on water and sanitation, increasing to 80 per cent of MIG spending when roads are included (MISA interviews, 2018).

Figure 23: Municipal infrastructure spending by sector



Source: FFC calculations based on COGTA database

Infrastructure spending efficiency

The Malmquist Productivity Index decomposes results into changes caused by *technical* efficiency, which relates to returns to investment using a given technology, and *technological* efficiency.

Technical efficiency is then further broken down into *scale efficiency* and *pure technical* efficiency. Scale efficiency, which is also referred to as allocative efficiency, refers to making *use of resources* in such a way that it maximises profits and utility or an efficiency which emanates from an efficient use of inputs versus outputs. Scale efficiency can thus be changed by altering the inputs used in the production process or alternatively by reducing the amount of outputs required.

Pure technical efficiency, on the other hand, is efficiency which is directly affected by the management of an organisation (Sarmento *et al,* 2017). It is referred to as "managerial efficiency" for ease of reference. A technically inefficient unit could, for instance, come about as a result of a lack of capacity (skills) amongst management to allocate inputs correctly. Technical efficiency is thus the product of scale and pure technical (or managerial) efficiency. A unit which is able to optimise scale efficiency and managerial efficiency is thus said to be 100 per cent technically efficient at the current technology level.

Technological efficiency, on the other hand, refers to efficiency which is influenced by the level of technology used in the production process, such as the technology used in the production of electricity or the technology used in the sewerage system. This type of efficiency can be increased by introducing new technologies into the production process, which could reduce the cost of existing inputs or replace existing inefficient inputs altogether.

Finally, technical efficiency and technological efficiency are then combined to obtain total factor productivity, or what is referred to in the model as the Malmquist Productivity Index. An efficient municipality would be presented by a value of one in the analysis results, while a value smaller than one would indicate an increase in efficiency and a value greater than one, a decrease in efficiency (Sarmento *et al*., 2017).

Important to note, however, is that the optimal level of efficiency in the provision of any of the services is not explicitly known. The Malmquist Productivity Index model can thus only identify whether a unit is operating at a more or less optimal (efficient) level than the next. Units which are 100 per cent efficient are referred to as 'best practice units' in this context, although comparing the same units in another context might result in the identification of inefficiencies in these best practice units. Inefficient units can thus take some important lessons from best practice units, although there is likely to be room for improvement in these best practice units themselves. The Malmquist Productivity Index results thus only provide information on relative efficiency, which does not necessarily equate to *optimal* efficiency.

The Malmquist Productivity Index and the mean efficiency scores are reported in Table -20 for the various provinces (The comparable scores for municipalities in these provinces are shown in Appendix B). Efficiency scores were calculated in relation to the provision of water, electricity, sewerage and sanitation, and solid waste management in each municipality.

In the case of water infrastructure (Table), municipalities in only two provinces (the Northern Cape and the North West) managed to increase their managerial efficiency over a six year period, although no municipality was 100 per cent per cent efficient in relation to this indicator. Furthermore, only Gauteng and KwaZulu-Natal became more efficient. In terms of the size of operations, the Western Cape, the Northern Cape and Limpopo became more inefficient. Overall, Gauteng and KwaZulu-Natal were the only provinces which became more managerially and technologically inefficient. Efforts could thus be directed at ensuring that the decision makers in these areas are adequately equipped to make important decisions in relation to infrastructure investment, as well as having knowledge about the kinds of technology that may be able to improve service delivery in relation to water provision.

Table 18: Mean efficiency scores for water infrastructure

Province	Malmquist Productivity Index	Technical Efficiency	Technological Efficiency	Managerial Efficiency	Scale Efficiency
Eastern Cape	0.83	0.97	0.85	1.00	0.97
Free State	0.98	1.01	0.97	1.02	1.00
Gauteng	1.25	1.01	1.22	1.02	0.99
Kwa-Zulu Natal	0.97	1.01	0.94	1.00	1.00
Mpumalanga	0.99	1.01	0.98	1.02	1.00
Northern Cape	0.97	0.99	0.98	0.99	1.01
North West	0.97	0.98	0.98	0.99	1.00
Western Cape	0.96	1.07	0.90	1.04	1.03

Source: FFC calculations

What is notable is that Mpumalanga was 100 per cent efficient in relation to overall managerial efficiency with regard to electricity infrastructure investment. The province's increased scale and technological efficiencies also resulted in an overall increase in its Malmquist Productivity Index for the period under consideration. The Eastern Cape, which achieved an efficiency score of 0.950 and a Malmquist Productivity Index of 0.994, also increased its investment efficiency over the period, although not enough to reach a level of 100 per cent efficiency. Free State, the North West and KwaZulu-Natal, on the other hand, became more scale inefficient over the period. In KwaZulu-Natal and Free State, scale inefficiency was accompanied by managerial inefficiency as well. This thus translates into an overall increase in inefficiency for these provinces. Other provinces in which managerial inefficiencies were present were Gauteng, Limpopo, and the Western Cape. These provinces would thus benefit greatly from increasing their managerial capacity, given that the electricity is supplied by Eskom. All the provinces became more efficient with regards to their Malmquist Productivity Indices, although none have reached an optimal level of efficiency. They would thus gain from looking more closely at the problem areas in specific municipalities to determine where improvements can be made.

Table 19: Mean efficiency scores for electricity infrastructure

Province	Malmquist Productivity Index	Technical Efficiency	Technological Efficiency	Managerial Efficiency	Scale Efficiency
Eastern Cape	0.94	0.95	1.00	0.99	0.97
Free State	0.96	1.01	0.97	1.00	1.01
Gauteng	0.95	0.96	0.97	1.00	0.96
KwaZulu-Natal	0.93	1.12	0.87	1.04	1.07
Limpopo	0.97	0.90	1.12	0.97	0.93
Mpumalanga	0.96	0.98	0.98	1.00	0.99
Northern Cape	0.97	0.99	1.01	1.00	0.99
North West	0.97	0.98	0.99	1.00	0.98
Western Cape	0.97	1.03	0.95	1.04	1.00

Source: FFC calculations

On sewerage and water reticulation investment, the results show that most of the provinces became more scale inefficient over the period under consideration. This scale inefficiency was accompanied by a decline in managerial efficiency for Free State, Limpopo, and the North West. The Eastern Cape and Mpumalanga, on the other hand, managed to achieve greater managerial and scale efficiency over the period, resulting in an increase in overall efficiency. These provinces managed to increase efficiency in relation to their Malmquist Productivity Index, and Mpumalanga was almost 100 per cent efficient in its Malmquist Productivity Index, although it experienced a decline in its technological efficiency. All of the provinces experienced an increase in their Malmquist Productivity Indices for the period under consideration, indicating that modifications to the individual efficiency indicators in the relevant municipalities will greatly increase efficiency in their sewerage investment infrastructure.

Table 20: Mean efficiency scores for sewerage purification and reticulation

Province	Malmquist Productivity Index	Technical Efficiency	Technological Efficiency	Managerial Efficiency	Scale Efficiency
Eastern Cape	0.85	0.95	0.90	0.97	0.98
Free State	0.97	1.06	0.94	1.02	1.04
Gauteng	0.95	1.01	0.99	1.01	1.00
KwaZulu-Natal	0.99	0.97	1.03	0.96	1.01
Limpopo	0.94	1.03	0.91	1.00	1.03
Mpumalanga	0.99	0.98	1.04	0.99	0.98
Northern Cape	0.96	1.04	0.95	0.99	1.04
North West	0.96	1.01	0.96	1.02	1.03
Western Cape	0.99	0.99	0.99	1.02	0.97

Source: FFC calculations

Overall, consistent trends are noticeable only for Gauteng and KwaZulu-Natal. KwaZulu-Natal had scale inefficiencies for each service, with the exception of water provision, while Gauteng produced managerial inefficiencies across all infrastructure types. Given the extent to which these trends were observed, it might indicate that these problems are not mere issues at the municipal level, but might be prevalent in the provincial sphere.

However, at the municipal level, this analysis does provide useful information with regard to municipalities which are 100 per cent efficient in a particular area, such as managerial efficiency. These municipalities can be used as 'best practice units' when devising strategies to ensure that less efficient municipalities improve their service offering.

Table 21: Mean efficiency scores for solid waste management

Province	Malmquist Productivity Index	Technical Efficiency	Technological Efficiency	Managerial Efficiency	Scale Efficiency
Eastern Cape	0.94	0.94	0.98	0.94	1.00
Free State	0.91	0.99	0.93	1.00	0.98
KwaZulu-Natal	0.94	1.07	0.89	1.08	1.01
Limpopo	0.96	0.99	0.97	0.98	1.01
Mpumalanga	0.96	0.99	0.97	0.98	1.01
Northern Cape	0.98	0.96	1.02	0.97	1.00
North West	0.97	1.06	0.92	1.01	1.05
Western Cape	0.98	0.99	1.00	1.00	0.99

Source: FFC calculations

Case study findings on infrastructure delivery management practices and challenges

National government perspective

Poorly managed consultations

Involvement of stakeholders, such as communities and other users of infrastructure, is crucial for improving the quality of planning and the effective use of the asset in the long run. Municipalities are, however, purportedly conducting superficial community consultations where the needs and priorities of the community are not always taken, or fully taken, into account. For some municipalities, consultation processes are overwhelming as they have to deal with sparsely distributed community populations with divergent interests (COGTA interviews, 2018). Aligning community interests with limited municipal resources presents challenges such as the untimely completion of infrastructure projects and the lack of sustainability of completed projects given community protests and the associated destruction of property. Contractors are sometimes denied access to the sites when community members are not employed in the project (COGTA interviews, 2018; MISA interviews, 2018).

Weak multi government coordination

Infrastructure delivery management processes become particularly complex whenever public investment involves a shared sector competency or funding arrangement across different levels of government. A long standing challenge of mandate uncertainty between the national sector departments and municipalities in the infrastructure delivery chain exists. Sector departments, such as the national Department of Water and Sanitation, are expected to participate in municipal IDP processes and in particular to assist municipalities in drafting water infrastructure delivery plans, project appraisals, designs and implementation. However, participation is limited or non-existent due to the complexity of intergovernmental fiscal relations in the delivery of infrastructure. First, there is no clear distinction of responsibility and accountability roles between COGTA and other sector departments[19]. Funding for local infrastructure is overseen by COGTA while the infrastructure delivery mandate lies elsewhere. Second, sector departments lack the necessary capacity to assist all municipalities with planning, project execution, and oversight. Evidently, most of the sector departments have been building capacity to administer financial conditional grants instead of the technical capacity to support and monitor projects, and intervene in cases of failure as required by the Constitution. Third and most important, the independent nature of municipalities makes it difficult for sector departments to direct internal infrastructure delivery management operations. In recent years, sector departments have increased their appointments of contractors through the indirect local government infrastructure conditional grants[20] (COGTA interviews, 2018; FFC 2016/17).

Small scale projects with high administrative fragmentation

The MIG funded infrastructure delivery programme consists of a large number (average of 2 500 a year) of small projects (measured in terms of budget and works) distributed across 257 municipalities. Having so many projects implies huge administrative and financial burdens for the oversight bodies but also requires municipalities to carry out endless project feasibility studies for projects that may not move beyond project conceptualisation stage. Fragmentation in infrastructure delivery owing to a small number of infrastructure projects often leads to lower returns on public investment and poor service delivery.

