

# URBAN PUBLIC FINANCES, URBANIZATION AND THE INCLUSIVENESS OF URBAN SPACE IN SOUTH AFRICA

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## 1. Introduction

In South Africa, as elsewhere, urban areas are the engines of economic growth. As such, it is critical to the success of the public sector—as well as to the success of the economy as a whole—that urban infrastructure and services are provided and funded efficiently and equitably.

In addition, urban areas in South Africa play an important role as a catalyst for social change and space for upward socio-economic mobility and transformation, as many of South Africa's poor look to urban areas as centers of social and economic opportunity. The country's commitment to social justice and equity goes beyond ensuring equitable access to local public services in urban areas. Indeed, reversing spatially-driven exclusion—which was a hallmark of the apartheid regime—is an active driver of government policy with respect to urban areas.<sup>2,3</sup>

The conventional wisdom in South Africa is that the apartheid legacy has set in motion a vicious cycle where costly urban infrastructure and urban service subsidies are provided (e.g., for public transportation, for infrastructure networks, and so on) to mitigate the costs to households and firms of an inherited, spatially inefficient (low density) urban structure in a way that is economically inefficient, socially exclusive, and fiscally expensive. In an uncertain macro-fiscal climate, an important policy question to be answered is whether capital investments in a more efficient and inclusive (presumably higher density) urban form would be sustainable, or whether the recurrent implications of such investments in inclusive urban public transportation and inclusive public housing solutions would result in fiscally unsustainable outcomes.

In light of these concerns, this paper considers the interaction between urban public finances and urban spatial form and analyses the expected fiscal and spatial

impact of efforts to make urban space in South Africa more inclusive, with a particular emphasis on urban housing and urban public transportation.

It should be noted that there is already an extensive and rich body of research and analysis dealing with intergovernmental finances and urban public finances in South Africa. Existing research already provides detailed insights into the finances of specific cities and into detailed urban finance topics (e.g., SACN 2009; 2015; 2016). Instead of replicating the existing analyses, the current discussion builds on the existing body of research on the finances of metropolitan municipalities in South Africa, and considers the urban finance system in aggregate. As such, much of the current analysis forms a “second opinion” – in many cases confirming the existing state of knowledge with regard to urban public finances and urbanization, while in some other cases exploring new ground.

A background review of urban public finances was prepared to provide a historical perspective on the patterns and trend in urban finance in South Africa (Boex and Karger-Lerchl 2017). The analysis of the composition and trends in urban finances suggests that—with some caveats—the country's urban finances are generally on a sustainable trajectory, with no danger of an imminent urban fiscal crisis. However, urban local governments are subject to a range of forces that create upward pressure on local government spending. While at this stage no single urban function threatens the sustainability of urban finances, the backward-looking analysis suggests that the combined impact of policy decisions across different urban functions could potentially pose a long-term cumulative risk.

A forward-looking fiscal impact model generally confirmed this tentative conclusion, and provided

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<sup>2</sup> See Maylam (1995) for a history of urban segregation in South Africa and Turok (2014) for an overview of the first decade of post-apartheid experiences with respect to local democracy.

<sup>3</sup> Different stakeholders in South Africa attach different meanings to the concept of spatial inclusion. At one end of the spectrum, some observers focus on a wide range of policy interventions that reduce the spatial mismatch between residential locations for low-income households and access to job opportunities (and other urban amenities). On the other end of the spectrum, others advocate for policies that focus more narrowly on promoting housing desegregation and residential integration.

more detailed and nuanced insights with regard to the recurrent impact of different urban investment scenarios (Boex et al, 2017).<sup>4</sup> Additional insights were provided by “deep dive” analyses into urban housing (Gardner and Graham, 2017) and urban public transportation (van Ryneveld 2017) and other recent analyses conducted by the South Africa Urbanization Review (Shilpi, Xu, Behal, and Blankespoor 2016; Arndt, Davies and Thurlow 2017; d’Aoust 2017; Joubert 2017).

The main storyline emerging from the various analyses of urban public finances and urbanization is one that finds that the overall architecture of urban public finances in South Africa continues to be sound, but which recognizes that there are numerous competing demands on urban fiscal space. At the same time, it appears that structural obstacles are preventing metropolitan municipalities from successfully converting upward economic mobility into sustained growth of their revenue base.<sup>5</sup> Indeed, as urban fiscal space is tight—and looks to be tightening further in the future—the urban finance system may be at an inflection point where some fiscal adjustments may be necessary.

Within this context, an important finding is that despite the clear policy desire of the government to pursue urban spatial inclusion, major investments in inclusive urban housing and public transportation would not only be costly, but they would also be unlikely to decisively alter urban spatial form in the short- to medium term. This concern is amplified by the pressures on the national fiscus due the recent downturn in the economy, which introduces further uncertainty with regard to the future vertical distribution of urban public finances between national government and urban local governments.

This story line is explored as follows. Section 2 provides a background on urbanization and the structure of urban public finance in South Africa. Section 3 considers the interaction between urban public finance and the role of urban areas as a space for economic growth. Similarly, Section 4 considers the role of urban public finance with regard to urban equity and social mobility. In turn, Section 5 provides a more detailed look at the fiscal and spatial impacts of spatial inclusiveness efforts in the areas of housing and transportation. Finally, Section 6 draws policy conclusions.

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## 2. Economic geography and industrial policy in South Africa

Before considering the fiscal and spatial impacts of urbanization patterns and urban public finances in South Africa, this section provides a brief overview of the main features of urbanization in the country, including the urban governance structure, the nature of urban finance, as well as urbanization patterns and policies.

### 2.1 Urban governance and urban service delivery functions

The 1996 Constitution defines a quasi-federal system of intergovernmental relations that recognizes municipalities as a distinct sphere of government in the context of a system of cooperative governance, rather than as an agent of the national or provincial government spheres (DPLG, 1998). In line with Chapter 7 of the Constitution, the Municipal Structures Act (1998) put in place metropolitan municipalities in the country’s largest urban areas (Category A municipalities that have exclusive municipal executive and legislative authority in its area), whereas the rest of the country is governed at the local level by a combination of local municipalities (Category B municipalities) and district municipalities (Category C municipalities). Metropolitan municipalities account for 57 percent of the country’s Gross Value Added (National Treasury, 2017a). There is no official list of secondary cities in South Africa (SACN 2012).<sup>6</sup>

The 1996 Constitution and the relevant implementing legislation enumerate the detailed functional competences and expenditure responsibilities of the different government spheres. Although a wide range of urban infrastructure and service delivery functions (such as municipal planning, municipal public transport, water and sanitation services, and so on) are constitutionally defined as municipal competences, the

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<sup>4</sup> The RSA Urbanization Impact Model (RUIM) considers aggregate fiscal patterns across all metropolitan municipalities (aggregated for all metros). It should be noted that the model’s conclusions for urban finances as a whole do not necessarily hold for individual metros.

<sup>5</sup> As is noted further below, the number of non-poor urban households in South Africa’s metropolitan municipalities doubled from 2001-2011, while the number of poor households remained virtually constant over the same period. The discussion below notes that while urban South Africans are climbing the income ladder, they do not appear to be climbing the municipal fiscal ladder.

<sup>6</sup> A further classification of local municipalities was provided as part of the Municipal Infrastructure Investment Framework (e.g., DBSA 2011), which classifies local municipalities into four sub-types (B1-B4). In this classification, B1 municipalities are often referred to as “secondary cities”. A challenge with the analysis of urban finances outside metropolitan municipalities is that urban infrastructure and services are provided by a combination of local municipalities and district municipalities. For instance, in some cases water and sanitation services are provided by the district municipalities, whereas in other cases, this function is the responsibility of local municipalities (Eberhard, 2017).

responsibility for urban development—writ large—is constitutionally assigned as a concurrent national and provincial legislative function.<sup>7,8</sup>

When compared to other local bodies around the world, South African municipalities are endowed with a high degree of political, administrative and fiscal autonomy.<sup>9</sup> They have the right to govern on their own initiative, with a special role in promoting development and democracy. Indeed, Turok (2014) notes that the Constitution and subsequent legislation envisions municipalities to be 'developmental' entities which work to promote the social and economic empowerment of their constituents. In this context, service provision is not merely an end in itself, but rather, an enabling condition for development.

As with any other local governance system, however, the performance of local governments in South Africa is varied, with the performance of some local government invariably stronger than others. A recent review of South Africa's 278 municipalities revealed that only slightly more than one-third of South Africa municipalities are perceived to be "doing well" or "reasonably functional", whereas the remaining of municipalities are considered "almost dysfunctional" or "dysfunctional."<sup>10</sup> Service delivery failures and widespread instances of rent seeking and corruption have resulted in increasingly frequent service delivery protests and generated a negative narrative and perceptions for municipalities (CoGTA, 2016a). Although local government performance tends to be weaker in smaller (rural) municipalities, voters expressed their dissatisfaction with local leaders by abandoning ANC candidates during the 2016 municipal elections, opting instead to put opposition candidates in charge of local affairs in all metropolitan municipalities (Macharia 2016).

In addition to the urban services provided by the municipal sphere, national and provincial governments provide, support, and finance urban public services in two distinct ways. First, as further discussed below, the national and provincial spheres provide a range of intergovernmental fiscal transfers to lower-level governments in order to finance urban infrastructure and services. Second, national and provincial governments

directly provide, support and finance a number of specific urban public services.<sup>11</sup>

The direct national and provincial provision of urban infrastructure and services—while only a relatively small percentage of urban spending—focuses on three policy areas—human settlements, roads, and public transportation:

- The implementation of human settlements and housing is mainly a provincial function in South Africa. The Human Settlements Development Grant (HSDG) is transferred from the national Department of Human Settlements to provinces for the creation of sustainable and integrated human settlements. A large share of this grant is budgeted and spent by the provincial governments on public housing construction in urban areas. In addition, provincial funding for financial housing interventions (such as FLISPs) and social housing subsidies is captured as recurrent provincial spending on urban housing.
- South African roads are categorized into national, provincial and municipal roads. Although there is no stringent methodology on what classifies a road as being assigned to one of the spheres, freeways connecting major cities are generally designated as national roads, whereas regional trunk roads and other major arterial roads generally are classified as provincial roads, while municipalities generally construct and maintain local roads within their jurisdiction that are not designated as either national or provincial in nature. To the extent that national and provincial roads fall within the geographical jurisdiction of urban local governments, the national and provincial governments provide direct urban infrastructure and services to urban residents.
- In addition to the construction and maintenance of urban roads, the provision of local public transport services is an urban function which is supported by provincial and national governments through Metrorail and provincial bus systems connecting urban areas. The Passenger Rail Agency of South Africa (PRASA) is the implementing arm of the National Department of Transport and is responsible for delivering commuter rail services in the

<sup>7</sup> Unlike in some other countries, the provision of public education and public health services are generally the responsibility of the provincial sphere.

<sup>8</sup> At the national level, local (including urban) governance and development falls within the remit of the Department of Cooperative Governance and Traditional Affairs (CoGTA). This department was previously known as the Department of Provincial and Local Government (DPLG). In practice, the National Treasury also plays an important role in local planning, administration and finance, particularly with regard to the metropolitan municipalities.

<sup>9</sup> For instance, see Boex and Simatupang (2015) for a comparative description of local governance systems in countries around the world.

<sup>10</sup> CoGTA (2016a: 5): "Institutional incapacity and widespread poverty have undermined the sustainability of the local government project, leading in some instances to a catastrophic breakdown in services. The viability of certain municipalities is a key concern. The low rate of collection of revenue continues to undermine the ability of municipalities to deliver services to communities. Our municipalities also need to be driven by appropriately skilled personnel and their correct placement. Slow or inadequate responses to service delivery challenges are in turn linked to the breakdown of trust in the institutions and councillors by communities. Social distance by our public representatives is a major cause for concern." In response to these findings, CoGTA launched a "Back to the Basics campaign" to strengthen local government performance. Olver (2016) provides a detailed and illustrative account of the local governance challenges in Nelson Mandela Bay.