Political administrative interface

The stability of institutions responsible for infrastructure delivery management is important. Local government infrastructure planning and prioritisation require involvement of local councillors as part of the community needs assessment and consultations. In the process of responding to the demands of the electorate, tensions often arise as a result of the

[19] Sector departments involved in the delivery of infrastructure may include the Departments of Water and Sanitation, Energy, Environmental Affairs, Public Service and Administration (in respect of recommended human resource structures and determining consultancy rates) and Performance Monitoring and Evaluation (in analysing the organogram of municipalities).

[20] National Sector department are increasingly using Independent Development Trust (IDT) and Mvula Trust as conduit for appointing contractors on behalf of provinces and municipalities.

differences between political promises made, and what is technically feasible. Politicians often prefer new infrastructure, which is seen as representing a recognisable and unique output, to that of maintaining or refurbishing the existing capital stock. An imbalance between political and technical interests may result in poor infrastructure decisions being taken, delays in the finalisation of work packages, reduced capabilities to undertake contract management, and increased opportunities for corruption (COGTA interviews 2018, and MISA interviews 2018).

Monitoring and evaluation

An important challenge for local government is to develop sufficient capacity to oversee the performance of the infrastructure delivery programme as a whole. Evidence on infrastructure performance is crucial for making decisions about whether to invest or not, managing infrastructure investment over its lifecycle, and determining value for money. In local government, monitoring is currently only carried out for the purposes of expenditure reporting and there is little monitoring of the quality of the physical infrastructure being developed. More worryingly, municipalities have limited knowledge about the condition of their existing infrastructure. Municipalities are expected to self-inspect and self-account on the quality of the infrastructure delivered. However, in the absence of functional project management or infrastructure units, "new roads are simply washed away, a few months following their completion" (MISA interviews, 2018).

Local government perspective

Budgeting

With budgeting as an important component of infrastructure delivery management, the sampled municipalities demonstrate sufficient capacity to comply with regulatory requirements. Projects are prioritised, allocated indicative budgets, registered on the MIG projects list as per grant requirements and lastly the Service Delivery and Budget Implementation Plan[21] are prepared. There is a common costing challenge across all case study municipalities, as projects are frequently under-budgeted or poorly costed, leading to project cancellation or completion delays.

Infrastructure delivery roles, responsibilities and coordination challenges

Interviews with the case study municipalities suggest that the local administrators are well versed with the infrastructure delivery roles, responsibilities and the delivery value chain. The infrastructure role of local municipalities mainly entails building access roads and bridges, small-scale electricity reticulation, community halls, sports and hawking facilities and the construction of landfill sites; while district municipalities are mainly responsible for district-wide water service infrastructure. The infrastructure delivery programme of all municipalities is informed by the IDP process involving consultation with communities, and

[21] A detailed implementation annual plan giving effect to the IDP outlining project to be carried out, the location, budget, expected output

ward-based project prioritisation lists. Requirements to have the IDP reviewed on an annual basis compromises continuity and project plan carry-through which may straddle financial years, thus giving the impression of and opportunity for projects to be left uncompleted. Municipalities bemoan the impact of insufficient funding on the credibility of their plans and project priorities, as communities are often divided when only some are service beneficiaries because of downscaling to fit service needs in the available budgets. However, it should also be noted that there appears to be an absence of credible, costed CMIPs across all municipalities.

Municipalities identify lack of intergovernmental cooperation as a key impediment to effective infrastructure delivery management. The inaction of the provincial departments of roads and transport in building connecting provincial roads have resulted in some municipalities taking responsibility for the construction of such roads and handing them over after completion. In the case of electricity, municipalities are at times expected to install their income generating reticulation network through the Integrated National Electrification Grant which is then handed over to Eskom for operation. In some instances, the reticulation network in water and electricity is installed without sufficient bulk supply capacity to support it, or bridges are built without connecting roads. This causes serious community strife and a risk of destruction of the infrastructure through protests. The implications of weak inter-governmental coordination are also evident between district and local municipalities. In the main, local municipalities lament the absence of communication when the district IDP approved projects are discontinued and the disregard shown for local bylaws when districts implement water projects, i.e., omitting the submission of applications for requisite permissions. Currently, the functional arrangements of water services authority and provision have adverse implications on the local planning for and optimal operation of related sanitation infrastructure.

Project management capabilities

While all case study municipalities have an existing PMU in place, the PMUs are generally not fully staffed by people with relevant technical skills. Rural municipalities in particular, highlight the common issue of being unable to attract skilled engineers. Municipalities rely on external service providers for project design, implementation, and quality assurance. The absence of internal capacity to review the suitability of the designs and credibility of quality assurance reports present a risk for fraud (over-design, over-scoping) and project completion failures, and enable potential collusive arrangements between consulting engineers and the contractors. Penalties are rarely applied by the municipalities for late completion and poor workmanship.

Only in selected cases are contractors blacklisted through the National Treasury database. Other miscellaneous challenges negatively affecting smooth infrastructure delivery management include a growing refusal by municipal officials to participate in bid evaluation

committees owing to the length of time it takes to consider voluminous tender applications, which need to be completed within the prescribed 90 day tender validity period. Terrain and weather conditions also emerged as important factors affecting project completion delays and cost-overruns (Case study interviews, 2018).

Unused infrastructure

While there is anecdotal evidence in the public discourse and the general media (see Matlala, 2018; Nketo, 2017) of the prevalence of unused municipal facilities or the so called "white elephants", it must be noted that a few cases were indeed identified during the case studies. Municipalities indicated that all of their completed infrastructure projects are captured in the asset register and are fully utilised to the best of their knowledge. However, further interactions with people with local knowledge revealed that unused infrastructure facilities do exist. Figure 24 illustrates an unused taxi rank and a municipal office building that has been under construction for several years due to poor contractor performance in one case study municipality.

Figure 24: Illustrative examples of inefficient infrastructure delivery management

Unused taxi rank

Delayed completion of municipal offices

Source: FFC case study

Intervention support

External support and monitoring and evaluation to carry out built infrastructure programmes are critical components of the municipal infrastructure delivery management. As shown, municipalities lack the necessary capacity to design, implement and oversee infrastructure projects and when unassisted, the results may be financially and socially damaging. The national and provincial governments are charged with support and monitoring responsibilities and have instituted numerous interventions and programmes in this regard. These interventions on municipalities have had mixed results, however. Some municipalities

have received and continue to receive short-term technical support from MISA, while others claim to have received nothing even after sending numerous requests. COGTA plays mainly an expenditure monitoring role and is reported (source) to be rigid in enforcing spending targets while ignoring the underlying infrastructure delivery challenges. Overall, municipalities are of the view that the much spoken about infrastructure delivery interventions are not visible.

Conclusions

This chapter examined the local government infrastructure delivery management systems and spending efficiency with a view to identifying bottlenecks that hamper the development of an effective, efficient and sustainable infrastructure life-cycle management capacity. Municipal infrastructure delivery programmes are characterised by management and spending inefficiencies that include project completion delays, budget overruns, asset deterioration, and under-utilisation among others. The literature ascribes these challenges to the absence of the basic fundamentals of infrastructure delivery management. The Commission finds that efficient infrastructure delivery processes are hampered by, among other factors, gaps in planning and prioritisation processes, deficient project management capabilities, stringent regulations and weak intergovernmental coordination.

South Africa has a well-established legislative and institutional framework to facilitate sound infrastructure delivery management. Legislatively, the MSA lays out a clear framework for planning and prioritising service delivery and in particular the steps to be followed when implementing infrastructure projects. The law is complemented by detailed project management guidelines, outlining control frameworks and the delivery value chain across the planning, designing and execution of infrastructure projects, as well as of resourcing of infrastructure delivery units (PMUs and Project Steering Committees). Accordingly, municipalities are expected to roll out an elaborate infrastructure delivery management process that involves the council, the community, sector departments and various municipal divisions. On first appearance, the framework appears overly burdensome for under-resourced municipalities.

Notwithstanding the thorough delivery management framework, municipalities continue to portray serious shortcomings in relation to spending efficiency and the development and maintenance of infrastructure; in particular that projects are not completed on time, workmanship is poor, contractors are not monitored, budgets are overshot, and supply chain processes and proper project management practices are not being adhered to. The AGSA has highlighted numerous incidents where resources are wasted because of infrastructure delivery management deficiencies. Efforts to remedy the situation through a plethora of capacity building interventions have not been found to yield the desired results.

Spending efficiency estimations show mixed results across the various infrastructure municipal services provision types and across provinces. Some municipalities are more efficient in electricity provision, while others are more efficient in water and sanitation infrastructure provision.

In its Submission for the Divison of Revenue 2016/17, the Commission recommended that:

- Grant allocations for infrastructure investment reflect the prioritisation (or weighting) of growth-enhancing infrastructure programmes, to enable municipalities to play their (envisaged critical) role in promoting economic development and growth.
- Government establishes either an incentive grant or a reserve fund, which can be used to assist or reward municipalities.
- Funds be used for maintaining and renewing infrastructure, to ensure the long-term sustainability of critical socio-economic infrastructure and enhance local economic growth.

There are divergent views between national government as the overseer of infrastructure delivery, planning and funding, and municipalities as to why operational and spending efficiencies persist. In this study, we do not assume that only intervention support programmes need to be improved; hence the focus was on assessing the full value chain of local government infrastructure delivery management. On the one hand, national government tends to dismiss the infrastructure challenges that prevail on the ground and is divided about its respective oversight roles along sectoral lines. On the other hand, municipalities appear overwhelmed by the scale of infrastructure needs, and ambiguities in execution roles and responsibilities as well as the administrative and regulatory processes associated with the delivery of infrastructure.

There is a need for greater emphasis by management on the full life-cycle of municipal infrastructure and peer learning across municipalities, and not just on the roll out of new infrastructure. Planning for appropriate infrastructure that responds to local circumstances, maintaining infrastructure that has been built, and refurbishing infrastructure that has reached the end of its design life are all key to sustainable infrastructure delivery management. In particular, planning relating to the technical aspects of infrastructure must be linked to proper community need consultations and financial planning, in order to ensure adequate funding for both the capital and operational activity over the life-cycle of the asset. While the local government infrastructure grants system is not a perfect instrument to address this challenge, the design and management of each grant must promote good practice in infrastructure delivery management and spending - with rewards for municipalities that follow best practices, and penalties for those that do not. Tampering with the grant frameworks and increasing technical support interventions alone, without also addressing the underlying structural intergovernmental delivery capacity, are unlikely to have meaningful impact.

FINANCIAL AND FISCAL COMMISSION

For an Equitable Sharing of National Revenue

Chapter 5

Local Government Structure: The City-region and Addressing Development Challenges

Chapter 5: Local government structure: The city-region and its potential to address South Africa's development challenges

Introduction

It is 25 years since the advent of democracy in South Africa, and it may be appropriate to ask whether the intergovernmental system comprising provinces and three categories of municipalities is still appropriate, particularly in the light of significant continuing challenges in both the provincial (e.g. education and health), and local government spheres (e.g. basic services delivery, capacity, including infrastructure-related services) .

Having considered the sustainability and capability of local government in previous chapters and providing recommendations for improvement, this chapter explores the potential of the "city-region" to promote more effective service delivery and sustainable development, using a review of the international literature and the case study of the Gauteng City-Region. The term city-region mirrors associations of multiple municipalities and scales of government in which responsibility for urban development is distributed, both formally and informally. It is worth noting that by definition, rural areas gravitate towards inhabiting the outer edges of city-regions, if in truth they are within them at all. What should not be missed though is that city-region processes and policies could support rural areas and impact them positively, neutrally or negatively. The essence of this study though is largely within the urban development context.

The South African Constitution provides for a degree of both 'autonomy' and 'interdependence' in the three spheres of government (national, provincial, local). However, the preoccupation with political jurisdictions, particularly at the local level, often means that growth and development are locked into official jurisdictions. While there have been efforts to co-ordinate and enhance inter-sectoral and multi-sphere planning, resources continue to be allocated in a manner that confines them to sector line departments or to specific spheres of government. This results in inter-jurisdictional collaboration being almost totally neglected leading to destructive competitive behaviour. In such a system, the preoccupation

with official jurisdictions impedes the growth and development of broader geographical areas, or city-regions.

Internationally, there is growing recognition of the need to plan and promote development across subnational and even national boundaries, to support the growth of city-regions. Europe, for instance, has historically moved from sectoral policies to a territorial policy approach (Deas and Giordano, 2003). The United Kingdom, in particular, has merged municipal cities into city-regions and they are in a continual state of contestation with one other for private resources and public grants (Jonas and Ward 2002). City-regions are particularly valuable in transforming marginal regions through the creation of economic opportunities, thereby balancing national development outcomes. They can be used to attain the best possible spatial pattern of development in the given context.

Despite city-regions gaining attention internationally, the concept is yet to garner widespread interest in South Africa. This chapter attempts to demonstrate the importance of a reorientation of the developmental planning system and investigate whether a case can be made for embracing the concept of city-regions on a national scale.

There is strong support for city-regions in South Africa. National and provincial policies endorse city-region coordination and institutionalisation. Two important documents, the NDP (2011) and the Integrated Urban Development Framework (COGTA, 2016), give effect to planning and coordination across regions.

The NDP identifies city- regions and the role that they can play as dominant urban agglomerates. It calls for institutional structures that ensure greater collaboration and harmonisation of development plans and a system of governance for city- regions (NPC, 2011).

The Integrated Urban Development Framework (IUDF) aims to reconfigure the South African urban system in response to urbanisation trends and citizens' needs. It also recognises that urban development transcends existing administrative boundaries. It advocates for institutional models or governance structures to develop and manage sustainable city-regions that can plan and deliver services more efficiently by achieving economies of scale and reducing any resultant negative impact. It also endorses integrated and collaborative intergovernmental planning for the cost-effective investment of the public resources in city-regions (COGTA**,** 2016).

South Africa has barely tested the feasibility of establishing city-regions. The only real example is the Gauteng Global City-Region; and to a lesser extent the Cape Town Functional Region (CTFR). The Gauteng City-Region and CTFR developments, although limited, point to different models of urban governance and development planning at the subnational level in

South Africa. They demonstrate an emergent awareness in South Africa of the importance of the economic and urbanisation forces that can shape the destiny of cities.

In South Africa, subnational boundaries are the main source of political territorial contestations that preclude the pursuit of common developmental goals and interests, resulting in unintended biases in development. Subnational governments, particularly at the local level, are hesitant to exploit opportunities adjacent to their borders, and they are more inclined to pursue narrow development initiatives far from their borders (Atkinson, 2010). In most instances, developmental initiatives are concentrated on metropolitan municipalities and cities (*Ibid.*). This means that peri-urban areas become developmentally isolated and neutralized. This prohibits the catalysing of new development initiatives, which, by necessity, have to be undertaken on a regional basis. The need to explore the potential and prospects for the development of city-regions more broadly in South Africa is thus urgent.

National economic development initiatives may target peri-urban areas but they have not focussed on regional development in the context of concurrent service delivery across government spheres, but rather on specific sectors such as tourism or agriculture. An example is the agro-processing initiative of the Department of Trade and Industry which targets employment and production output. Upstream linkages are to primary agriculture or farmers. Downstream are agricultural product wholesale and retail distributors. There are no future-planned linkages drawn to local government as a sphere, or to tourism as a sector or other developmental catalysts in the same region.

The literature has no universal definition of a city-region (Parr, 2005). While the concept features prominently in the literature, it is frequently used without any specific definition, resulting in it being confused with other analogous terms, such as world cities (Scott, 2001a); global cities (Sassen, 2001; Scott 2001a); functional urban regions (Cheshire, 1990); regional economies (Storper, 1995); and region states (Ohmae, 1995). The ramifications of this ambiguous but prevalent usage are that the concept of a “city-region” ends up defining several individual or a combination of territorial units at the sub-national level.

The city-region concept therefore fluctuates extensively and encompasses a multitude of diverse contexts. The least shared feature of almost all definitions of a city-region is the presence of a core city linked by functional ties to a vicinity. The landscape of those ties may differ from one definition to another, but commonly comprises a mixture of economic, housing market, travel-to-work, marketing, or retail catchment factors. However, even the mixture of an urban core and a semi-urban and rural neighbourhood as the key characteristic of a city-region is frequently in dispute. The urban core, for instance, is at times substituted by several cores, thus transforming the city-region into a polycentric geographical unit (Scott *et al*., 2001; Faludi, 2002; Parr, 2003).

The meaning of a city-region is further complicated by the fact that the neighbourhood itself could also be narrowly defined and geographically limited, or overlap with that of other city-regions (Davoudi, 2003). Moreover, parameters of a city-region do not essentially match administrative boundaries. In some instances, a city-region may be completely incorporated within the boundaries of an existing administrative unit, whereas, in most instances, it will transcend administrative partitions (Bennett, 1997).

The indistinctness in the definition of a city-region could cast doubt on the validity of the concept. It could be argued, for instance, that if neither the parameters of the city-region are easily defined, nor who determines the process of institutional reconfiguration, or at what spatial magnitude should interest groups be mobilised, then the idea of the city-region is fictional (Jonas and Ward, 2002).

The concept of a city-region is thus defined by a series of assertions. First, territories of city-regions are not just simple locations, but entities linked together by common interests. This means that governance issues become important as well as how they will be addressed by voluntary common institutions (Newman, 2000; Frisken and Norris, 2001; Hauswirth *et al.,* 2003; Leibovitz, 2003). Second, the city-region is perceived as the economic engine of the global economy because the wellbeing and wealth of large territories is dependent on the success of its core and neighbouring city-regions (Hall, 1998; MacLeod, 1999; Scott, 2001b; Scott *et al.,* 2001; Scott and Storper, 2003). Third, the parameters of a city-region are usually not fixed in time and are transformed by the functional interconnections that link the core city to its neighbourhood (Scott, 2001b; Ache, 2000). Although some of these views may be considered contentious, they have helped build an extensive literature on the city-region phenomenon.

As stated earlier, urban and rural areas are indeed interconnected. The linkages come in various forms including demographic, labour market, public service and environmental aspects that frequently cross traditional administrative boundaries. The wider regional benefits associated with dynamic activities in core cities are part of the justification for city-regions. However, the process by which rural areas benefit is yet to be understood. Consequently, the potential benefits for rural areas remain largely untapped.

In South Africa, given the existence of rural and peri-urban areas in close proximity to metropolitan areas, an important question is whether the concept of a city-region can be extended to include rural areas? What could the potential benefits be to rural areas from inclusive development in a city core? Could a particular city-region initiative ever be focused primarily on rural development as the core, and the city be regarded as its periphery?

Research methodology

The methodology applied in this research is the case study approach. It entails international case studies supplemented with secondary quantitative and qualitative data analyses, as well as content analysis of policy documents. The case studies were selected on the basis of three criteria. Firstly, their represent different geographic regions of the world. Secondly, there is the presence and diversity of specific key drivers necessary for the functioning of a city-region. Thirdly, they display an ability to provide better insights into the challenges city-regions are facing. The case studies serve two objectives. First, they are meant to identify the main challenges associated with the transition of cities to city-regions, and to explore innovative and new perspectives on solving urban problems arising from a regional perspective rather than a local perspective. Second, the aim is to learn what can be done to enable the potential of city-regions to be realised.

The four international case studies comprised:

- Bangkok Metropolitan Region in Thailand
- São Paulo Metropolitan Region in Brazil
- Metropolitan Region of Barcelona in Spain and
- Mexico City Metropolitan Area in Mexico.

Research findings and discussion

The Gauteng City-Region was used as a case study for South Africa. The international case studies provided secondary data that was collected and analysed. This was supplemented with primary data collected through interviews with senior personnel at Gauteng City-Region and the Gauteng Provincial Government (GPG).

The findings emanating from the international case studies present a wide range of success factors that have the potential to make city-regions more functional. However, there are also institutional architecture lessons to be considered for city-regional development in South Africa. The case studies also provide common critical challenges that must be adequately addressed in order to make city-regions functional in South Africa.

The majority of the case studies include success factors that are worth noting in making city-regions more functional. In Thailand, the successes of horizontal collaboration efforts in the metropolitan region were evident in the successful conceptualisation and implementation of the mass transit system project in the Bangkok Metropolitan Region. The mass rapid transit system was planned jointly such that it formed a single mass transit network. The overall development of the mass transit network in the Bangkok Metropolitan Region is supported by a Mass Rapid Transit Master Plan drafted by the Office of Transport and Traffic Policy and Planning in horizontal collaboration with nine departments: Central Administration Department; Land Traffic Management Department; Transport and Traffic System Development Department; Information Technology for Traffic and Transport Centre;

Integrated Ticket Management Office; Rail System Development Office; Safety Planning Bureau; Planning Bureau, and Regional Transport and Traffic System Promotion Bureau. This project alleviated traffic congestion and air pollution in the city-region.

The São Paulo Metropolitan Region in Brazil is backed by the country's constitution which makes provision for the creation of metropolitan regions and structures of cooperation between municipalities. The incentives for regional coordination and collaboration in the São Paulo Metropolitan Region have been achieved through enabling constitutional and legal frameworks. In Brazil, with the legislation and supporting institutions in place to support the Sao Paulo Metropolitan Region, successes in the integrated transport projects were realised. Until the 1988 Federal Constitution, the institutionalisation of the metropolitan area was an exclusive responsibility of the Federal Government. As a result of the constitutional dispensation, same state municipalities can now come together and integrate the organisation, planning and execution of public functions of common interest. In the São Paulo Metropolitan Region, for instance, there is an Inter-municipal Consortium which comprises seven cities created to focus primarily on coordinating policies that had spill over effects across municipal boundaries and promoting economic development of the region through consensus. Moreover, there is also a Regional Development Agency (RDA), a legal branch of the Inter-municipal Consortium. It has the authority to sign agreements with external agencies and receive financial resources. Since its inception, various agreements on economic, social, and territorial development have been signed.