<sup>11</sup> There is no standard or consensus definition in the public finance literature of "urban infrastructure and services". Most commonly used definitions of urban services focus on the economic infrastructure and services provided to urban residents and businesses, such as urban roads and streets; street lighting; water and sanitation infrastructure and services; solid waste management; and so on. As such, the consensus definition of urban services excludes social services typically provided to residents nationwide, such as public education services or local health services. In South Africa, responsibility for these services is assigned to the provincial level.

metropolitan areas of South Africa, long-distance (inter-city) rail and bus services within, to and from the borders of the Republic of South Africa. Metrorail services provided by PRASA operate the country's main urban areas. The national Department of Transport subsidizes operations and capital investments of Metrorail; these subsidies should be considered direct national spending on urban public transportation.

## 2.2 The structure of urban public finances

In contrast to provincial governments—which are largely funded by intergovernmental fiscal transfers—the majority of municipal government expenditures are funded from own revenue sources.<sup>12</sup>

The urban public finance system in South Africa is largely based on the benefit principle, where the user pays for services received from the municipality through user charges or quasi-user charges (such as property rates). The main exception to this principle is the funding of local public services to poor or indigent households, which are generally exempted from local taxes and user charges.<sup>13</sup> Instead, these services are funded through a combination of cross-subsidization by higher-income local taxpayers and intergovernmental fiscal transfers. Municipal financial management responsibilities—including a strong oversight role for the National Treasury—are defined as part of the Municipal Financial Management Act (2003, as amended).

**Municipal revenue sources.** The Constitution guides the assignment of revenue sources to the different government spheres, limiting the types of tax instruments that could be assigned to the local government sphere. While property rates are conceptually the main general revenue source at the local level, in practice non-tax revenues (especially utility tariffs for electricity and water) are the dominant source of own municipal revenues in South Africa.<sup>14</sup>

Another important source of municipal revenue, the Regional Services Council (RSC) Levy was found to be unconstitutional and abolished on July 1, 2006. The RSC levy effectively was a tax on business activity as proxied by payroll and turnover within each municipality. In lieu of the RSC Levy, municipalities now receive a share of the Fuel Levy.

**Intergovernmental fiscal transfers.** The Constitution provides the framework for the (vertical and horizontal) division of financial resources through the Equitable Shares to Provinces (PES) and local governments (LGES). In line with the concept that “finance should follow function” and that the national government plays an important role for inter-jurisdictional redistribution, the LGES allocation formula intends to promote horizontal equity by ensuring that all municipalities are able to provide basic municipal services to indigent households in the municipality. In order to prevent excessive national government control, however, the LGES allocation is provided as an unconditional grant.

In contrast to the operating subsidies provided implicitly through the Equitable Shares, capital infrastructure grants are provided through a much more fragmented system of conditional grants. The capital grant system seeks to balance the desire of national sectoral stakeholders to be prescriptive (particularly in municipalities with weaker governance and administration) with the local desire to have greater autonomy (particularly in urban jurisdictions, where governance and administration are typically stronger). In an effort to pursue this balance, different types of local governments are eligible to receive different types of grants. For instance, whereas metropolitan municipalities are eligible to receive a (relatively large and less conditional) Urban Settlement Development Grant, smaller municipalities are eligible to receive a Municipal Infrastructure Grant and numerous other (smaller and typically more conditional) capital grant allocations.

Reforms are being proposed (and gradually implemented) that ensure greater local discretion and less grant fragmentation for metropolitan municipalities through the introduction of a Consolidated Urban Grant. For instance, in an effort to rationalize unnecessary and duplicative grants, two separate public transport grants to cities—one for capital and one for operational expenditures—were merged into a consolidated grant named the Public Transport Network Grant (PTNG) in 2015. This move is also expected to enhance the sustainability link between capital investment and on-going operational costs.

**Municipal borrowing.** Municipal borrowing only reflects a small segment of municipal finances in South Africa. The total outstanding long term debt for all municipalities as at the end of the fourth quarter of the 2015/16 municipal financial year amounted to R60.9 billion, with the outstanding long term debt of metropolitan municipalities (R 52.85 billion) amounting to 87 percent of total municipal long term debt (National Treasury, 2016).

<sup>12</sup> Although the intergovernmental fiscal framework provides a foundation for public finances in all municipalities (including metros, district municipalities and local municipalities), the discussion of urban public finances presented in this paper focuses almost exclusively on the finances of metropolitan municipalities. For a more detailed overview of the urban finances in South Africa, see SACN (2015) and Boex and Karger-Lerchl (2017).

<sup>13</sup> National legislation requires municipalities to exempt indigent households. For political reasons, municipalities often set exemptions for property rates and user charges at a higher level than the thresholds required by national law.

<sup>14</sup> One characteristic feature of municipal functions and finances in South Africa is the important role played by municipalities in providing municipal utility services. Whereas in many countries (both in Sub-Saharan Africa, as well as in other global regions) water and sanitation service are provided by parastatal water and sanitation authorities (which are typically owned and operated by central or provincial governments), in South Africa, water and sanitation reticulation is squarely a municipal function and is fully accounted for on-budget. Likewise, rather than leaving this responsibility to the private sector, South African municipalities are generally the primary entity responsible for electricity distribution within their respective jurisdictions.



## 2.3. Drivers of urbanization and urban public spending

Since the introduction of the post-apartheid constitutional structure almost a quarter century ago, three major urbanization patterns and drivers can be observed that are likely to have an impact on the sustainability of urban public finances, or where there might be an interaction—in either direction—between urban finance and urban spatial form:

**Urban areas as a space for economic growth.** A first urbanization pattern shaping urbanization and the urban space economy in South Africa over the past quarter century has been the general movement of higher-income, better educated South Africans (regardless of race) towards urban areas (Shilpi, Xu, Behal, and Blankespoor 2016). This pattern of urbanization of higher income residents has coincided with a concentration of economic activities and employment opportunities in urban areas: between 1996 and 2012, employment grew twice as fast in the metros as everywhere else, as metros accounted for three-quarters of all net job creation in the country (CoGTA 2016b). Urban economic growth—driven by the urbanization of economic activity and high-income households—has important implications not only for the urban space economy, but also for the urban fiscus. Urban growth requires additional investments in urban infrastructure, including in roads, electricity, water, sanitation, and so on. In addition, new urban residents and businesses increase the demand for recurrent services, which requires greater operational outlays in urban areas. Of course, urban growth also drives increases in urban revenues and increases in urban land value. As a critical driver of municipal fiscal space, Section 3 considers the interaction between economic growth and urban public finances in greater detail.

**Urban areas as drivers of equity and social mobility.** Given the importance placed in post-apartheid South Africa to equity and inclusion, the local government sphere plays an important role in supporting the urban poor. In this context, municipalities accommodate the in-migration of indigent residents in search of economic opportunities and provide urban public services to (existing and new) indigent and lower-income households for free (or at reduced charge).

Whereas the degree of redistribution required at the municipal level in order to serve the urban poor is frequently debated, the seemingly more potent force—the social and spatial dynamics that facilitate rural migrants in climbing the socio-economic ladder once they arrive in an urban area—is not well-understood. Indeed, despite persistent concerns about urban poverty and spatial mismatch within the country's main urban areas, the urban poverty rate in South Africa declined precipitously from 67 percent in 2001 to 51 percent in 2011. The interaction between urban poverty and urban public finances are further explored in Section 4.

**Achieving a more inclusive urban spatial form.** The spatial form of South African cities has been defined

to a large extent by the racial exclusion policies that defined the apartheid regime, which resulted in low-density polycentric urban areas which were completely segregated by race and income. Nearly twenty-five years after the end of apartheid, however, South African cities continue to be characterized by highly segregated housing patterns.

In addition to the economic inefficiencies associated with such spatial patterns—including the spatial mismatch between jobs and workers, which causes (poor) households to spend a considerable share of their income on housing and transportation—the government would like to redress the prevailing apartheid geography by achieving more integrated, equitable and inclusive cities.

In order to reverse the apartheid legacy, cities have been tasked to drive the spatial transformation of their urban areas through the pursuit of inclusive spatial plans, guided by the Spatial Planning and Land Use Management Act (SPLUMA) of 2013 and the Integrated Urban Development Framework (CoGTA, 2016b). Integrated transport and mobility interventions and integrated and sustainable human settlements approaches are seen as key areas of intervention to restructure cities, shifting ownership profiles and choices, and creating more humane, environment-friendly, safe living and working conditions (CoGTA 2016b). Given the importance of this policy ambition to the sustainability of urban finances, Section 5 provides a more detailed look at the projected fiscal and spatial impacts of spatial inclusiveness efforts in the areas of housing and public transportation.

## 2.4 An overview of municipal finances in South Africa

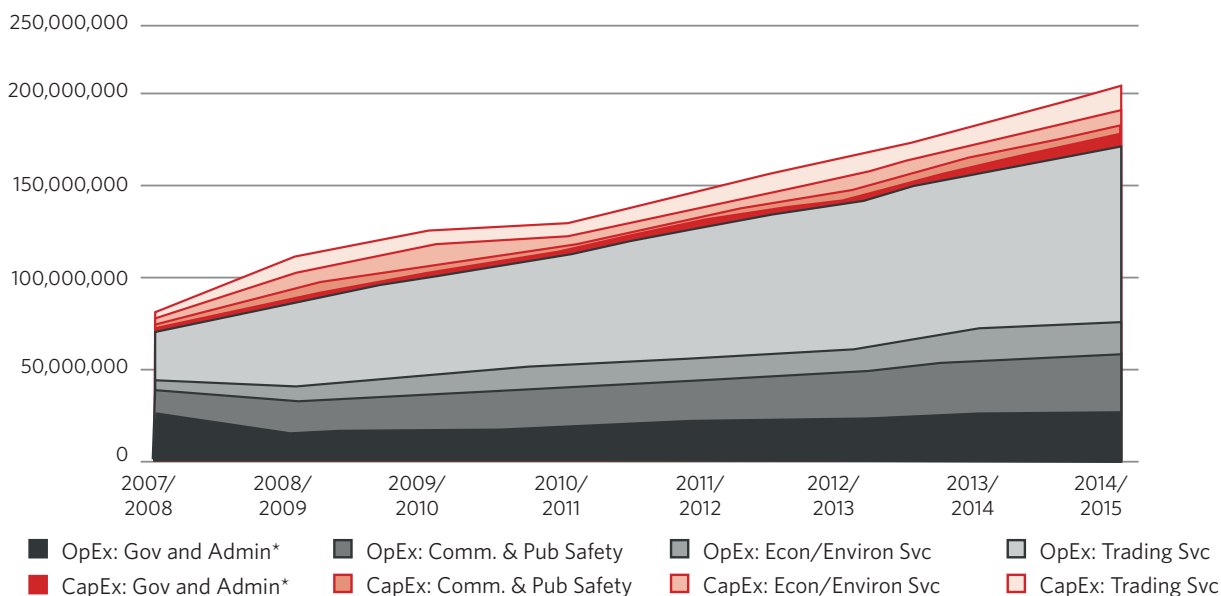
The primary motivation for this analysis of urban public finances is to determine whether or not urban finances in South Africa are on a fiscally sustainable trajectory. By definition, fiscal balance is achieved when a government balances its expenditures and revenues, so that the budget operates without a deficit and no debts are incurred. Municipal borrowing, however, is an appropriate way to finance long-term capital urban infrastructure for which the benefits are spread out over future years. As such, municipal borrowing is generally not a sign of imprudent financial management or unsustainable municipal finances, as long as borrowing is primarily used to fund capital investments.

In contrast to the concept of fiscal balance, fiscal sustainability is generally understood to mean a situation in which government expenditures and revenues are balanced in such a way that government debt does not grow continuously over the long term as a share of its tax base. As such, long term fiscal sustainability requires analyzing municipal government expenditures and revenues, along with the resulting deficits and the accumulated debt. If the ratio of government's debt to its tax base (e.g., the debt-to-GDP ratio) increases steadily over time (and is projected to rise over the long term), at a certain point fiscal policy will become unsustainable.

**An overview of municipal finances in South Africa.** An overview of metropolitan municipal expenditures over the period from 2007/08-2014/15 is presented in Figure 2.1.<sup>15</sup> Following the traditional functional classification used for municipal expenditures in South Africa, the figure breaks down municipal expenditures into operating expenditures (blue) and capital expenditures (red), and between

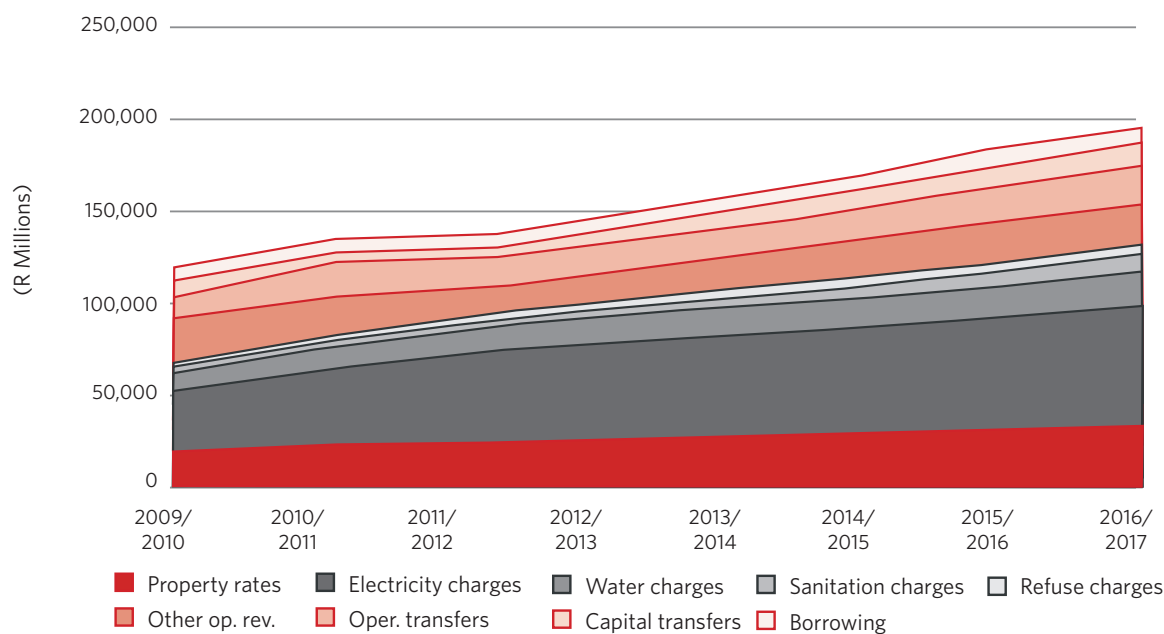
four broad functional categories: Governance and Administration; Community and Public Safety; Economic and Environmental Services; and Trading Services.

**Figure 2.1: An overview of municipal expenditures in urban areas in South Africa, 2007/08 – 2014/15**  
Chairman of the Board



Source: Boex and Karger-Lerchl (2017); Figure 2.1.

**Figure 2.2: An overview of municipal revenues in urban areas in South Africa, 2009/10 – 2015/16**



Source: Boex and Karger-Lerchl (2017); Figure 2.2.

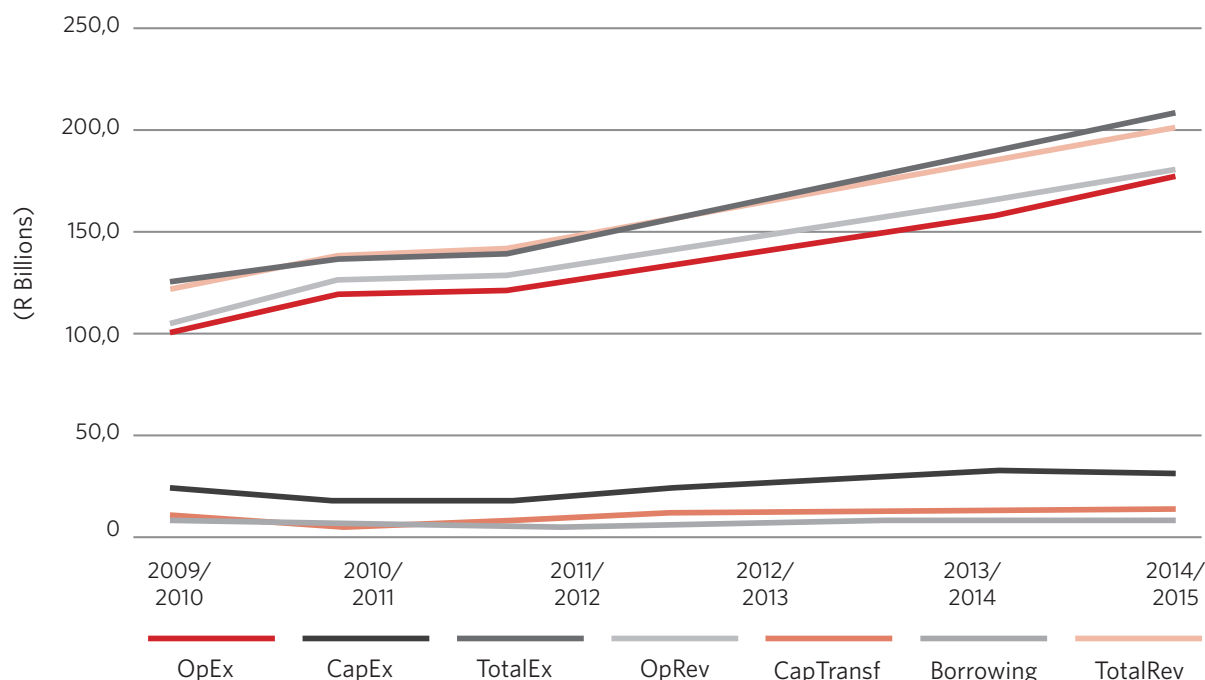
<sup>15</sup> For the purpose of the ensuing analysis, unless otherwise noted, urban areas are defined as all metropolitan municipalities. Metropolitan municipalities included in the analysis are Buffalo City, City of Cape Town, Ekurhuleni, eThekweni, City of Johannesburg, Mangaung, Nelson Mandela Bay and City of Tshwane. The reader should be aware that the aggregate patterns do not necessarily hold true for all individual urban areas. In fact, most individual metropolitan municipalities face distinct economic, demographic and fiscal conditions. This is especially true for the Gauteng metros, whose urban economies are closely interlinked.

In turn, Figure 2.2 presents an overview of municipal revenues in urban areas, covering the period from 2009/10 – 2015/16. The figure highlights property rates (at the bottom of the chart, in red), user charges for trading services (in blue); other revenues (grey); operational and recurrent transfers (in green), and borrowing (light blue, at the top of the chart).

**Municipal fiscal balance and sustainability.** Figure 2.3 (and further below, Table 2.1) presents a summary of metropolitan municipal expenditures, revenues and the resulting fiscal balance in South Africa. Figure 2.3 shows

a steady increase over time in the operating expenditures and operating revenues of urban municipalities, with municipal operating expenditures nearly doubling from 99.4 billion Rand in 2009/10 to 173.8 billion Rand in 2015/16. Over the same period, however, operating revenue increases from 103.7 to 176.3 billion Rand. In contrast to the steady upward trend on the operating side of the budget, capital expenditures and revenues remain at a much lower level and much steadier over time, staying relatively constant in nominal terms over the period under consideration.

Figure 2.3: An overview of municipal fiscal balance in urban areas in South Africa, 2009/10 – 2015/16



Source: Boex and Karger-Lerchl (2017); Figure 2.4.

Table 2.1 presents the same basic information as in Figure 2.3 above, albeit with the amounts expressed as a percent of GDP. Once presented in proportion to the national economic base, these figures suggest a much more stable municipal finance picture, with operating expenditures

fluctuating between 3.9 and 4.3 percent of GDP, while capital spending falls within the 0.6-0.8% range.<sup>16</sup> Operating revenues consistently fall within the 4.1-4.5% range, whereas capital transfers have been consistent at around 0.3% of GDP for the past four years.

Table 2.1 An overview of municipal fiscal balance and sustainability in urban areas in South Africa, 2009/10-15/16 (Amounts expressed as percent of GDP)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Operating Expenditures	4.15	4.25	3.94	3.99	4.02	4.08	4.33
Capital Expenditures	0.97	0.63	0.58	0.70	0.74	0.81	0.75
<b>Total Expenditures</b>	<b>5.11</b>	<b>4.88</b>	<b>4.52</b>	<b>4.69</b>	<b>4.76</b>	<b>4.89</b>	<b>5.08</b>
Operating Revenue	4.33	4.50	4.15	4.21	4.18	4.30	4.39
Capital Transfers	0.38	0.20	0.25	0.32	0.33	0.31	0.32
Borrowing	0.29	0.20	0.17	0.17	0.19	0.21	0.20
<b>Total Revenue*</b>	<b>5.00</b>	<b>4.90</b>	<b>4.57</b>	<b>4.70</b>	<b>4.69</b>	<b>4.82</b>	<b>4.91</b>

Note: Total revenue is defined here as OpRev plus Capital Transfers and Borrowing. Source: Computed by Boex and Karger-Lerchl (2017) based on preliminary figures from National Treasury (Local Government Finance Database) and StatsSA.

<sup>16</sup> The capital spending peak of 1.0 % in FY 2009/10 is likely related to the 2010 World Cup.

For all but the first year of the time series presented in the table, municipal borrowing is steady at close to 0.2% of GDP. The total outstanding long term debt for all municipalities as at the end of the fourth quarter of the 2015/16 municipal financial year amounted to R60.9 billion, with the outstanding long term debt of metropolitan municipalities (R 52.8 billion) amounting to 87 percent of total municipal long term debt (National Treasury 2016). Most of the growth in outstanding long term debt has been in the metropolitan municipalities, which require the greatest infrastructure investments.

Based on the historical municipal fiscal picture in aggregate, there is little reason to believe that municipal finances as a whole are at immediate risk of becoming fiscally unsustainable as urban expenditures and revenues have evolved in a stable, incremental manner. Municipal borrowing and debt are likewise equally stable over time.

Of course, this aggregate picture hides considerable variation in fiscal balances and reliance on borrowing between different urban municipalities. For instance, smaller metros tend to rely considerably less on municipal borrowing for infrastructure financing than larger municipalities (NT, 2016). The more limited reliance of smaller municipalities on borrowing as a way to finance capital investments may be driven by a combination of potential supply factors (higher cost of borrowing; more limited access to capital), but may also reflect potential demand factors (less extensive need for new urban infrastructure; weaker planning; greater risk aversion).

It is important to recognize, however, that budgetary balance and the absence of more extensive municipal borrowing should not necessarily be understood to reflect the absence of fiscal stress. Indeed, there are numerous competing demands on urban fiscal space, and short-run fiscal sustainability may be achieved in a number of ways that are not necessarily visible in municipal revenue and expenditure figures, but nonetheless detrimental to the long-run (fiscal and non-fiscal) health of urban areas (Box 2.1).