In Spain, regional and municipal structures are institutionally sound and the later reforms in metropolitan legislation have transformed Barcelona into a highly dynamic metropolitan region. The municipalities have sufficient legislative and executive powers in urban and regional planning. At the city-region level, there is a composite set of institutional metropolitan institutions: the Metropolitan Transport Authority, the Metropolitan Environment Entity, the *Mancomunitat*[22] of Municipalities, and the Consortium of Municipalities. In addition to these public institutions, there are also public and public-private agencies that operate in the city-region for the management of specific metropolitan services. There are also several informal networks between municipalities, such as strategic plans, mobility plans and pacts to promote city-region economic development. Municipal cooperation in Barcelona has translated into the successful conceptualisation and implementation of the Barcelona Tram Service**.** This project consisted of designing, building, financing, operating and transferring two tram networks in the metropolitan area of Barcelona. The aim was to satisfy the need for medium-distance travel, using an environmentally friendly mode of transport.

[22] In present-day Spain a *mancomunidad* is a free association or commonwealth of municipalities.

The case studies also highlighted institutional challenges undermining the functionality of city-regions. In Thailand, the case study on Bangkok Metropolitan Region demonstrated that the differences between its functionally integrated economic area and administrative boundaries are undermining horizontal cooperation between local jurisdictions in the region. Moreover, in spite of the success of horizontal collaboration efforts within the transport sector, Bangkok continues to face the challenging task of coordinating municipal activities as the city is growing beyond its administrative limits without adequate and sector-wide - support from horizontal institutions and legislation for intra-regional cooperation.

In Brazil, the case study on São Paulo Metropolitan Region showed that the functionality of the region is challenged by the lack of effective mechanisms for implementation coordination across the region. There is also no prioritisation and sequencing of developmental plans or certainty of funding availability. Most importantly, the structures aimed at improving coordination and development across the region are severely constrained by limited funding and rigid decision making authority entrenched in the constitution.

In Spain, the Metropolitan Region of Barcelona case study reveals that the highly institutionalised model of metropolitan governance is not supportive of a unified actor for the region. It also highlights the ongoing struggle to find the best ways to improve the functioning of the region, both by enhancing the functional strengths of the present metropolitan governance structure and eventually by expanding the territory of metropolitan collaboration. In Mexico, the case study on the Mexico City Metropolitan Area brought to bear the unsuitability of legal planning, coordination, and political structures that are unsuitable to a metropolitan-scale organisation. Metropolitan areas in Mexico do not have legal status as official jurisdictions, but the constitution allows inter-municipal cooperation on a voluntary basis. The administrative powers of municipalities overlap with the government of Mexico City, which in turn interacts with the powers of two different states, Mexico and Hidalgo, as well as with the power of the central government. Consequently, legal planning, coordination and political structures in Mexico have not been conducive to metropolitan-scale organisation.

The Gauteng City-Region

Background

The Gauteng City-Region is rapidly expanding in terms of its population and economy. The functional city-region has largely the same boundaries with the administrative borders of the Gauteng but stretches beyond the official boundaries of the province. It links cities, towns and urban nodes that are interconnected, even though some of them are located in neighbouring provinces. The main Gauteng City-Region is an integrated cluster of cities, towns and urban nodes that together make up the economic heartland of South Africa.

The urban profile of Gauteng is dominated by three contiguous, arguably integrated, single-tier metropolitan municipalities: Ekurhuleni, Johannesburg and Tshwane. These metropolitan municipalities have exclusive executive and legislative authority for Gauteng City-Region projects in their jurisdictions. The rest of Gauteng consists of two-tier local government arrangements corresponding to nine municipalities of diverse population sizes. The West Rand and Sedibeng are district municipalities with executive and legislative powers in their jurisdictions which each encompass more than one municipality. Sedibeng district encompasses the Emfuleni, Lesedi and Midvaal local municipalities, while West Rand District overlays Mogale City, Merafong and Rand West local municipalities. District and local municipalities share municipal executive and legislative authority subject to the capacity of each tier to perform functions optimally.

Evolution of the Gauteng City-Region

The Gauteng City-Region is the brainchild of the Gauteng Provincial Government (GPG). It was conceptualised in the early 2000s along the geographical parameters of a province as opposed to a municipality, or even possibly as a hybrid of a province and a municipality. However, the interviews clarified that the conceptualisation of the Gauteng City-Region was not premised on the lack of clarity regarding intergovernmental functions and institutions *per se*, but was rooted in the realisation that institutional functions were divided between a generic provincial structure and generic municipal structures that are largely defined by their own bureaucracy. In the city-region context, whereas the rationale for the division of functions is clearly well founded, so is that of coherence, collaboration and coordination.

In 2006, the Gauteng City-Region Perspective report effectively established the Gauteng City-Region as a standalone concept, somewhat distinct from the Gauteng province. It set an agenda that continues to inform GPG policy and the conceptual thinking around the Gauteng City-Region, while also inadvertently introducing the ambiguities that have continued to impede its evolution. There is lack of clarity, for instance, on the respective roles and relationship between the envisioned city-region institutions and those of the GPG. This also came up strongly in the interviews as detailed below. However, the city-region continues to add value because successive GPG administrations have embraced the city-region concept. This culminated in the introduction of Transformation, Modernisation and Re-industrialisation as a development plan for the Gauteng City-Region in 2014.

Opportunities for the Gauteng City-Region

The GPG has used the opportunities presented in the existing national and provincial policies and in the institutions to support coordination and collaboration between different spheres of government, thus improving the functioning of the Gauteng City-Region. The policies and institutional arrangements that support the functions of the Gauteng City-Region also include the creation of an effective policy supporting environment; widespread transformation of inter-municipal governance, modernisation of public services and the re-

industrialisation of Gauteng; an evolving Gauteng Spatial Development Framework; the development of a Gauteng Integrated Transport Master Plan; a District Intergovernmental Forum; an Extended Local Government? Executive Council Lekgotla; a Service Delivery 'War Room'; and innovative institutions supporting the Gauteng City-Region such as the Gauteng Infrastructure Coordinating Committee; the Gauteng Infrastructure Financing Agency; the Gauteng Transport Commission; the Gauteng Growth and Development Agency; the Gauteng City-Region Academy and the Gauteng City-Region Observatory.

Interview findings on challenges in the Gauteng City-Region

Interviews were conducted with senior personnel at Gauteng City-Region and the Gauteng Provincial Government. A synthesis of the findings follows.

Planning challenges

There is clearly strong support for the Gauteng City-Region. However, the interviews pointed to various misalignments. First, the ambiguity relating to the respective roles and relationships between the province and the Gauteng City-Region makes a clear distinction between Gauteng City-Region and provincial planning documents that are informed by the provincial mandate difficult. Second, the timeframes of the various institutional plans differ considerably, presenting a serious challenge in implementing them systematically. Third, the horizontal misalignment of the planning emanates from Gauteng Provincial Government cluster arrangements and Intergovernmental Relations structures that preclude smooth alignment between the municipal and provincial development planning processes. Fourth, the allocation of powers and functions between the spheres hampers the achievement of balance in the collaboration and coordination roles of the stakeholders.

Insofar as the misalignment of the key administrative planning documents for the province and municipalities is concerned, there is no proper alignment between the Provincial Growth and Development Strategy and the municipal IDPs in relation to project planning and resource allocation. Moreover, the provincial and municipal planning time cycles are different. This disjuncture between the annual planning and financial cycles of provincial versus local government has been allowed to diminish collaboration between the provincial and municipal levels of government and to escalate divergence. This incoherence contributes to a lack of alignment in plans and delivery programmes for the Gauteng City-Region. Provincial and municipal public officials have no legal obligation to harmonise their planning cycles or co-ordinate their budgetary processes.

Institutional challenges

The interviews underscored a number of challenges in the Gauteng City-Region institutions. Institutional support for the Gauteng City-Region is inconsistent. The various institutions in the Gauteng City-Region were established at different periods so that while some of them

are now well established, a number of them are still relatively new and are yet to find their footing in enhancing intergovernmental coordination and collaboration.

Further, the interviews confirmed that the basis of most of these institutions is sectoral. This means that their approach to collaboration and the coordination of planning is mono-focused. While being mono-focused could be useful in the collaboration and coordination of a specific function within the Gauteng City-Region, it also propagates the silo approach as opposed to the more integrative approach needed for future Gauteng City-Region planning and coordination.

A strong consensus emerging from the interviews was that the current configuration of the intergovernmental institutional arrangements does not adequately reinforce strong collaboration and coordination of planning activities in the Gauteng City-Region. The concurrency of responsibility across spheres of government and the overlapping functions result in uncertainty, which then is transferred and undermines intergovernmental co-operation across several political jurisdictions in the Gauteng City-Region.

The presence of duplication was also noted in the interviews. There were strong views on the duplication of effort between different structures, agencies and spheres of government. The duplication is both vertical and horizontal because it relates to uncoordinated actions between the province and municipalities, between provincial sector departments operating in the same municipality, as well as among neighbouring municipalities.

It became apparent from the interviews that there are also legislative constraints to the functionality of the Gauteng City-Region. The interviewees highlighted the fact that the Intergovernmental Fiscal Relations Act, 1997 (Act No. 97 of 1997) does not enforce compliance across levels of government as intergovernmental cooperation is treated as a given, or voluntary requirement. This shortfall is exacerbated by the lack of capacity in local and provincial governments to undertake collaborative intergovernmental actions.

Other challenges

Overarching challenges facing the Gauteng Provincial Government include the lack of concrete evidence demonstrating that the value derived from cooperation between the various intergovernmental institutions in the Gauteng City-Region project surpasses the value of these institutions solely pursuing their own individual mandated interests. In other words, whereas intergovernmental co-operation is uncontentious, endeavours to implement it on its own terms are likely be unsuccessful, unless the organisations that must cooperate understand that their institutional interests can only be realised in cooperation. In essence, there must be a good understanding that cooperation is not a zero-sum game because the cooperation of the various institutions responsible for governing the Gauteng City-Region will translate into greater benefits to their electorates than would otherwise be

possible. In the absence of overwhelming evidence in this regard, the nature and scope of collaboration and cooperation is continuously undermined. This makes it difficult to define the parameters of the institutionalisation of collaboration and cooperation in the Gauteng City-Region.

The other overarching challenge of the Gauteng City-Region is that it is pursuing various goals simultaneously. First, it aims to systematically align policy and implementation vertically among different spheres of governance. However the independent decision-making power of each sphere is safeguarded by the Constitution, rendering the alignment dependent on the separate institutions which are accountable to different constituencies whose mandates diverge congruently. Second, the Gauteng City-Region attempts to systematically align policy and implementation horizontally between line departments and agencies. However, given the intricate and interrelated nature of government functions it is difficult to avoid territorial battles. Third, the Gauteng City-Region also aims to coordinate the activities of nongovernmental actors as important stakeholders in the Gauteng City-Region. The central challenge therefore is to effectively coordinate the activities in and between spheres of government as well as the private sector.