### Box 2.1 Indicators of increasing tightness in urban fiscal space in South Africa

Despite the gradual and incremental nature of increases in municipal expenditures and revenues, there are a number of indicators that there is considerable tightening of urban fiscal space:

**Infrastructure backlog and sub-optimal investment in urban expansion.** An important indicator of the tight fiscal space faced by urban municipalities is the infrastructure backlog being faced and the sub-optimal investment in urban infrastructure expansion and renewal. Recent modelling of the need for infrastructure investment by metropolitan municipalities finds that an aggregate amount of around R431 billion for all eight metros is required over a ten year period (in 2014 Rand),

or roughly R 43 billion per year (NT/PDG 2015). In 2015/16, however, urban local governments spent only R 30 billion on capital infrastructure, and growth in capital expenditures over time seems to be lagging. Similarly, a series of policy papers prepared by the National Treasury (2017) is flagging persistent under-investment in urban infrastructure, ranging from water and sanitation; electricity and solid waste management. Such under-investment in urban infrastructure risks becoming a drag on future urban growth.

**Slow expansion of new public housing and municipal services to the poor.** While subsidized housing delivery in South Africa has achieved notable quantitative success over the past two decades, urban areas in South Africa continue to face a significant housing and urban development challenge, characterized by a significant unmet housing demand at the lower end of the income scale (Gardner, 2017). Similarly, despite a considerable emphasis on pro-poor finance in the delivery of municipal services, performance indicators continue to show a considerable gap in the delivery of free municipal services to the urban poor (Statistics SA, 2017). It is quite likely that fiscal constraints form an important reason for delays in redressing this under-provision of urban housing and municipal services

**Revenue collection challenges / growing debtor list.** Local governments in South Africa have relied considerably on electricity charges and water tariffs to fund or cross-subsidize the non-revenue-generating parts of their budget. Municipal utilities have proven to be an effective handle for municipal revenue collection. As Eskom's bulk prices for electricity have increased, the space for levying surcharges and cross-subsidization has diminished. This is particularly true to the extent that alternative energy sources such as solar panels allow higher-income households to avoid relying on the electricity grid. At the same time, social and political dynamics at the local level make it difficult for municipalities to pursue municipal revenue collection in townships where—despite rising incomes—revenue collection is often a non-starter.

Furthermore, according to the accrual accounting rules followed by municipalities in South Africa, revenues are recorded at the moment that the revenue obligation comes due, rather than when the revenues are actually collected. Since revenue figures do not reveal the accumulation of debt as a result of growing backlogs in service payments, revenue figures by themselves tend to over-state the fiscal sustainability of urban municipalities (Schoeman, 2011).

**Inadequate spending on urban inclusion.** If the policy statements by the national government on the prioritization of urban inclusion are taken at face value, municipalities are failing to collect and spend adequately to bring about the residential desegregation and spatial transformation touted in these policy documents (e.g., CoGTA, 2016b).



**Fiscal sustainability in the context of demographic changes in urban areas.** Although municipal finances are quite stable both in nominal terms as well as when expressed as a share of GDP, one angle that appears to be overlooked in the debate surrounding urban public finance in South Africa is the impact of demographic changes in urban areas. Over the past fifteen years, urban areas have experienced robust population growth. However, the socio-economic composition of urban residential growth comes as a surprise to many: from 2001 through 2011, the number of poor households barely increased from 3.0 million to 3.3 million households over this ten-year period, whereas the number of non-poor households increased from 1.5 million to 3.1 million households.<sup>17</sup> This reflects

a precipitous decline in the urban poverty rate from 67 percent in 2001 to 51 percent in 2011.

Given the extensive upward socio-economic mobility of urban households—reflecting a doubling of households that would ostensibly be in the municipal rate-paying and fee-paying bracket—one would expect a considerable increase in own municipal revenues as well as a decrease in municipal debtors. Instead, operating revenues are growing merely on par with national GDP and the municipal debtor roll across metros is rapidly expanding (Table 2.2). Possible underlying causes for this pattern are discussed in Section 3.3.

**Table 2.2 Metros Debtors Age Analysis as at 30 June 2017**

	0-30 Days		31-60 Days		61-90 Days		OVER 90 days		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
<b>June 2017</b>										
Buffalo City	252 327	13.7%	102 702	5.6%	58 137	3.2%	1 432 554	77.6%	1 845 720	2.8%
Cape Town	1 905 304	23.4%	407 435	5.0%	242 979	3.0%	5 590 406	68.6%	8 146 125	12.6%
Ekurhuleni Metro	1 671 184	12.5%	469 570	3.5%	387 997	2.9%	10 801 642	81.0%	13 330 393	20.5%
eThekweni	1 512 892	18.8%	623 684	7.8%	274 889	3.4%	5 628 278	70.0%	8 039 743	12.4%
Johannesburg	1 879 460	11.0%	706 069	4.1%	492 498	2.9%	14 004 639	82.0%	17 082 667	26.3%
Mangaung	327 805	8.6%	187 934	4.9%	158 565	4.1%	3 158 560	82.4%	3 832 864	5.9%
Nelson Mandela Bay	654 004	20.8%	167 918	5.4%	156 334	5.0%	2 162 641	68.9%	3 140 896	4.8%
Tshwane	1 963 096	20.7%	286 377	3.0%	278 739	2.9%	6 966 013	73.4%	9 493 225	14.6%
<b>Total</b>	<b>10 166 072</b>	<b>15.7%</b>	<b>2 950 690</b>	<b>4.6%</b>	<b>2 050 139</b>	<b>3.2%</b>	<b>49 744 732</b>	<b>76.6%</b>	<b>64 911 633</b>	<b>100%</b>
<b>June 2016</b>										
Buffalo City	278 029	16.6%	78 531	4.7%	48 485	2.9%	1 271 844	75.9%	1 676 889	3.0%
Cape Town	1 682 198	23.1%	327 786	4.5%	201 958	2.8%	5 077 601	69.7%	7 289 543	12.9%
Ekurhuleni Metro	1 578 974	13.6%	482 681	4.1%	370 406	3.2%	9 222 833	79.1%	11 654 894	20.5%
eThekweni	866 336	14.7%	386 329	6.6%	230 354	3.9%	4 410 793	74.8%	5 893 812	10.4%
Johannesburg	2 526 266	15.7%	674 979	4.2%	584 414	3.6%	12 316 128	76.5%	16 101 787	28.4%
Mangaung	334 343	9.6%	143 895	4.1%	124 696	3.6%	2 875 775	82.7%	3 478 709	6.1%
Nelson Mandela Bay	554 710	18.3%	175 800	5.8%	145 385	4.8%	2 160 015	71.2%	3 035 910	5.4%
Tshwane	1 526 901	20.1%	186 001	2.4%	148 350	2.0%	5 755 599	75.6%	7 616 851	13.4%
<b>Total</b>	<b>9 347 757</b>	<b>16.5%</b>	<b>2 456 004</b>	<b>4.3%</b>	<b>1 854 047</b>	<b>3.3%</b>	<b>43 090 588</b>	<b>75.9%</b>	<b>56 748 395</b>	<b>100%</b>
<b>Movement between 30 June 2016 and 30 June 2017</b>										
Buffalo City	(25 702)		24 170		9 652		160 710		168 831	
Cape Town	223 107		79 649		41 022		512 804		856 582	
Ekurhuleni Metro	92 210		(13 111)		17 591		1 578 809		1 675 499	
eThekweni	646 556		237 355		44 535		1 217 485		2 145 931	
Johannesburg	(646 806)		31 090		(91 916)		1 688 511		980 880	
Mangaung	(6 539)		44 039		33 870		282 785		354 155	
Nelson Mandela Bay	99 294		(7 883)		10 949		2 625		104 985	
Tshwane	436 195		99376		130 389		1 210 414		1 876 375	
<b>Total</b>	<b>818 315</b>		<b>494 686</b>		<b>196 092</b>		<b>6 654 144</b>		<b>8 163 328</b>	

Source: National Treasury, Local Government Database (as cited by Louw 2018).

<sup>17</sup> Based on a poverty definition of households earning less than R 38,200 per year.

**Projections of fiscal sustainability in the medium term.**

A backward looking analysis of urban expenditure and revenue patterns or straight-line forward projections may not necessarily reveal the fiscal sustainability of urban finances as a whole. This is particularly the case as investment decisions made today may have implications for increased recurrent spending in the future.

In order to achieve greater insight into the future sustainability of urban public finances in South Africa, Boex et al (2017) developed a RSA Urbanization Impact Model (RUIM). This urban fiscal impact model considers the fiscal impact of six different aspects of urbanization by simulating the revenues, expenditures and grants of South Africa’s eight metropolitan municipalities in aggregate over a ten-year period. The model intends to project an approximation of the actual fiscal behavior or long-term responses of municipalities, seeking to provide an order-of-magnitude estimate of the fiscal impact of various aspects of urbanization drivers based on how municipalities would be expected to behave if they would have to deal with each of these pressures (Box 2.2).

**Box 2.2 Key features of the RSA Urbanization Impact Model (RUIM)**

This RSA Urbanization Impact Model (RUIM) is an excel-based fiscal impact model that simulates changes in the revenues, expenditures and grants South Africa’s eight metropolitan municipalities in aggregate over a ten-year period (FY 2017/18-2026/27). The model is set up to consider the fiscal impact of each six aspects of urbanization. While the limitations of such fiscal impact models should be duly noted, the model provides important insights into the possible direction of urban fiscal space under different assumptions and scenarios.

**RUIM covers recurrent as well as capital finances.**

To the extent possible, the RUIM model builds on existing analytical work available on various aspects of urban public finances in South Africa. As recurrent expenditures form the vast majority of South Africa’s municipal budgets, the RUIM model looks comprehensively both recurrent (operational) as well as capital expenditures. As such, the model is able to take

on board the recurrent implications of today’s capital investment decisions.

**RUIM uses a “revealed preferences” approach.** The urbanization impact model looks at different aspects of urbanization in isolation in a partial equilibrium manner. In contrast to some other models, the projections in the RUIM model are largely based on existing (revealed) expenditure and revenue patterns rather than on technical/engineering cost estimates. As such, the model does not intend to prescribe or estimate a specific level of “optimal” expenditures or expenditure needs (e.g., National Treasury 2015; FFC/SALGA 2015). Instead, the model takes the current municipal expenditure and revenue patterns as the “revealed preferences” of municipalities and makes projections based on the “decision-rules” that are expected to be used at the municipal level.

**Representative agents.** In general, the model is based on two types of “representative” urban residents: non-poor (or non-indigent) urban residents and poor (indigent) urban residents. A poor resident is assumed pays no local taxes, is not formally employed, and is entitled to free municipal services. Non-poor urban residents are assumed to be economically productive, pay local taxes, and pay for municipal services through user fees and charges. These two types of urban residents are thus assumed to have different fiscal impacts (with regard to operating expenditures, capital expenditures, municipal revenues and grants).

Because the future is uncertain and because estimating the fiscal impact of urbanization patterns and policies over the medium- to long-term is an imprecise art, the RUIM simulation model sketches three alternate scenarios for each aspect of urbanization: Scenario 1 projects a fiscally optimistic baseline scenario, whereas Scenario 2 projects a medium-change scenario, and Scenario 3 reflects a fiscally negative scenario. Table 2.3 provides an overview of the main features of the fiscal scenarios simulated by the RUIM model. These scenarios are not necessarily sequenced in order of greatest likelihood; in other words, Scenario 1 is not assumed to be the most likely scenario.

**Table 2.3: Overview of Simulation Scenarios: RSA Urbanization Impact Model**

	Scenario 1 (Fiscally Positive)	Scenario 2 (Fiscally Medium)	Scenario 3 (Fiscally Negative)
Simulation 1: Urban Growth (non-indigent households)	High non-indigent growth (3%)	Medium non-indigent growth (2%)	Low non-indigent growth (1%)
Simulation 2: Indigent in-migration	Low indigent growth (1%)	Medium indigent growth (2%)	High indigent growth (3%)
Simulation 3: Existing urban poor	Moderate decrease in pro-poor services	Moderate increase in pro-poor services	Increase in pro-poor services (plus increase in grants)
Simulation 4: Unfunded mandates	Minimal unfunded mandates	Medium unfunded mandates	High unfunded mandates
Simulation 5: Inclusive housing policies	“Business as usual”	Medium investment in inclusive housing policies	High investment in inclusive housing policies
Simulation 6: Inclusive public transp. Policies	“Business as usual”	Medium investment in inclusive public transportation policies	High investment in inclusive public transportation policies

Source: Boex et al (2017).

Following the three sets of scenarios defined above, and based on the various assumptions underlying the model, the RUIIM model projects the aggregate changes in (operating and capital) expenditures, revenues, and intergovernmental grants associated with each of these areas of urbanization over time.

Boex et al (2017) present a detailed discussion of the models underlying assumptions for each of the six aspects of urbanization and urban policy for which simulations are developed, as well as a detailed discussion of the fiscal impact modeling results. Table 2.4 and Table 2.5 summarize the overall fiscal impact of urbanization and efforts to integrate the urban space economy for each of the three scenarios defined in Table 2.3 (fiscally positive; fiscally medium; fiscally negative). Table 2.4 reflects the projected net fiscal impact on public finances as a whole, whereas Table 2.5 reflects the projected net fiscal impact on municipal-level urban

finances for metropolitan municipalities (i.e., it reflects changes in fiscal space for metros in aggregate after taking into account intergovernmental fiscal transfers received from other government spheres). As the model abstracts away from inflation over time, the tables reflect net changes in annual fiscal space compared to the base year (2016/17) in constant 2016/17 Rand.

The only major source of expanding fiscal space in metropolitan municipalities over the next ten years is due to the fiscal impact of urban economic growth and growth in the non-indigent population (Simulation 1).<sup>18</sup> As shown in Table 2.4, the RUIIM model suggests that urban growth will have a net fiscal impact on the public sector of between R 21.0 billion and R 11.5 billion per year, depending on the growth scenario assumed. All other simulated urbanization trends and urban policies result in a net reduction of urban fiscal space over time.<sup>19</sup>

**Table 2.4 The Net Fiscal Impact on Public Sector Finances of Urbanisation and Integration of the Urban Space Economy in South Africa (R billions)**

Year	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
<b>Scenario 1 (Positive)</b>										
1. The impact of urban growth	-15.17	-12.38	-9.35	-6.03	-2.43	1.50	5.78	10.44	15.50	21.02
2. The impact of indigent in-migration	-3.62	-4.02	-4.42	-4.83	-5.24	-5.66	-6.06	-6.50	-6.93	-7.36
3. The impact of the urban poor	4.37	4.46	4.55	4.64	4.73	4.83	4.92	5.02	5.12	5.22
4. The impact of unfunded mandates	-1.42	-1.45	-1.48	-1.51	-1.54	-1.57	-1.60	-1.63	-1.67	-1.70
5. The impact of inclusive housing efforts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. The impact of inclusive transportation efforts	-0.23	-0.30	-0.45	-0.60	-0.76	-0.91	-1.07	-1.23	-1.39	-1.55
<b>Scenario 1 (Positive)</b>	<b>-16.07</b>	<b>-13.69</b>	<b>-11.15</b>	<b>-8.34</b>	<b>-5.23</b>	<b>-1.81</b>	<b>1.96</b>	<b>6.10</b>	<b>10.64</b>	<b>15.63</b>
<b>Scenario 2 (Medium)</b>										
1. The impact of urban growth	-9.87	-7.68	-5.35	-2.86	-0.22	2.59	5.59	8.77	12.16	15.76
2. The impact of indigent in-migration	-7.23	-8.10	-8.99	-9.90	-10.83	-11.77	-12.73	-13.71	-14.71	-15.74
3. The impact of the urban poor	-4.37	-4.46	-4.55	-4.64	-4.73	-4.83	-4.92	-5.02	-5.12	-5.22
4. The impact of unfunded mandates	-2.85	-2.90	-2.96	-3.02	-3.08	-3.14	-3.21	-3.27	-3.33	-3.40
5. The impact of inclusive housing efforts	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09
6. The impact of inclusive transportation efforts	-6.76	-7.24	-7.74	-8.26	-8.80	-9.36	-9.95	-10.55	-11.19	-11.84
<b>Scenario 2 (Medium)</b>	<b>-31.17</b>	<b>-30.48</b>	<b>-29.68</b>	<b>-28.77</b>	<b>-27.75</b>	<b>-26.59</b>	<b>-25.31</b>	<b>-23.87</b>	<b>-22.29</b>	<b>-20.53</b>
<b>Scenario 3 (Negative)</b>										
1. The impact of urban growth	-4.57	-3.05	-1.47	0.17	1.88	3.66	5.52	7.45	9.46	11.55
2. The impact of indigent in-migration	-10.85	-12.27	-13.72	-15.23	-16.77	-18.37	-20.01	-21.70	-23.44	-25.23
3. The impact of the urban poor	-9.54	-9.73	-9.92	-10.12	-10.32	-10.53	-10.74	-10.96	-11.18	-11.40
4. The impact of unfunded mandates	-5.69	-5.81	-5.92	-6.04	-6.16	-6.28	-6.41	-6.54	-6.67	-6.80
5. The impact of inclusive housing efforts	-10.38	-10.38	-10.38	-10.38	-10.38	-10.38	-10.38	-10.38	-10.38	-10.38
6. The impact of inclusive transportation efforts	-13.30	-14.19	-15.07	-16.00	-16.99	-18.05	-19.18	-20.38	-21.66	-23.02
<b>Scenario 3 (Negative)</b>	<b>-54.32</b>	<b>-55.42</b>	<b>-56.48</b>	<b>-57.59</b>	<b>-58.74</b>	<b>-59.94</b>	<b>-61.19</b>	<b>-62.50</b>	<b>-63.86</b>	<b>-65.28</b>

Source: National Treasury, Local Government Database (as cited by Louw 2018).

<sup>18</sup> The RUIIM model assumes that urban economic growth is closely correlated with the growth of the number of non-indigent urban households.

<sup>19</sup> Under the most positive fiscal scenario (Scenario 1), fiscal space can also be created by a reduction of spending on pro-poor urban services.

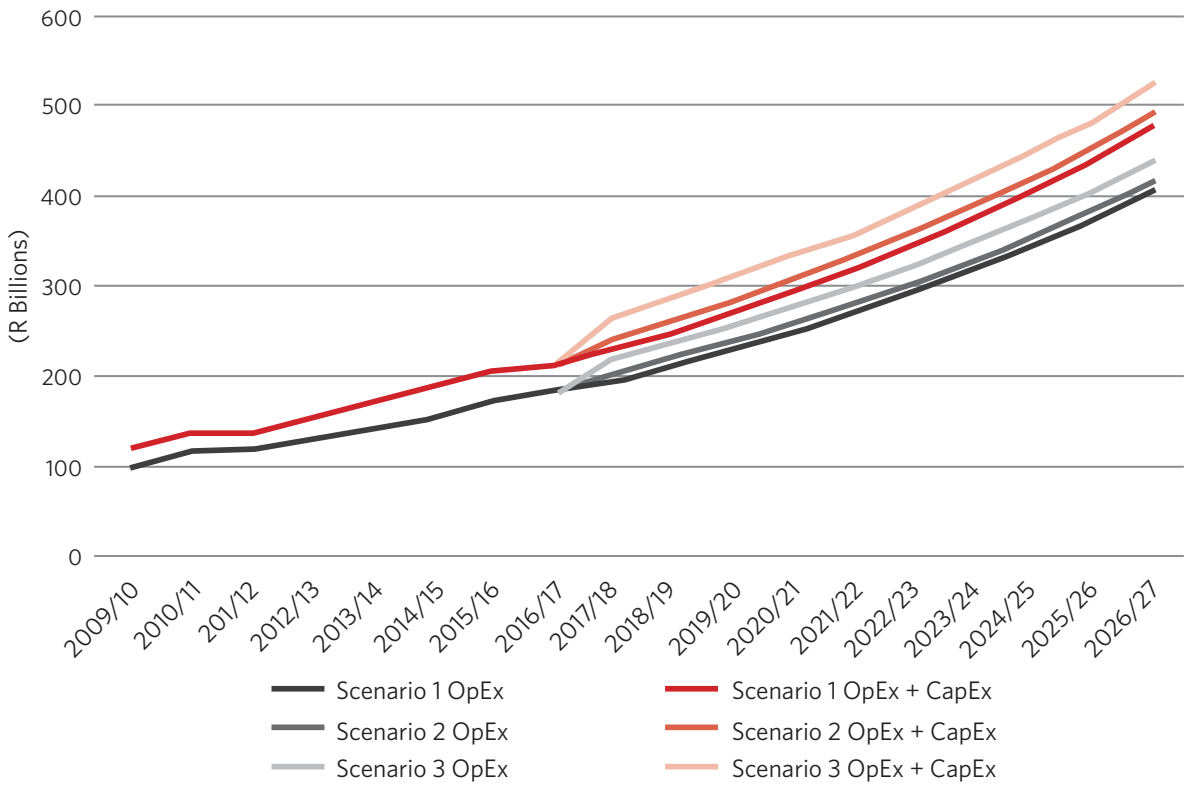
Table 2.5 The Net Fiscal Impact on Local Government Finances of Urbanisation and Integration of the Urban Space Economy in South Africa (R Billions)

Year	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
<b>Scenario 1 (Positive)</b>										
1. The impact of urban growth	-15.12	-12.29	-9.20	-5.84	-2.18	1.81	6.14	10.86	15.99	21.56
2. The impact of indigent in-migration	-0.19	-0.36	-0.52	-0.69	-0.85	-1.02	-1.20	-1.37	-1.54	-1.72
3. The impact of the urban poor	4.37	4.46	4.55	4.64	4.73	4.83	4.92	5.02	5.12	5.22
4. The impact of unfunded mandates	-1.42	-1.45	-1.48	-1.51	-1.54	-1.57	-1.60	-1.63	-1.67	-1.70
5. The impact of inclusive housing efforts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. The impact of inclusive transportation efforts	-0.44	-0.49	-0.60	-0.70	-0.81	-0.92	-1.03	-1.14	-1.25	-1.36
<b>Scenario 1 (Positive)</b>	<b>-12.81</b>	<b>-10.13</b>	<b>-7.25</b>	<b>-4.10</b>	<b>-0.65</b>	<b>3.12</b>	<b>7.24</b>	<b>11.74</b>	<b>16.65</b>	<b>22.00</b>
<b>Scenario 2 (Medium)</b>										
1. The impact of urban growth	-9.84	-7.62	-5.25	-2.73	-0.06	2.79	5.82	9.04	12.47	16.11
2. The impact of indigent in-migration	-0.38	-0.71	-1.05	-1.39	-1.75	-2.10	-2.47	-2.84	-3.22	-3.60
3. The impact of the urban poor	-4.37	-4.46	-4.55	-4.64	-4.73	-4.83	-4.92	-5.02	-5.12	-5.22
4. The impact of unfunded mandates	-2.85	-2.90	-2.96	-3.02	-3.08	-3.14	-3.21	-3.27	-3.33	-3.40
5. The impact of inclusive housing efforts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. The impact of inclusive transportation efforts	-2.30	-2.64	-2.98	-3.35	-3.72	-4.11	-4.52	-4.94	-5.38	-5.83
<b>Scenario 2 (Medium)</b>	<b>-19.75</b>	<b>-18.33</b>	<b>-16.80</b>	<b>-15.13</b>	<b>-13.33</b>	<b>-11.39</b>	<b>-9.29</b>	<b>-7.03</b>	<b>-4.59</b>	<b>-1.96</b>
<b>Scenario 3 (Negative)</b>										
1. The impact of urban growth	-4.55	-3.02	-1.42	0.24	1.96	3.76	5.63	7.58	9.61	11.72
2. The impact of indigent in-migration	-0.58	-1.08	-1.59	-2.13	-2.67	-3.24	-3.82	-4.42	-5.03	-5.67
3. The impact of the urban poor	-4.77	-4.86	-4.96	-5.06	-5.16	-5.27	-5.37	-5.48	-5.59	-5.70
4. The impact of unfunded mandates	-5.69	-5.81	-5.92	-6.04	-6.16	-6.28	-6.41	-6.54	-6.67	-6.80
5. The impact of inclusive housing efforts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. The impact of inclusive transportation efforts	-4.17	-4.79	-5.39	-6.04	-6.73	-7.47	-8.25	-9.08	-9.97	-10.92
<b>Scenario 3 (Negative)</b>	<b>-19.76</b>	<b>-19.56</b>	<b>-19.30</b>	<b>-19.03</b>	<b>-18.77</b>	<b>-18.49</b>	<b>-18.22</b>	<b>-17.94</b>	<b>-17.66</b>	<b>-17.37</b>