Linked to concurrent government functions, legal ambiguity also obscures which government tier is responsible for which activities. In South Africa the legal framework is able to support a city-region. However, there is also no strong guidance on cooperative government and intergovernmental collaboration. This obstructs the resolution of other challenges such as the duplication of effort between different levels of government, disjuncture between the planning and financial annual cycles of provincial and local government, the lack of capacity to undertake collaborative intergovernmental actions, and disjointed development plans

A major challenge and recurring theme in the practice of intergovernmental relations impacting on the functionality of the Gauteng City-Region is that the Constitution tacitly introduces a natural tension between the relative autonomy of a particular sphere of government on the one hand, and the pursuit of a coherent government for South Africa through inter-governmental relations and collaboration, on the other. This tension becomes more apparent when considering that the management of service delivery programmes is based on questions of jurisdiction between departments, organs of state or spheres of government on the one hand; but on the other, policy priorities cut across ministerial mandates and traditional policy fields. This makes mechanisms for managing service delivery through intergovernmental relations incoherent. The result is poor integration of activities, duplication, and a general inability to forge collaborative partnerships or to find common ground for joint action (Malan, 2005).

Gauteng City-Region successes

The interviews confirmed that provincial and local municipalities in the Gauteng City-Region have a good track record in intergovernmental collaboration in respect of a number of key infrastructure projects in the province. This was accomplished through intergovernmental co-operation, and its reinforcement and solidification are ongoing. For instance, provincial and local government have collaborated in targeting government efforts to rehabilitate social and economic infrastructure across the Gauteng City-Region, with a view to stimulating local economies such as upgrading inner-city areas, building large new housing developments, completing large infrastructure developments such as new regional wastewater facilities, and the development of the Gautrain rapid rail link project.

The GPG established the Gauteng City-Region on the premise that the metropolitan municipalities of Johannesburg, Tshwane, and Ekurhuleni, and their neighbouring urban municipalities form what could be defined as a functional city-region that should be governed in a cooperative manner. The intention was not to create an additional sphere of government. The establishment of the Gauteng City-Region therefore relies heavily on existing policies and institutions of intergovernmental collaboration and coordination. The Gauteng City-Region has also been the catalyst for the creation of innovative supporting institutions. These policies and institutions have played a major role in ensuring that, notwithstanding the challenges, the functionality of the Gauteng City-Region was established and is being enhanced.

The role of financial incentives

Inter-municipal cooperation should be facilitated through adequate incentives to create economies of scale and regional integration to foster inclusive economic development. Legal frameworks and institutional arrangements from the national and provincial government are at times inadequate in achieving concrete change. The strongest incentives tend to be linked to financing (United Nations Conference on Housing and Sustainable Urban Development, 2017). Financial incentives could encompass scale economies through the potential for cost savings by joint initiatives, cost sharing for regional service provision or capital investments, and a desire to address fiscal inequality when significant tax base differences exist among the jurisdictions in the metropolitan area, (Andersson, 2015). At present, there are no such incentives for the Gauteng City-Region. This means that fiscal instruments as tools that are vital in fostering regional governance and cooperation are absent.

Conclusion

The city-region agenda is an important step towards the development of urban areas internationally, both from an efficiency - albeit driven by competitiveness - and a sustainability point of view. However, the establishment of city-region collaboration and cooperation takes time and must be undertaken with caution with a longer term view of co-

existence with or within the existing national and sub national institutional arrangements. Caution must also be exercised in ensuring that the implementation of city-regions does not perpetuate the city-rural divide by overresourcing urban areas and neglecting rural areas. The true success of city-regions should not be measured solely against economic growth but also on social justice issues. Rectifying social and economic divides and just and fair deployment of resources between rural and urban areas is thus vital.

There is a need also to demonstrate clearly that city-regions are best able to address a country's development challenges. In South Africa, the impact on the peri-urban rural areas is important. Also, it must be measurably demonstrated that city-regions will yield better outcomes than, for example, provinces or district and local municipalities delivering against their function mandates. The literature and international case studies have stressed that city-region collaboration should be premised on cooperation between municipalities in the urban area. Could this be extended to rural areas? Internationally, there is an important role for the higher levels of government to initiate and support such types of municipal cooperation, with policy and economic incentives. It is seen as critical that 'higher level' government supports city-region level cooperation rather than envisioning it as competition. The cooperative approach and organisational efforts of the core city towards the smaller municipalities in the city-region are also viewed as absolutely vital, as is the establishment of deliberative platforms to bring together key government and private sector entities. The development of city-regions should begin with the key sectors, such as transport and water, where the potential for positive outcomes is vast.

The international case studies have demonstrated that city-regions are appropriate for the multi-level governance approach in South Africa. However, case studies show that the purpose has not been and should not be, to create a new level of government. Rather, the intention is to devise an innovative system and mechanism of cooperation and collaboration, as is demonstrated by the South African Gauteng City-Region case study. There are challenges pertaining to making the improvements needed in the institutional and policy frameworks that are supportive of city-regions, as also detailed in the Gauteng City-Region case study. Most importantly, financial incentives, that are crucial for economies of scale, are generally not yet in place. The Gauteng City-Region case study does, however, demonstrate considerable potential for the development of city-regions in South Africa. City-regions provide opportunities to deal with common problems, such as sanitation, transport and waste, efficiently and in a manner that is developmental and innovative. There are indeed good prospects for functional city-regions in South Africa, to the extent that the appropriate institutional and policy framework and financial incentives are put in place.

If the relative success of the Gauteng City-Region can be replicated on a greater scale nationally (mindful, however, of the developmental context of the specific region), there

may be a strong case to assess the continued relevance of provinces and district municipalities in the future.

Recommendations

With respect to city-region development, the Commission recommends that:

The Minister of COGTA should assess the requirements in respect of key success factors for city-regions to address inclusive development and local government service delivery failures, including:

(i) Legal provisions;

(ii) Institutional setup scenarios - involving provincial government and/or metropolitan municipalitiess and/or district municipalities and/or local municipalities, depending on the context;

(iii) Financial incentives; and

(iv) Rural and peri-urban developmental impact scenarios.

FINANCIAL
AND FISCAL
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For an Equitable Sharing
of National Revenue

Appendix

Appendix A

Table 2 summarises the main characteristics of a good local revenue instrument.

Table 22: Characteristics of an ideal revenue source/tax instrument

	Characteristics	Details
1	Revenue Adequacy	The administrative burden of the revenue source should not outweigh revenue generated.
2	Certainty	Certainty in a revenue system is essential as without it, government and taxpayers can neither budget nor plan effectively. Spending plans by government and consumers should be based on realistic assessments of expected revenue flows.
5	Equity and Fairness	The revenue system should be equitable, fair and affordable. A quality tax system should be equitable in the sense of both vertical equity (i.e. taxpayers with different incomes should pay according to their ability to pay) and horizontal equity (i.e. taxpayers in similar circumstances should be treated similarly).
6	Correspondence	The revenue instrument should not be levied on citizens who are not part of the local community or the burden of the revenue should not overlap to adjacent jurisdictions whose citizens do not benefit from the expenditure of the funds
7	Revenue Buoyancy	The tax base should be stable in particular during economic cycles. Revenues from a local tax should be buoyant at times of economic growth and less vulnerable to negative turns in the economy
8	Efficiency, Economic Neutrality and Simplicity	A good tax should cause the lowest possible economic distortion and exert minimal impact on the spending and business decisions of firms and individuals. It should not be complex but simple to administrator and easy for the average citizen to understand.
9	Politically Acceptable	The revenue system should be sensitive to the historical and institutional framework in the country.
10	Balance and Reliability	An effective revenue system should be broad-based, avoid special exemptions and utilize a low overall tax rate with few loopholes.
11	Complementary	The tax systems should recognise the complementary roles of different orders of government and assist in maintaining a healthy relationship between different spheres of government. Each organ of state should be mindful of how its tax decisions impact on another sphere of government.
12	Competitiveness	The tax system should be responsive to the global competitiveness of a country and its goods and services. It should be used to attract investment and foster economic development
13	Enhances Local Fiscal Autonomy	The sub-national government should have as much control over all aspects of the revenue source or tax to improve the lines of accountability with its citizens
14	Limits Horizontal Fiscal Imbalances	The revenue source should not create large imbalances between municipalities

Source: FFC compilation; Martinez-Vazquez (2007); SACN (2018)

Appendix B

Evaluation of Infrastructure Investment Efficiency: Empirical Evidence from South Africa's Municipalities

Table 23: Water infrastructure

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Eastern Cape					
Camdeboo	0.62	0.91	0.70	1.00	0.91
Blue Crane Route	0.74	1.11	0.58	1.14	0.97
Makana	1.01	0.88	1.15	0.92	0.96
Ndlambe	1.15	1.00	1.15	0.99	1.01
Sunday River	0.94	0.94	0.99	0.99	0.96
Kouga	0.50	0.98	0.51	0.98	1.00
Mean	**0.83**	**0.97**	**0.85**	**1.00**	**0.97**
Free State					
Letsemeng	1.00	1.03	0.97	1.00	1.03
Kopanong	0.93	0.96	0.97	1.00	0.96
Mohokare	0.97	0.98	0.99	1.18	0.83
Masilonyana	1.00	1.01	0.99	1.07	0.94
Tokologo	0.96	0.96	1.00	0.90	1.07
Matjhabeng	0.96	1.02	0.95	1.00	1.02
Nala	1.00	1.05	0.95	1.00	1.05
Dihlabeng	1.00	1.01	0.99	1.06	0.96
Nketoana	0.86	0.80	1.07	0.82	0.97
Maluti-A-Phofung	0.73	0.72	1.02	0.76	0.94
Phumelela	0.91	0.91	1.01	1.00	0.91
Mantsopa	1.07	1.39	0.78	1.35	1.02
Moqhaka	1.32	1.36	0.97	1.09	1.25
Mean	**0.98**	**1.01**	**0.97**	**1.02**	**1.00**
Gauteng					
Emfuleni	1.02	1.16	0.86	1.18	0.99
Midvaal	0.76	0.87	0.90	0.88	0.99
Lesedi	2.58	1.02	2.52	1.01	1.01
Mogale City	0.64	0.99	0.60	1.01	0.99
Mean	**1.25**	**1.01**	**1.22**	**1.02**	**0.99**
Kwa-Zulu Natal					
Msunduzi	1.34	0.93	1.44	1.00	0.93
Newcastle	0.78	1.01	0.77	1.01	1.00
uMhlathuze	1.16	0.99	1.18	0.99	1.00
Mean	**1.09**	**0.98**	**1.13**	**1.00**	**0.98**
Limpopo					
Polokwane	0.97	0.99	0.98	0.99	1.01
Thabazimbi	0.82	1.01	0.81	0.99	1.02
Lephalale	0.97	1.05	0.90	1.00	1.05
Bela-Bela	1.12	0.98	1.07	1.04	0.94