Figure 2.4 visualizes the projected aggregate expenditures (OpEx and CapEx) associated with each of these three scenarios over the entire simulation period. In combination with the preceding tables, Figure 2.4 provides us with several key insights. First, Scenarios 1 and 2 seem to continue the incremental expenditure trend of the past and—when considered together with their respective revenue impacts—are fiscally sustainable, as any annual fiscal gap declines over time (and in fact, eventually turns into annual fiscal surplus under scenario 1). Even though Scenario 3 seems to present a relatively moderate increase in urban spending versus the other two scenarios, this scenario proves not

to be fiscally sustainable, as the annual fiscal gap that results from the expenditures under Scenario 3—when taken together with its revenue projections—would continue to expand over time.

Figure 2.4 RUIM Model Simulations: Projected Nominal Expenditures by Scenario, 2017/18 -2026/27



Source: Boex et al (2017); Figure 10.1.

Closer analysis of the results of the RUIM model suggests that the differences between the three scenarios by Year 10 are not predominantly driven by differences in capital expenditures. Instead, the main distinction between the three scenarios over time is the increasing fiscal pressure from recurrent (operating) expenditures, which largely reflect the compounding recurrent implications of capital investments made in earlier years (Boex et al 2017).

For instance, over a 10 year period, the construction or provision of 75,000 additional public housing units per year (rather than 41,000 housing units) has a considerable cumulative impact on the number of indigent residents that need to be served by municipal authorities. While the incremental cost for implementing such a “high density, high delivery” public housing scenario would be around 10.4 billion Rand extra per year, the additional cost for complementary infrastructure and recurrent cost of additional municipal services for a fast-growing indigent population can be up to 17.8 billion Rand extra per year by FY 2026/27. Approximately half of this additional spending reflects the cost of additional recurrent municipal services to poor households.

Similarly, aggressive investment in inclusive public transportation—defined in the model as expansion of the urban public transportation network at 6% per year—is expected not only to have an important impact on capital expenditures, but on recurrent expenditures as well, as the increase in the cost of operating the expanded public transportation system is expected to exceed the projected increase in fare revenues. Indeed, the ramped-up investment in public transportation is projected to result in an increased commitment of operating

expenditures of R 10.3 billion per year by 2026/27.

**Urban finance sustainability versus municipal finance sustainability.** The extent to which changes in urban finances over time are fiscally sustainable for municipalities (as opposed to the public sector as a whole) depends to a large extent on the degree to which the national government supports municipal budgets in the future through the intergovernmental fiscal transfer system.

As discussed further in Section 4 below, the national government has historically covered a substantial share of redistributive municipal expenditures, through the Local Government Equitable Shares on the recurrent side of the budget and through Urban Settlement Development Grants on the capital side of the budget. In fact, looking back, the size of these municipal grants to metros has been a stable share of GDP—this in spite of the major drop in urban poverty over time noted earlier.

Table 2.5 indicates that—if the national government were to continue its support of urban programs in line with current intergovernmental commitments—municipal finances would remain sustainable in the future, even under the most challenging fiscal conditions (i.e., scenario 3). However, it is unclear whether the national fiscus would be in a position to provide the additional financial support to the local government level (which could be as much as R 40 billion), as the additional demands on urban fiscal space come at a time at which national fiscal space is contracting (National Treasury, 2017b).



## 2.5. An evaluation of the overall architecture of urban public finance in South Africa

South Africa's intergovernmental fiscal architecture was carefully designed and calibrated during the formulation and implementation of the post-apartheid constitution to ensure that "finance follows functions" and to balance local autonomy versus equity concerns in intergovernmental relations. Recent analyses of the urban finance system suggests that, overall, the architecture of intergovernmental (and urban) finances in South Africa continue to be sound.

As highlighted above, and with the caveats noted, urban municipal expenditures in South Africa have increased in a stable, incremental manner over time. Similarly, the mechanisms for financing municipal expenditures have generally increased in a gradual and stable manner: increases in own revenue sources and recurrent transfers (the Local Government Equitable Share) have more or less kept pace with recurrent municipal expenditure increases over time. An area of some policy concern is the limited increase in capital transfers and borrowing by metropolitan municipalities over the past several years. In response to this concern, the National Treasury is moving to implement a more fine-tuned capital grant system (which provides greater discretion to larger municipalities and greater conditionality and targeting for smaller municipalities). Similarly, the National Treasury is working to encourage municipalities to more actively consider capital finance (borrowing) as an appropriate financing mechanism where appropriate.

The analyses by Boex and Karger-Lerchl (2017) and Boex et al (2017) suggest that the country's urban finances are generally on a sustainable trajectory, with no apparent danger of an imminent systemic urban fiscal crisis. However, the analyses also note that urban local governments are subject to a range of forces that create upward pressure on local government spending in an environment of revenue-side constraints. While at this stage no single urban function threatens the sustainability of urban finances, the combined impact of policy decisions across different urban functions can pose a long-term cumulative risk.

Although the Treasury and other observers have noted increasing reliance by metropolitan municipalities on intergovernmental fiscal transfers as a key fiscal policy concern (e.g., Schoeman 2011), care should be taken not to overstate this concern: there is little or no empirical evidence to suggest that increased local revenue autonomy results in better (financial or service delivery) performance at the local level.

Furthermore, it is important to recognize that reliance on intergovernmental fiscal transfers is not necessarily a sign of irrational local decision-making or a "lack of local political will" to generate own revenue sources and to dedicate these to economic infrastructure. Instead, it is quite likely that these local decisions are rationally

informed by the inadequate availability of appropriate and attractive local revenue instruments. Indeed, a strong argument could be made based on the cumulative evidence of the urbanization review that while urban areas in the post-apartheid era function reasonably effectively as catalysts that allows poor urban households to climb the economic ladder, the structure of the current urban finance system in South Africa is allowing these same households to stay on the bottom rung of municipal fiscal ladder, thereby preventing municipalities from converting households that are a drain on their fiscus into households that have a positive net fiscal impact on their budgets.

Indeed, as highlighted in Box 2.1., a number of indicators suggest substantial fiscal tightness at the margin in urban finances that may signal that urban finances in South Africa are at an inflection point: if own source revenue trends and intergovernmental fiscal transfer fail to continue on their current incremental path relative to expenditure needs, it is quite possible that the current trajectory of municipal expenditures could become fiscally unsustainable more easily than otherwise expected. Given the balanced budget requirements imposed on municipalities, such fiscal unsustainability would most likely manifest itself in a downward spiral of (significant) decreases in local public service quality and downward pressure on the local willingness to pay municipal taxes.

Such a potential downward spiral could be prevented through one of several interventions, the most obvious of which perhaps are—first—an increase in unconditional grants and —second—the further opening up of revenue space for urban municipalities to provide them with higher-yielding revenue instruments. While these options will be discussed in some greater detail in Section 6, it is relevant to note that simply placing a greater demand on the national fiscus (whether through more intergovernmental transfers or a greater slice of the revenue pie) is unlikely to be a realistic solution, as national fiscal space is contracting as a result of the macro-economy climate (National Treasury, 2017b).

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### 3. Urban areas as spaces for economic growth

One of the surprises of the recent urbanization review efforts was that no accurate, systematic data are available with respect to the specific location of economic activity between and within localities in South Africa.<sup>20</sup> However, it is commonly acknowledged that urban areas in South Africa—as is the case around the world—are the engines of economic growth. Official estimates indicate that the country's four city-regions together account for more than half the national gross value added (GVA); when other cities and large towns are included, the urban share of economic productivity rises to 81.4% of the country's GVA (CoGTA 2016b; CSIR, 2013). As such, it is critical to the success of the public sector—as well as to the success of the economy as a whole—that urban infrastructure and services are provided and funded efficiently and equitably.

Whereas there is considerable policy focus placed on urban inclusion and equity in South Africa, the importance of urban growth and the role of the productive sector in creating urban (and national) fiscal space should not be overlooked.

Urban growth—both in terms of an increase in (non-indigent) urban residents as well as in terms of economic growth—has important fiscal and spatial impacts. New residents and businesses will put additional demands on urban infrastructure and services, but will also be a source of additional revenues. The locational choices of new residents and businesses may also have an impact on urban space. In the RSA Urbanization Impact Model (RUIM), the primary source of urban growth is modeled to be the net change of non-indigent residents and businesses in urban areas, which may take place through in-migration from non-urban areas into urban areas, as well as through upward economic mobility.

#### 3.1 Providing urban services to existing (non-indigent) residents and businesses

The public finance literature dealing with local government finances—particularly in urban areas—tends to treat local governments as a public platform for local residents to decide and manage local affairs. In this conception, local government “clubs” provide local

services that are generally funded by the contributions from local residents, who are both local taxpayers as well as the primary beneficiaries of the local services (Tiebout 1956; Buchanan 1965; Olson 1969). In line with this view, the South African Constitution views local governments as local decision-making fora which are “not about delivering services to passive beneficiaries or atomized consumers...” but where service provision is seen as an enabling condition for development based on “[a]n active citizenry [which] would ... hold municipal leaders to account and thereby broaden and deepen democracy” (Turok 2014: 750).

Indeed, South African cities are quite reliant on own revenue sources for the funding of municipal services.<sup>21</sup> The urban finance system in South Africa is broadly based on the benefit principle, whereby the user of urban services (i.e., the urban resident) is generally expected to pay for the delivery of the service either through tariffs (in the case of trading services) or through local taxes that serve as quasi-user fees (such as property rates) in the case of other local public services. Thus, to the extent that urban residents can afford to do so, they are generally expected to contribute to urban revenues through local taxes and tariffs.

There is considerable analysis of municipal finances in South Africa that confirms that user fees and local taxes (considered as quasi-user fees for municipal services) paid by non-indigent households not only meet the cost of the municipal services provided to them based on the concept of full cost recovery, but that in general, the fees and taxes paid exceed the cost of services delivered to rate-paying households (e.g., SACN/ Urban Land Mark 2009; SACN 2015). In other words, South African municipalities effectively operate as “fiscal clubs”.<sup>22</sup>

Indeed, the concept of full cost recovery requires that the fees and taxes paid by local taxpayers are adequate to cover the recurrent (operating) cost of the local services received, and that sufficient resources are available to fund the maintenance, rehabilitation and renewal of the needed capital infrastructure.