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Mean	**0.97**	**1.01**	**0.94**	**1.00**	**1.00**
Mpumalamga					
Albert Luthuli	0.95	0.97	0.98	0.96	1.01
Msukaligwa	1.00	1.03	0.97	0.93	1.11
Mkhondo	1.01	1.01	1.00	1.00	1.01
Dr. Pixley Ka Isaka Seme	0.98	0.97	1.01	0.99	0.98
Lekwa	0.96	0.95	1.01	0.91	1.04
Dipaleseng	1.30	1.07	1.23	1.05	1.01
Govan Mbeki	0.95	1.02	0.92	1.10	0.93
Victor Khanye	0.98	0.98	1.00	1.02	0.96
Emalahleni	1.20	0.96	1.25	0.93	
Steve Tshwete	0.79	0.95	0.83	0.98	0.97
Emakhazeni	0.89	1.08	0.82	1.06	1.02
Thembisile	0.91	1.12	0.82	1.17	0.96
Thaba Chweu	0.94	1.08	0.84	1.15	0.94
Mean	**0.99**	**1.01**	**0.98**	**1.02**	**1.00**
Northern Cape					
Richtersveld	1.00	0.93	1.07	0.86	1.08
Nama Khoi	0.95	0.88	1.08	0.90	0.98
Kamiesberg	0.90	0.86	1.05	0.92	0.93
Hantam	1.02	0.96	1.06	0.99	0.98
Karoo Hoogland	0.97	0.97	1.00	1.10	0.88
Khâi-Ma	0.97	0.96	1.01	0.97	1.00
Ubuntu	0.90	0.89	1.01	1.03	0.86
Umsobomvu	0.96	0.95	1.01	1.02	0.94
Emthanjeni	0.92	0.88	1.05	0.86	1.02
Kareeberg	1.15	1.12	1.02	1.11	1.01
Thembelihle	0.98	0.96	1.03	0.92	1.04
Siyathemba	1.02	0.99	1.03	0.95	1.04
Siyancuma	1.05	1.21	0.87	1.10	1.10
Kai !Garib	0.83	0.95	0.87	0.93	1.02
!Kheis	0.94	1.09	0.87	1.02	1.06
Tsantsabane	0.98	1.14	0.86	1.00	1.14
Kgatelopele	0.96	1.02	0.94	1.03	0.99
Sol Plaatjie	0.96	1.08	0.88	1.02	1.06
Dikgatlong	0.94	0.99	0.94	0.95	1.04
Magareng	0.96	1.00	0.95	1.05	0.95
Mean	**0.97**	**0.99**	**0.98**	**0.99**	**1.01**
North West					
Moretele	1.00	1.05	0.95	1.06	0.99
Madibeng	0.94	0.93	1.01	0.97	0.96
Rustenburg	0.93	0.92	1.01	0.93	0.98
Kgetlengrivier	0.93	0.90	1.04	0.93	0.97
Moses Kotane	0.99	0.99	0.99	1.00	0.99
Ratlou	1.04	1.07	0.98	1.09	0.98
Tswaing	0.98	1.00	0.98	0.99	1.02
Mahikeng	0.93	0.96	0.96	0.97	0.99

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Ditsobotla	0.95	0.97	0.98	0.96	1.01
Ramotshere Moiloa	0.96	0.99	0.97	1.02	0.97
Naledi	1.03	1.05	0.98	1.01	1.04
Mamusa	0.93	0.96	0.98	0.91	1.05
Greater Taung	0.99	1.01	0.98	1.01	1.00
Mean	**0.97**	**0.98**	**0.98**	**0.99**	**1.00**
Western Cape					
Matzikama	0.75	1.00	0.76	0.95	1.04
Cederberg	0.92	0.90	1.02	0.99	0.91
Bergrivier	0.91	0.97	0.94	0.97	1.00
Saldanha Bay	1.00	1.13	0.89	1.04	1.09
Swartland	0.98	1.26	0.77	0.85	1.49
Witzenberg	1.09	1.25	0.88	1.01	1.23
Drakenstein	0.90	1.15	0.78	1.00	1.15
Stellenbosch	0.96	1.12	0.86	1.05	1.07
Breede Valley	0.96	1.02	0.95	1.24	0.82
Langeberg	0.95	0.98	0.97	0.98	1.00
Theewaterskloof	0.97	1.01	0.96	1.10	0.92
Overstrand	0.93	0.98	0.95	1.02	0.97
Cape Agulhas	0.91	0.91	1.00	1.15	0.80
Swellendam	0.98	0.98	1.01	1.10	0.89
Kannaland	0.97	0.96	1.01	0.99	0.98
Hessequa	0.94	0.98	0.97	0.97	1.01
Mossel Bay	1.03	1.26	0.82	1.17	1.08
George	1.04	1.20	0.87	1.19	1.01
Oudtshoorn	0.99	1.16	0.85	1.09	1.05
Bitou	0.90	1.10	0.82	1.03	1.06
Mean	**0.96**	**1.07**	**0.90**	**1.04**	**1.03**

Table 24: Electricity infrastructure

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Eastern Cape					
Camdeboo	0.98	0.98	1.00	1.07	0.92
Blue Crane Route	0.92	0.92	1.00	1.04	0.88
Makana	0.96	0.96	1.00	1.07	0.89
Ndlambe	0.99	0.99	1.00	1.01	0.98
Sundays River Valley	0.97	0.96	1.02	1.33	0.72
Kouga	0.95	0.90	1.06	0.93	0.98
Kou-Kamma	0.88	0.84	1.05	0.78	1.07
Mbhashe	0.76	0.71	1.06	0.66	1.08
Mnquma	1.01	0.97	1.04	0.95	1.02
Great Kei	0.97	0.98	0.98	1.01	0.97
Amahlathi	0.99	0.99	1.00	1.02	0.97
Ngqushwa	0.97	0.98	0.99	1.03	0.95

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Inxuba Yethemba	0.93	0.94	0.99	0.96	0.98
Intsika Yethu	0.92	0.94	0.98	0.96	0.98
Emalahleni	1.01	1.07	0.94	0.99	1.08
Engcobo	0.93	0.97	0.95	1.16	0.84
Elundini	0.96	1.02	0.94	1.07	0.95
Senqu	0.84	0.87	0.97	0.88	0.99
Ngquza Hill	0.93	0.95	0.99	0.99	0.95
Port St Johns	0.98	1.00	0.98	0.86	1.16
Nyandeni	0.96	0.98	0.98	0.98	1.00
Mhlontlo	0.97	0.98	0.99	0.97	1.01
Mean	**0.94**	**0.95**	**1.00**	**0.99**	**0.97**
Free State					
Letsemeng	1.01	0.79	1.27	0.95	0.83
Kopanong	0.96	0.84	1.14	0.96	0.87
Mohokare	0.99	1.10	0.91	1.12	0.98
Masilonyana	0.95	1.23	0.77	0.99	1.24
Tokologo	0.94	1.06	0.89	0.93	1.14
Matjhabeng	1.00	0.95	1.05	0.95	1.01
Nala	0.94	0.91	1.03	1.02	0.89
Dihlabeng	1.00	0.97	1.03	1.10	0.88
Nketoana	0.96	0.94	1.02	0.94	1.00
Maluti-A-Phofung	0.97	1.01	0.97	0.99	1.02
Phumelela	0.97	1.19	0.81	1.09	1.09
Mantsopa	0.83	1.19	0.70	1.03	1.16
Mean	**0.96**	**1.01**	**0.97**	**1.00**	**1.01**
Gauteng					
Emfuleni	1.24	1.02	1.21	1.12	0.92
Midvaal	0.82	0.79	0.94	0.89	0.89
Lesedi	1.13	1.00	1.13	1.00	1.00
Mogale City	0.62	1.03	0.60	1.00	1.03
Mean	**0.95**	**0.96**	**0.97**	**1.00**	**0.96**
KwaZulu-Natal					
Umdoni	0.94	0.98	0.95	0.97	1.01
Umzumbe	0.98	1.03	0.96	1.03	1.00
uMuziwabantu	0.91	0.95	0.96	0.94	1.02
uMshwathi	0.99	1.03	0.97	1.05	0.98
uMngeni	1.00	1.05	0.95	1.03	1.02
Mpofana	0.92	0.95	0.97	0.98	0.97
Impendle	0.99	1.10	0.90	1.04	1.06
Msunduzi	0.80	0.89	0.89	0.88	1.01
Mkhambathini	0.92	1.03	0.90	0.97	1.06
Richmond	0.91	1.02	0.89	0.97	1.06
Okhahlamba	0.89	0.99	0.89	1.00	1.00
Endumeni	0.85	0.96	0.89	0.91	1.05
Nquthu	0.96	0.98	0.99	1.02	0.96
Msinga	1.00	1.01	0.99	1.02	1.00
Umvoti	1.00	1.00	1.00	0.98	1.02

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Newcastle	0.97	0.97	1.00	0.96	1.01
eMadlangeni	0.96	0.97	0.99	1.00	0.97
Dannhauser	0.85	0.85	0.99	0.84	1.02
eDumbe	1.00	1.05	0.95	1.22	0.86
eDumbe	0.98	1.02	0.96	1.06	0.96
uPhongolo	0.94	0.98	0.96	1.09	0.90
Abaqulusi	0.87	0.92	0.95	0.99	0.93
Nongoma	0.95	1.00	0.95	1.05	0.95
Ulundi	0.88	0.93	0.95	1.02	0.92
Jozini	0.98	1.04	0.94	1.11	0.94
uMfolozi	0.98	1.86	0.53	1.30	1.44
uMhlathuze	0.98	1.84	0.53	1.52	1.21
uMlalazi	0.82	1.53	0.53	1.03	1.48
Mthonjaneni	0.74	1.36	0.55	0.92	1.48
Nkandla	0.96	1.66	0.58	1.15	1.44
Mandeni	0.92	1.64	0.56	1.07	1.54
Mean	**0.93**	**1.12**	**0.87**	**1.04**	**1.07**
Limpopo					
Greater Giyani	0.98	0.60	1.63	0.68	0.89
Greater Letaba	0.95	0.58	1.65	0.91	0.63
Greater Tzaneen	1.06	0.77	1.37	0.97	0.80
Ba-Phalaborwa	0.84	0.74	1.15	0.83	0.88
Maruleng	0.99	0.97	1.02	1.29	0.76
Musina	1.00	0.84	1.19	0.81	1.03
Thulamela	1.02	1.03	0.99	1.03	1.00
Makhado	0.98	0.99	0.99	1.00	0.99
Blouberg	0.97	0.97	1.00	1.03	0.94
Molemole	0.99	0.97	1.02	0.99	0.98
Polokwane	0.97	0.89	1.09	0.97	0.92
Lepelle-Nkumpi	0.97	0.93	1.04	1.01	0.92
Thabazimbi	1.04	1.05	0.99	1.01	1.04
Lephalale	0.88	1.01	0.87	0.95	1.06
Bela-Bela	0.96	1.01	0.95	0.98	1.03
Mogalakwena	0.95	1.01	0.93	0.99	1.03
Mean	**0.97**	**0.90**	**1.12**	**0.97**	**0.93**
Mpumalanga					
Albert Luthuli	0.98	0.90	1.08	0.81	1.11
Msukaligwa	0.99	0.93	1.07	0.98	0.95
Mkhondo Local	1.01	0.99	1.02	1.02	0.98
Dr. Pixley Ka	0.99	1.07	0.93	1.20	0.89
Lekwa	0.95	1.02	0.93	1.01	1.01
Dipaleseng	0.98	1.03	0.95	1.03	1.00
Govan Mbeki	0.98	1.03	0.95	1.19	0.87
Victor Khanye	0.84	0.88	0.96	0.98	0.90
Emalahleni	0.93	0.97	0.96	0.81	1.21
Steve Tshwete	0.97	1.01	0.96	1.01	1.01
Emakhazeni	0.99	0.99	1.00	1.01	0.98