Recent modelling of the need for infrastructure investment by metropolitan municipalities finds that existing municipal expenditure levels on capital infrastructure are more than adequate to fund the capital infrastructure required for serving existing urban residents. In total, in order to provide rehabilitation and renew existing infrastructure, eliminate any backlogs and support urban growth, a recent analysis found that metropolitan municipalities need to annually spend on average R 43

<sup>20</sup> To the extent that data firms provide disaggregated data on local economic activity in South Africa, such figures are estimates imputed based on historical patterns rather than estimates based on current disaggregated patterns of employment and economic production.

<sup>21</sup> It is difficult to make a comparison between urban finance in South Africa with urban finances in other countries, as urban local governments in different countries often have different functional responsibilities (which may require a different funding mix). Furthermore, in most other countries, municipal utility expenditures and revenues are not reported on-budget.

<sup>22</sup> Section 74(2d) of the Municipal Systems Act (2000) states that municipal “tariffs must reflect the costs reasonably associated with rendering the service, including capital, operating, maintenance, administration and replacement costs, and interest charges”. By the same section, indigent households are not required to pay the same level of tariffs. Instead, poor households are cross-subsidized by other “club members”, both through user charges for trading services, as well as through property rates. This issue is further discussed in Section 4.

billion or R 430 billion over a ten year period (NT/PDG 2015). However, more than half of this projected capital requirement is needed for urban expansion.<sup>23</sup> According to the estimates derived from the infrastructure needs model, R 179 billion—or about R 18 billion per year—is required for the renewal of existing infrastructure. Furthermore, projections covering all eight metropolitan municipalities suggest that roughly R 24 billion would be required over the coming ten-year period for the elimination of the infrastructure backlog; this reflects approximately 5 percent of the projected metropolitan infrastructure needs over the same period. Combined, the capital requirement for existing urban residents is approximately R 20 billion per year.

In 2015/16, metropolitan municipalities spent approximately R 30 billion on capital infrastructure, and growth in capital expenditures over time seems to be lagging behind operating expenditures. While current capital expenditure levels thus would be sufficient to cover any infrastructure backlog and rehabilitation and renewal of existing infrastructure networks, current capital spending levels are inadequate to support the investments required to accommodate future population and economic growth.

## 3.2 Urban growth: providing urban infrastructure and services to new residents and businesses

Although South Africa's migration patterns seem to have evolved in a non-linear manner over the past two decades, there continues to be a movement of people towards urban areas in the country. The World Urbanization Prospects (2014) projects that whereas slightly over half of South Africans lived in urban areas in 1990 (52%) and close to two-thirds of the population is urbanized today (64%), by 2050 almost 4 out of 5 South Africans will live in urban areas by 2050 (77%). While increased urbanization and urban population growth are generally seen as a positive process contributing to economic growth and upward mobility, urban growth is not without its fiscal challenges. Whereas existing residents and local businesses have contributed to the development of existing urban infrastructure over time, in-migrants place an additional demand on urban infrastructure networks. Since in-migrants fail to bring urban infrastructure with them as they move to urban areas, it is important to ensure that mechanisms exist to ensure that the expansion of urban infrastructure networks required by their influx is paid for. This fiscal challenge is equally relevant for new non-indigent urban households and businesses that relocate to an urban area from outside the urban area, as well as for indigent urban households that climb the economic ladder and make housing choices that impose additional demands on urban infrastructure and

services.

According to the estimates derived from the infrastructure needs model, future population and economic growth form the most significant drivers of infrastructure need, accounting for about R 228 billion (53%) of the projected municipal capital infrastructure investment need over ten years (NT/PDG, 2015). Unless municipalities are willing to underfund the rehabilitation and renewal of existing urban infrastructure, current spending levels do not adequately accommodate the expansion of urban infrastructure needed to accommodate future urban growth.

There are numerous ways in which the expansion of urban infrastructure could be funded. An important way to fund municipal infrastructure expansion is to effectively shift the cost of urban network infrastructure to the developer—and ultimately, to the new household or business—through development impact fees and the resulting higher land prices. Development impact fees (recorded onto municipal budgets as “public contributions and donations”) are used in various municipalities in South Africa—in line with good practice—to offset the cost of expanding urban infrastructure networks: metropolitan municipalities raise about R 3 billion per annum in (monetary plus in-kind) development charges. In order to fund urban infrastructure investments, projections suggest that metros would have to collect, on average, R 7 billion per year in development charges over the next ten years. Although it would be very optimistic to assume that the full cost of bulk and connector infrastructure for high income households and non-residential consumers could be recovered through development charges and other land-based value capture tools, the expanded use and application of development impact fees and other land-based financing options should be further considered (NT/PDG 2015: 27; Santos, Alorro and Goliath 2016).

Other than increasing the share of capital spending that is directly covered by new residents or businesses through development charges, urban municipalities could (a) generate greater operating revenue surpluses, (b) be awarded more grants or (c) engage in more extensive borrowing in order to finance the capital infrastructure gap. As such the main challenge is not necessarily to decide whether greater investment in urban infrastructure is warranted, but rather, what mix of funding instruments would be most appropriate and effective.

## 3.3 Discussion

***The fiscal impact of urban areas as spaces for economic growth.*** Investment in the expansion of urban infrastructure networks is an important precondition for increased urban growth. In fact, the observation that metros are under-investing in such infrastructure has already triggered analysis by the National Treasury in an effort to identify appropriate fiscal policy responses.

<sup>23</sup> The estimates by NT/PDG (2015) are roughly in line with the capital expenditure requirements presented by FFC/SALGA (2015). A series of recent analyses by the National Treasury (2017b) seem to imply a more substantial infrastructure backlog in key municipal trading services.

In its current efforts, the National Treasury (2017a: 4) has already identified a number of reasons for the poor performance of urban services and the underinvestment in urban infrastructure expansion, primary among which is the structural misalignment between the long-term imperatives of capital-intensive urban services like water and sanitation, and the short-term incentives associated with political cycles. Other constraints identified include a loss of professional engineering skills by metros; ineffective regulation; insufficiently robust and transparent financial data; municipal corruption and patronage; and over-reliance on grant financing.<sup>24</sup>

Based on its analysis, National Treasury (2017a) is recommending an “all of the above” strategy to encourage greater (yet prudent) investment in urban infrastructure. In doing so, it has made a number of recommendations, ranging from identifying alternative municipal revenue sources (in order to possibly substitute the contribution of electricity surpluses to other services) and leveraging loan finance for investments in economic infrastructure to the possible introduction of a national sanitation challenge fund.

The basic challenge faced by South African municipalities is the same political economy challenge faced by municipal finance systems the world over: to balance the pressures on locally elected leaders to think and act based on short-term political considerations with the need to make capital investment decisions based on the long-term needs of their urban areas. In arriving at solutions to this problem, it is important to recognize that municipal leaders are acting rationally in arriving at their capital investment decision, even though—when left to their own devices—this leads to an economically suboptimal outcome. For instance, the local hesitance to borrow funds for future infrastructure investments should be seen as quite rational given the current negative economic outlook and its ramifications for municipal finances—both in terms of its impact on own revenues, as well as the implications it has for the national government’s ability to support intergovernmental fiscal transfers.<sup>25</sup>

While the infrastructure funding gap can be partially mitigated by promoting municipal borrowing, merely addressing the inter-temporal mismatch associated with using recurrent resources for long-term capital investments may be an insufficient incentive to ensure optimal investment in urban infrastructure both for renewal as well as expansion. Ensuring municipal access

to loan funding for urban infrastructure—possibly along with targeted conditional grant funding—should therefore not be ruled out in seeking to bring investment levels in urban infrastructure networks closer to its optimum. A related long-run concern on the revenue side of the urban finance equation is whether municipalities have the appropriate revenue tools they need—now and into the future—to tax local taxpayers (including non-indigent households as well as local businesses). After all, borrowing has to be repaid. Urban local governments currently rely considerably on the excess revenue that is being generated on trading services, which is subsequently used either to cross-subsidize the provision of these services to the poor, or as general revenue for the municipality as a whole. Simply increasing the tariffs even further in order to pay for future infrastructure investments is unlikely to be feasible long-term financing option, especially as bulk electricity prices are high and as households are increasingly able to shift to alternative (e.g., solar) power sources. While property rates and trading services have provided local governments with a strong revenue handle in the past, this revenue collection strategy may be coming to the end of its life cycle, as suggested by the increasing roll of municipal debtors.<sup>26</sup> Furthermore, the analysis presented in Section 2 suggests that recurrent revenue collections of metropolitan municipalities have merely remained constant as a share of national GDP despite the fact that urban poverty rates have declined substantially and that national economic growth has been disproportionately taken place in metropolitan areas.

In fact, a major element of the urban fiscal sustainability challenge in South Africa seems to be the limited degree to which the municipal revenue system has been able to leverage urban socio-economic transformation into urban fiscal information by converting economic growth into revenue growth. Although the composition of urban areas has changed drastically—from having two out of three households being below the poverty line in 2001 to only one out of three households being poor in 2011—metropolitan areas have generally been unable to convert households that were previously poor and non-fiscally productive (i.e., households using free basic services and not paying rates or tariffs) into households that are fiscally-productive (i.e., paying rates and paying tariffs for services received). Possible reasons for why urban households seem to be climbing the economic ladder without climbing the fiscal ladder include a higher share of the urban population receiving pensions or social benefits; informality in income-generating activities; inefficiencies in the housing market (which causes households with

<sup>24</sup> An additional important incentive for municipal underinvestment in the expansion of urban infrastructure networks would be the expectation that additional infrastructure investments would have negative recurrent implications for the municipal budget. For instance, to the extent that municipal budgets are expected to cross-subsidize services to indigent or low-income households, municipal decision-makers may make a rational decision to under-invest in such infrastructure. This concern is relevant to the discussion in Section 4.

<sup>25</sup> This is especially true for the smaller metros and secondary cities, for which the economic growth forecasts is less robust than the larger metropolitan areas.

<sup>26</sup> It will be important to investigate the nature and causes of the increased level of arrears and debt payable to metropolitan municipalities. For instance, are debtors being cut off from municipal services and/or is legal action being taken to collect from those who are defaulting on their property rates? If not, why not? If so, why do these efforts not appear to have their desired effect of maintaining local tax compliance?



rising incomes to remain in housing that is generally not taxed); and a reluctance among local politicians to tax newly non-poor households.<sup>27</sup>

At the same time as municipal revenue collections are under pressure, there is a feeling by many stakeholders that metropolitan municipalities are excessively grant dependent in South Africa, and that this has led to a lack of downward accountability and reduced urban revenue effort. While it is quite possible that reducing grants to metropolitan areas might lead to greater own revenue effort, it might also lead to reductions in urban spending on urban infrastructure expansion. Conversely, the grant dependency of local governments may be more a function of the limited revenue sources assigned to municipalities rather than a desire by local governments to receive grants. Regardless of whether an expansion of urban infrastructure is funded through grants or not, national government itself benefits extensively from urban growth generated by local government investments. A one-percentage point increase in urban economic activity—all else equal—would have the potential to raise approximately R 1.6 billion in additional VAT revenue alone for the national government.<sup>28</sup>

The question whether to assign another major general-purpose revenue source to (urban) local governments—and if so, which one—has been raised from time to time since 2006, when the RSC levy was abolished after having been found to be unconstitutional.<sup>29</sup> The issues of possible new municipal tax instruments was recently raised by Louw (2018), who advocates for reassigning the transfer duty from the national government to the municipal level.<sup>30</sup> Another possibility which may be worth considering is the sharing of a small, fixed percentage of national VAT revenues with municipalities on the basis of where economic activity takes place (which could be measured by the share of the national wage bill paid within each municipal jurisdiction). Given resource constraints at the national level, the assignment of such an additional municipal revenue source might have to be offset—in part (or possibly even in full)—by a reduction in the Local Government Equitable Share (LGES) or in the Urban Settlement Development Grant (USDG). Such a shared revenue source may give metropolitan municipalities a revenue source that is more stable over the long term than grant allocations, and could provide an incentive for municipalities to generate and attract employment opportunities within their jurisdictions.