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Thembisile	0.95	0.96	0.99	0.96	1.00
Mean	**0.96**	**0.98**	**0.98**	**1.00**	**0.99**
Northern Cape					
Richtersveld	1.03	0.91	1.14	1.05	0.87
Nama Khoi	0.88	0.75	1.17	0.80	0.94
Kamiesberg	0.99	0.83	1.19	0.90	0.92
Hantam	0.99	0.85	1.17	0.89	0.95
Karoo Hoogland	0.95	1.14	0.83	1.21	0.94
Khâi-Ma	1.11	1.39	0.80	1.50	0.93
Ubuntu	0.95	1.25	0.76	1.35	0.92
Umsobomvu	0.98	1.27	0.77	1.20	1.06
Emthanjeni	0.95	0.95	1.00	0.95	1.00
Kareeberg	0.95	0.95	1.00	0.93	1.01
Thembelihle	0.99	0.99	1.00	0.90	1.10
Siyathemba	0.91	0.91	1.00	0.80	1.14
Siyancuma	1.04	0.88	1.18	0.87	1.01
Kai	0.90	0.78	1.16	0.79	0.98
!Kheis	0.97	0.82	1.19	0.86	0.95
Tsantsabane	1.01	0.87	1.17	1.02	0.85
Kgatelopele	0.99	1.08	0.92	0.94	1.15
Sol Plaatjie	0.99	1.11	0.89	1.05	1.06
Dikgatlong	0.95	1.07	0.89	1.00	1.07
Magareng	0.97	1.04	0.94	1.04	1.00
Mean	**0.97**	**0.99**	**1.01**	**1.00**	**0.99**
North West					
Moretele	0.99	0.99	1.00	1.05	0.94
Madibeng	0.94	0.94	1.00	0.98	0.96
Rustenburg	0.99	0.99	1.00	1.00	1.00
Kgetlengrivier	0.95	0.98	0.97	1.02	0.96
Moses Kotane	0.98	0.99	1.00	1.04	0.95
Ratlou	0.96	1.01	0.95	1.03	0.98
Tswaing	0.97	1.00	0.97	1.02	0.99
Mahikeng	1.00	1.02	0.98	0.96	1.05
Ditsobotla	0.98	1.00	0.98	0.97	1.02
Ramotshere Moiloa	0.97	0.93	1.05	0.96	0.96
Naledi	0.95	0.92	1.03	1.00	0.92
Mamusa	0.94	0.93	1.00	0.97	0.96
Greater Taung	0.96	1.02	0.94	0.98	1.04
Lekwa-Teemane	0.93	1.02	0.92	1.00	1.02
Mean	**0.97**	**0.98**	**0.99**	**1.00**	**0.98**
Western Cape					
Matzikama	0.89	1.05	0.85	1.02	1.03
Cederberg	0.97	1.05	0.93	1.03	1.02
Bergrivier	0.92	0.99	0.93	1.00	0.99
Saldanha Bay	0.89	1.09	0.82	1.07	1.01
Swartland	1.02	1.11	0.92	1.13	0.98
Witzenberg	1.05	1.07	0.98	1.05	1.02

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Drakenstein	1.06	1.10	0.97	1.01	1.09
Stellenbosch	0.93	1.02	0.91	0.93	1.10
Breede Valley	0.94	0.95	0.99	0.86	1.10
Langeberg	0.95	0.95	0.99	1.02	0.94
Theewaterskloof	0.98	0.99	1.00	1.03	0.96
Overstrand	1.03	1.04	1.00	1.04	1.00
Cape Agulhas	0.99	0.96	1.03	1.01	0.95
Swellendam	1.00	1.00	1.00	1.01	1.00
Kannaland	1.02	1.00	1.02	1.04	0.96
Hessequa	1.01	0.98	1.03	1.00	0.97
Mossel Bay	0.96	1.11	0.91	1.37	0.81
George	0.93	1.07	0.87	1.21	0.89
Oudtshoorn	0.94	1.04	0.90	0.93	1.12
Bitou	1.00	1.03	0.97	1.04	0.99
Mean	**0.97**	**1.03**	**0.95**	**1.04**	**1.00**

Table 25: Sewerage purification and reticulation

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Eastern Cape					
Camdeboo	0.85	0.95	0.93	0.91	1.04
Blue Crane Route	1.02	0.96	0.95	1.08	0.88
Makana	0.93	0.94	0.99	0.85	1.12
Ndlambe	1.04	1.19	0.87	1.21	0.98
Sundays River Valley	0.81	0.84	1.07	0.89	0.91
Kouga	0.46	0.84	0.58	0.87	0.97
Mean	**0.85**	**0.95**	**0.90**	**0.97**	**0.98**
Free State					
Letsemeng	1.09	0.94	1.16	0.96	0.98
Kopanong	0.91	0.86	1.05	0.94	0.91
Mohokare	1.01	1.09	0.93	1.06	1.03
Masilonyana	0.91	1.00	0.91	0.99	1.02
Tokologo	0.87	0.90	0.96	0.96	0.94
Matjhabeng	1.00	1.03	0.97	1.18	0.88
Nala	0.97	1.00	0.97	1.03	0.97
Dihlabeng	0.95	0.97	0.98	0.95	1.02
Nketoana	0.94	0.98	0.96	0.96	1.02
Maluti-A-Phofung	0.97	1.01	0.96	0.99	1.02
Phumelela	1.04	1.47	0.71	1.12	1.32
Mantsopa	1.04	1.47	0.71	1.12	1.32
Mean	**0.97**	**1.06**	**0.94**	**1.02**	**1.04**
Gauteng					
Emfuleni	1.03	1.30	0.86	1.00	1.30
Midvaal	0.87	0.84	1.06	1.00	0.84

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Lesedi	0.91	0.90	1.03	1.02	0.87
Mogale City	1.01	0.99	1.02	1.01	0.98
Mean	**0.95**	**1.01**	**0.99**	**1.01**	**1.00**
KwaZulu-Natal					
Msunduzi	0.99	0.95	1.05	0.97	0.98
Newcastle	0.99	0.99	1.00	0.95	1.04
Mean	**0.99**	**0.97**	**1.03**	**0.96**	**1.01**
Limpopo					
Polokwane	0.96	0.98	0.98	0.94	1.04
Thabazimbi	0.93	1.13	0.82	1.00	1.13
Lephalale	0.93	0.92	1.01	1.01	0.91
Bela-Bela	0.94	1.11	0.82	1.06	1.05
Mean	**0.94**	**1.03**	**0.91**	**1.00**	**1.03**
Mpumalanga					
Albert Luthuli	0.93	0.97	0.95	0.94	1.04
Msukaligwa	1.00	1.04	0.96	1.02	1.02
Mkhondo	0.96	0.99	0.97	0.96	1.03
Dr. Pixley Ka	0.97	0.97	1.00	1.03	0.94
Lekwa	0.90	0.90	1.00	1.02	0.89
Dipaleseng	1.06	1.23	0.86	1.09	1.13
Govan Mbeki	0.92	1.17	0.79	1.32	0.88
Victor Khanye	0.91	0.85	1.08	0.89	0.95
Emalahleni	1.06	0.68	1.56	0.73	0.93
Steve Tshwete	1.20	0.87	1.39	0.88	0.98
Emakhazeni	0.99	1.03	0.96	1.00	1.03
Thembisile	0.98	1.01	0.96	1.03	0.98
Mean	**0.99**	**0.98**	**1.04**	**0.99**	**0.98**
Northern Cape					
Richtersveld	0.81	0.86	0.94	0.91	0.94
Nama Khoi	0.84	0.87	0.96	0.87	1.00
Kamiesberg	0.80	0.83	0.96	0.85	0.98
Hantam	1.04	1.07	0.97	0.95	1.13
Karoo Hoogland	1.03	1.26	0.82	1.24	1.01
Khâi-Ma	0.97	1.14	0.85	1.11	1.03
Ubuntu	1.05	1.33	0.79	1.08	1.24
Umsobomvu	0.97	1.18	0.82	1.03	1.15
Emthanjeni	0.98	0.98	1.00	1.02	0.95
Kareeberg	0.95	0.95	1.00	0.99	0.97
Thembelihle	0.97	0.97	1.00	0.95	1.02
Siyathemba	0.92	0.92	1.00	0.95	0.97
Siyancuma	0.98	0.87	1.12	0.87	1.01
Kai	1.00	0.86	1.17	0.89	0.96
!Kheis	0.94	0.84	1.13	0.89	0.95
Tsantsabane	1.02	0.91	1.12	1.03	0.89
Kgatelopele	0.99	1.24	0.80	0.99	1.25
Sol Plaatjie	1.00	1.26	0.79	1.16	1.09
Dikgatlong	1.00	1.20	0.83	1.05	1.15
Magareng	0.96	1.16	0.83	0.98	1.19

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Mean	**0.96**	**1.04**	**0.95**	**0.99**	**1.04**
North West					
Moretele	0.91	1.10	0.83	1.05	1.05
Madibeng	0.88	1.04	0.85	1.09	0.95
Rustenburg	0.90	1.01	0.88	1.00	1.01
Kgetlengrivier	0.98	0.92	1.06	0.91	1.01
Moses Kotane	1.07	0.99	1.07	1.02	0.97
Ratlou	0.94	1.04	0.91	0.96	1.09
Tswaing	0.93	1.15	0.81	0.80	1.41
Mahikeng	0.93	1.09	0.85	1.09	1.02
Ditsobotla	0.98	0.90	1.09	1.27	
Ramotshere Moiloa	0.95	0.82	1.16	1.07	0.77
Naledi	1.04	1.00	1.04	0.98	1.02
Mamusa	0.98	1.03	0.95	1.01	1.02
Greater Taung	0.97	1.03	0.94	0.98	
Mean	**0.96**	**1.01**	**0.96**	**1.02**	**1.03**
Western Cape					
Matzikama	1.01	1.09	0.93	1.07	1.02
Cederberg	0.90	0.92	0.98	0.95	0.97
Bergrivier	0.96	1.04	0.92	1.01	1.03
Saldanha Bay	1.13	1.05	1.08	1.08	0.97
Swartland	0.96	0.95	1.01	0.96	0.99
Witzenberg	1.03	1.09	0.95	1.04	1.05
Drakenstein	1.13	1.04	1.04	1.04	1.01
Stellenbosch	1.05	1.10	0.95	0.95	1.17
Breede Valley	0.97	1.00	0.97	1.00	0.99
Langeberg	0.95	0.97	0.97	0.93	1.05
Theewaterskloof	0.97	0.98	0.98	0.99	1.00
Overstrand	0.94	0.98	0.96	1.04	0.94
Cape Agulhas	0.99	1.01	0.98	1.11	0.92
Swellendam	0.98	1.00	0.98	1.27	0.79
Kannaland	0.97	0.98	0.98	0.95	1.04
Hessequa	0.98	1.00	0.98	1.00	1.00
Mossel Bay	1.00	0.95	1.06	1.10	0.86
George	0.86	0.85	1.01	0.94	0.90
Oudtshoorn	1.00	0.92	1.09	1.03	0.90
Bitou	0.93	0.91	1.02	1.01	0.90
Mean	**0.99**	**0.99**	**0.99**	**1.02**	**0.97**

Table 26: Solid waste management

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Eastern Cape					
Camdeboo	0.97	0.97	1.00	1.00	0.97
Blue Crane Route	0.95	0.95	1.00	1.02	0.93
Makana	0.97	0.97	1.00	1.04	0.94
Ndlambe	0.68	0.68	1.00	0.73	0.94
Sundays River Valley	1.02	1.02	1.00	1.05	0.97
Kouga	1.08	1.08	1.00	1.07	1.01
Kou-Kamma	0.43	0.43	1.00	0.42	1.03
Mbhashe	1.06	1.06	1.00	1.02	1.04
Mnquma	0.98	0.98	1.00	0.96	1.02
Great Kei	0.97	1.02	0.95	1.02	1.00
Amahlathi	0.98	1.03	0.95	1.06	0.97
Ngqushwa	0.96	1.01	0.95	1.12	0.90
Inxuba Yethemba	0.83	0.87	0.95	0.95	0.92
Intsika Yethu	0.96	1.01	0.94	1.04	0.98
Emalahleni	0.62	0.66	0.94	0.62	1.06
Engcobo	0.97	1.03	0.94	0.93	1.12
Elundini	1.09	1.16	0.94	1.02	1.14
Senqu	1.02	0.82	0.94	0.74	1.11
Ngquza Hill	1.02	0.93	1.00	0.93	1.00
Port St Johns	1.02	1.00	1.00	1.00	1.00
Nyandeni	1.02	0.96	1.00	0.97	0.99
Mhlontlo	1.02	1.00	1.00	1.00	1.00
Mean	**0.94**	**0.94**	**0.98**	**0.94**	**1.00**
Free State					
Letsemeng	0.92	0.92	1.00	0.95	0.97
Kopanong	0.94	0.94	1.00	0.98	0.96
Mohokare	1.08	1.04	1.03	1.10	0.95
Masilonyana	1.01	0.95	1.07	0.99	0.96
Tokologo	1.00	0.93	1.07	0.99	0.95
Matjhabeng	0.99	0.99	1.00	0.99	1.00
Nala	0.91	0.91	1.00	0.91	1.00
Dihlabeng	0.99	0.99	1.00	0.99	1.00
Nketoana	0.99	0.99	1.00	1.00	1.00
Maluti-A-Phofung	0.97	0.97	1.00	0.98	0.99
Phumelela	0.95	2.52	0.38	1.72	1.46
Mantsopa	0.87	2.31	0.38	1.62	1.43
Mean	**0.97**	**1.21**	**0.91**	**1.10**	**1.05**
Gauteng					
Emfuleni	0.87	0.91	0.96	1.00	0.91
Midvaal	0.84	1.09	0.77	1.08	1.01

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Lesedi	0.95	0.88	1.08	0.97	0.91
Mogale City	0.98	1.05	0.93	0.95	1.11
Mean	**0.91**	**0.99**	**0.93**	**1.00**	**0.98**
KwaZulu-Natal					
Umdoni	1.02	0.98	1.04	0.90	1.09
uMuziwabantu	0.80	0.78	1.03	0.74	1.01
uMshwathi	1.00	0.97	1.03	0.93	1.04
uMngeni	0.96	0.93	1.04	0.77	1.21
Mpofana	0.97	0.95	1.03	0.87	1.11
Impendle	0.92	1.01	0.92	1.03	0.98
Msunduzi	1.09	1.27	0.86	1.49	1.05
Mkhambathini	1.00	1.16	0.86	1.07	1.08
Richmond	1.00	1.17	0.85	1.38	0.85
Okhahlamba	0.93	1.08	0.86	1.18	0.91
Endumeni	1.00	1.09	0.92	1.08	0.97
Nquthu	0.75	0.75	1.00	0.76	0.99
Umvoti	0.80	0.81	1.00	0.79	1.03
Newcastle	0.94	0.94	1.00	0.80	1.14
eMadlangeni	0.99	1.00	1.00	0.90	1.11
Dannhauser	1.00	1.00	1.00	0.84	1.20
eDumbe	0.89	1.21	0.73	1.13	1.07
uPhongolo	0.94	1.28	0.73	1.24	1.03
Abaqulusi	0.97	1.31	0.74	1.24	1.04
Nongoma	0.92	1.26	0.73	1.32	0.95
Ulundi	1.05	1.43	0.73	1.53	0.93
Jozini	0.95	1.17	0.81	1.26	0.93
uMfolozi	1.00	1.17	0.85	1.35	0.87
uMhlathuze	0.69	0.81	0.85	1.04	0.78
uMlalazi	0.97	1.14	0.85	1.28	0.89
Mthonjaneni	0.90	1.05	0.85	1.13	0.93
Nkandla	0.98	1.15	0.85	1.16	1.00
Mean	**0.94**	**1.07**	**0.89**	**1.08**	**1.01**
Limpopo					
Greater Giyani	0.96	0.96	1.00	0.96	0.99
Greater Letaba	0.93	0.93	1.00	0.96	0.96
Greater Tzaneen	0.99	0.99	1.00	0.99	1.00
Ba-Phalaborwa	1.07	1.22	0.88	1.09	1.12
Maruleng	1.05	1.22	0.86	1.06	1.15
Musina	0.86	1.00	0.86	0.92	1.09
Thulamela	0.91	0.96	0.95	0.94	1.01
Makhado	1.00	1.00	1.00	1.05	0.95
Blouberg	0.94	0.94	1.00	0.98	0.96
Molemole	0.96	0.96	1.00	1.01	0.95
Polokwane	0.84	0.84	1.00	0.84	0.99

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Lepelle-Nkumpi	1.00	1.00	1.00	1.00	0.99
Thabazimbi	1.00	1.00	1.00	1.01	1.00
Lephalale	0.97	0.97	1.00	0.97	1.00
Bela-Bela	0.95	0.95	1.00	0.95	1.00
Mogalakwena	0.98	0.98	1.00	0.98	1.00
Mean	**0.96**	**0.99**	**0.97**	**0.98**	**1.01**
Mpumalanga					
Greater Giyani	0.96	0.96	1.00	0.96	0.99
Greater Letaba	0.93	0.93	1.00	0.96	0.96
Greater Tzaneen	0.99	0.99	1.00	0.99	1.00
Ba-Phalaborwa	1.07	1.22	0.88	1.09	1.12
Maruleng	1.05	1.22	0.86	1.06	1.15
Musina	0.86	1.00	0.86	0.92	1.09
Thulamela	0.91	0.96	0.95	0.94	1.01
Makhado	1.00	1.00	1.00	1.05	0.95
Blouberg	0.94	0.94	1.00	0.98	0.96
Molemole	0.96	0.96	1.00	1.01	0.95
Polokwane	0.84	0.84	1.00	0.84	0.99
Lepelle-Nkumpi	1.00	1.00	1.00	1.00	0.99
Thabazimbi	1.00	1.00	1.00	1.01	1.00
Lephalale	0.97	0.97	1.00	0.97	1.00
Bela-Bela	0.95	0.95	1.00	0.95	1.00
Mogalakwena	0.98	0.98	1.00	0.98	1.00
Mean	**0.96**	**0.99**	**0.97**	**0.98**	**1.01**
Northern Cape					
Richtersveld	0.98	0.98	1.00	0.98	1.00
Nama Khoi	0.96	0.96	1.00	0.96	1.00
Kamiesberg	0.90	0.90	1.00	0.90	1.00
Hantam	1.00	1.00	1.00	1.00	1.00
Karoo Hoogland	1.00	1.00	1.00	0.95	1.05
Khâi-Ma	1.07	1.07	1.00	1.00	1.06
Ubuntu	1.03	1.03	1.00	0.93	1.10
Umsobomvu	0.87	0.87	1.00	0.69	1.26
Emthanjeni	0.98	0.98	1.00	1.02	0.96
Kareeberg	0.98	0.98	1.00	1.03	0.96
Thembelihle	0.98	0.98	1.00	1.00	0.97
Siyathemba	0.92	0.92	1.00	0.94	0.98
Siyancuma	1.02	0.93	1.09	0.96	0.97
Kai !Garib	1.03	0.94	1.09	1.02	0.93
!Kheis	0.95	0.87	1.09	0.96	0.91
Tsantsabane	0.97	0.89	1.09	0.97	0.92
Kgatelopele	0.99	0.99	1.00	1.02	0.97
Sol Plaatjie	1.00	1.00	1.00	1.02	0.98
Dikgatlong	0.99	0.99	1.00	1.03	0.97

	Malmquist Index	Technical Efficiency	Technological Efficiency	Pure Technical Efficiency	Scale Efficiency
Magareng	1.00	1.00	1.00	1.04	0.96
Mean	**0.98**	**0.96**	**1.02**	**0.97**	**1.00**
North West					
Madibeng	0.95	1.09	0.87	0.98	1.11
Rustenburg	0.96	1.12	0.86	1.03	1.08
Kgetlengrivier	1.00	1.11	0.90	1.02	1.08
Moses Kotane	0.99	1.08	0.92	1.05	1.03
Tswaing	1.02	1.16	0.88	1.04	1.11
Mahikeng	0.89	1.10	0.81	0.96	1.15
Ditsobotla	0.94	1.15	0.81	1.07	1.08
Ramotshere Moiloa	0.98	0.98	1.00	1.01	0.97
Naledi	0.94	0.94	1.00	0.94	1.00
Mamusa	0.99	0.99	1.00	0.99	1.00
Greater Taung	1.00	1.00	1.00	1.00	1.00
Lekwa-Teemane	1.00	1.00	1.00	1.00	1.00
Mean	**0.97**	**1.06**	**0.92**	**1.01**	**1.05**
Western Cape					
Matzikama	0.98	0.99	0.99	0.98	1.01
Bergrivier	0.98	0.99	0.99	0.98	1.01
Bergrivier	0.96	0.96	0.99	0.96	1.00
Saldanha Bay	0.95	0.96	0.99	0.96	1.00
Swartland	0.99	1.05	0.95	1.00	1.04
Witzenberg	1.07	1.13	0.95	1.06	1.06
Drakenstein	1.02	1.08	0.95	1.05	1.02
Stellenbosch	1.02	1.08	0.95	1.00	1.08
Breede Valley	0.99	0.90	1.10	0.90	1.00
Langeberg	0.97	0.89	1.09	0.89	1.00
Theewaterskloof	0.94	0.86	1.10	0.95	0.90
Overstrand	0.93	0.86	1.09	0.89	0.97
Cape Agulhas	0.93	0.95	0.98	0.97	0.98
Swellendam	0.99	1.03	0.96	1.07	0.97
Kannaland	1.07	1.09	0.98	1.04	1.05
Hessequa	0.98	1.01	0.97	1.00	1.01
Mossel Bay	1.00	1.02	0.98	1.09	0.94
George	0.94	0.94	1.00	1.10	0.85
Oudtshoorn	1.00	1.02	0.98	1.05	0.97
Bitou	0.97	0.99	0.98	1.06	0.94
Mean	**0.98**	**0.99**	**1.00**	**1.00**	**0.99**

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