**The impact of economic growth on urban form.** What impact, if any, does urban economic growth have on the spatial form of South African cities? Based on the spatial structure of urban areas in South Africa today and the revealed location choices of non-indigent residents and businesses, urban growth by itself is not likely to result in a more inclusive spatial form. In fact, the spatial impact of urban growth—unless mitigated by targeted interventions, as discussed further in Section 5—is likely to perpetuate existing low-density spatial patterns of residential and employment location, and thereby reinforce (or even worsen) the existing spatial mismatch and urban sprawl.

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## 4. Urban areas as drivers of equity and social mobility

Ensuring equitable access to local infrastructure and services is enshrined in the Constitution as an important part of South Africa's social contract, as it is the developmental duty of municipalities to structure and manage its affairs “to give priority to the basic needs of the community, and to promote the social and economic development of the community” (1996 Constitution, Section 153). More than a mere political preference, one could argue that as a country forged out of the apartheid system, a lack of emphasis on equity and social cohesion could spell existentialist trouble for the state as a whole.

In fact, the very structure of local government in large urban areas—a structure by which urban affairs are managed by a single consolidated, metropolitan-wide local government—emerged in 2000 in an effort to distribute municipal resources more fairly across each city so as to redress inequalities in amenities perpetuated by the previous, more fragmented local government structure (Turok 2014).

In practice, metropolitan municipalities accommodate and support equity and social mobility in three distinct ways: first, they provide urban services to existing indigent

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<sup>27</sup> *The tepid municipal revenue growth and the rising number of municipal debtors might reflect a shift in the urban social contract: whereas in the immediate post-apartheid years wealthier households were willing to support municipal services to indigent households, it is possible that the willingness to support such redistributive efforts is declining with the passage of time, and as a result of the perception that the rising middle class is not sufficiently contributing to urban redistribution.*

<sup>28</sup> *This estimate is based on the fact that Value-Added Tax collections for 2016/17 amount to R289 billion (NT/SARS 2017), of which an estimated 56.8 % (R 164.2 billion) is collected within metro municipalities (CSIR 2013). One percent thereof is R 1.6 billion. In contrast, the RUIIM model suggests that a 1-percent urban growth rate would increase property rate collections in metros by about the same amount (R 1.5 billion). It should be noted that VAT collections only reflect a quarter of the national revenues collected by SARS (personal income tax accounted for 37.2 percent and corporate income tax 18.1 percent).*

<sup>29</sup> *The RSC Levy was replaced by a government grant for three years, after which metropolitan municipalities were assigned a share of the national Fuel Levy as a permanent replacement of the RSC Levy.*

<sup>30</sup> *Other possible new municipal revenue sources discussed by Louw (2018) include local business licenses; a local business tax based on productive assets; a local business tax based on turnover; and a local payroll tax.*



and lower-income households within their community for free (or at reduced charge); second, they accommodate in-migration of indigent residents in search of economic opportunities through the provision of additional urban network infrastructure; and third, municipalities may be mandated to provide local services to the poor within their jurisdiction beyond what is seen as their functional mandate (i.e., unfunded mandates may be imposed on them). Each of these urbanization patterns has its own potential impact on urban fiscal space as well as the physical space of urban areas.

The RUIIM model suggests that municipal indigent policies for existing poor urban residents and potential unfunded mandates are unlikely to have a major impact on fiscal space. Changes in the number of indigent households served by the municipality (for instance, as a result of indigent in-migration) can have significant fiscal impact, both in terms of the additional capital cost required to serve newcomers, as well as due to the additional recurrent cost of providing urban services to a cumulatively larger indigent population.

## 4.1 The impact of the existing urban poor on urban finances

In line with the constitutional provision that municipalities have a developmental duty, the Municipal Systems Act (2000) defines the term “development” as sustainable development, which “includes integrated social, economic, environmental, spatial, infrastructural, institutional, organisational and human resources upliftment of a community aimed at— (a) improving the quality of life of its members with specific reference to the poor and other disadvantaged sections of the community; and (b) ensuring that development serves present and future generations” (Section 1). Furthermore, the Act seeks to ensure “universal access to essential services that are affordable to all”, among others by “empower[ing] the poor and [to] ensure that municipalities put in place service tariffs and credit control policies that take their needs into account” in line with the national policy on indigents.

Beyond the existing levels of pro-poor spending implied by existing national standards, local political leaders may choose to engage in various redistributive activities and/or may self-impose certain service delivery norms to pursue greater equity between poor and non-poor residents that implies greater redistribution.<sup>31</sup>

Public finance theory suggests that the provision of local public services to the urban poor ought to be funded by a mix of intergovernmental fiscal grants and own municipal revenue sources rather than exclusively by local taxpayers, who might avoid this redistributive burden—if imposed on local taxpayers beyond the level of equity implied by the social compact in each urban area—either at the ballot

box or by “voting with their feet”.<sup>32</sup> In line with public finance principles, the Municipal Systems Act (2000; Section 94) explicitly assigns the fiscal responsibility for local redistributive efforts across all spheres of government, as the subsidization of tariffs for poor households is supposed to be funded through (i) cross-subsidization within and between services; (ii) equitable share allocations to municipalities; and (iii) national and provincial grants to municipalities.

Although it is not easy to disentangle municipal spending directed towards different municipal residents (or the non-residential sector), data used for the Municipal Services Financial Model (MSFM) suggests that around a quarter (25 percent) of all operating spending on trading services is directed towards poor households. Similarly, a review of existing practices confirms that the Local Government Equitable Share (LGES) plays an important role in funding pro-poor local government services. Although the LGES is unconditional in nature, since 1998, its vertical and horizontal distribution has been driven to a large extent by the equity objective to ensure that poor residents in local government jurisdictions receive access to basic municipal services (Manuel, 1998). In addition to the LGES, local governments receive targeted (albeit quite fragmented) capital grant funding to support the urban infrastructure expansion needs associated with the urban poor.

The exact degree to which pro-poor municipal spending is funded through intergovernmental fiscal transfers vis-à-vis cross-subsidization from own municipal revenues depends considerably on how one defines pro-poor municipal spending. Furthermore, this ratio varies considerably from metro to metro. The MSFM estimates that, on average, the LGES may cover as much as three-quarters of the free basic services provided to indigent households in urban areas. The estimates included in the RUIIM model suggest that when all municipal services used by the urban poor are taken into account (including, for instance, municipal roads and other services), the share of funding for pro-poor municipal services provided by the LGES is closer to 55-65 percent, with the remaining funds being provided by cross-subsidization at the local level.

The pro-poor orientation of the grant system and the high degree of cross-subsidization at the municipal level would seem to contradict the concern by some stakeholders that urban budgets are “balanced on the backs of the urban poor.”

This is not to say that indigent households have equal access to municipal services to non-poor households—this is clearly not the case (Table 4.1). The general pro-poor orientation of urban public finances notwithstanding, local service delivery performance is weak in many ways, and many poor urban households still lack access to basic municipal services.

<sup>31</sup> Examples may include local political support for loss-making public bus routes to provide access to low-income townships, or local political support to ensure that road infrastructure serving low-income areas meets the same specification as roads in higher-income areas.

<sup>32</sup> The municipal election results in August 2016 suggest that local taxpayers/voters in metropolitan areas were unimpressed with the performance of the incumbent party in managing urban affairs.

Table 4.1 Share of indigent households in each metro benefiting from an indigent support system, 2016

	Indigents households (Mun. Est.)*	Indigents households (Census)**	Beneficiaries (as share of indigent households**)			
			Water	Electricity	Sewerage and Sanitation	Solid Waste Mgmt.
Cape Town	232,569	502,407	46.3	46.3	46.3	46.3
Buffalo City	83,714	144,821	57.8	57.8	57.8	57.8
Nelson Mandela Bay	88,776	192,664	36.3	36.3	36.3	36.3
Mangaung	34,541	139,507	17.7	16.8	20.8	20.8
eThekweni	598,486	561,588	93.4	34.4	67.5	106.6
Johannesburg	109,713	740,915	4.2	4.0	5.6	14.8
Tshwane	413,000	437,397	94.4	27.4	27.4	94.4
Ekurhuleni	102,011	562,596	18.1	18.1	18.1	17.6
<b>Metros, Total</b>	<b>1,662,810</b>	<b>3,281,895</b>	<b>45.2</b>	<b>26.0</b>	<b>32.2</b>	<b>49.8</b>

Source: Computed by author based on StatsSA (2017: Table 17); and Census (2011).

Note: (\*) Number of indigent households as identified by the municipalities; (\*\*) Number of indigent households as identified based on Census (2011).

While under the post-apartheid local government system municipal services have been progressively extended to more citizens than ever before, according to CoGTA (2016), institutional incapacity and widespread poverty have undermined the sustainability of the local government system, leading in some instances to a breakdown in services. In response to the absence or low quality of basic services and housing, community protests have been an increasingly common occurrence (Turok 2014). The RUIM model projects that improving the coverage of pro-poor municipal services across all metros would cost in the range of R 5-11 billion more annually. Judging by the apparent inability of municipalities to identify indigent households in their midst (as shown in Table 4.1), however, the failure to provide universal access to formal municipal services appears to be as much a governance issue as it is a public finance issue.<sup>33</sup>

## 4.2 The impact of indigent urban population growth on urban finances

In addition to the urbanization of higher-income households and businesses discussed in Section 3, there has been pattern of urban migration of lower-income people to urban areas. While lower-income (poor or indigent) people or households are generally less mobile, they represent the larger share of the total number of migrants within South Africa. Although both poor and non-poor South Africans are generally urbanizing, their location choices within urban areas tend to be different and the fiscal impact on the receiving urban jurisdiction is vastly different. In-migration of indigent residents—particular to the extent it takes place on the

urban fringe or in previously unsettled areas within the local government's boundaries—requires additional investments in urban infrastructure, along with the associated recurrent service delivery implications. On the revenue side, the incidence of indigent in-migration is very different from the influx of non-poor households, as new indigent households are unlikely to contribute directly to the urban fiscus in the form of property rates or utility charges.

The provision of free or subsidized housing to the urban poor has important implications for municipal fiscal space.<sup>34</sup> Although the provision of public housing is mainly a provincial responsibility and provincially funded (as more fully dealt with in Section 5), the construction of additional public housing requires the expansion of urban network infrastructure. In addition, additional provision of public housing or subsidized housing for indigent households will have important recurrent fiscal implications are a result of the requirement to provide free basic services.

Of course, the extent to which indigent urban population growth will place a claim on fiscal space obviously will depend on the rate of indigent population growth. At 1 percent per annum, the indigent urban population requiring urban infrastructure and services (across all metros) would grow from 10.85 million residents today over the next ten year by 1.15 million to 12 million indigent residents. At a growth rate of 3 percent per year, an additional 3.7 million indigent urban residents would require urban infrastructure and services.

The total potential cost of indigent population growth is considerable. The RUIM model projects that at a “medium” indigent population growth rate of 2 percent,

<sup>33</sup> This means that merely increasing the untied fiscal resources available to municipalities is unlikely to address these service delivery failures.

<sup>34</sup> To the extent that in-migrating urban poor are informally housed (by living informally on invaded land, by living in backyard shacks, and other informal housing arrangements), the fiscal requirements of indigent in-migrants would be considerably less.

the total annual cost for providing additional urban infrastructure and services by 2026/27 (Year 10) would be R 15.7 billion per year, roughly half of which would be in the form of additional capital costs, while the other half would be in the form of recurrent costs for providing municipal services to the additional indigent urban residents.

## 4.3 The impact of unfunded mandates on urban finances

In addition to municipal trading services which are required to be delivered to all municipal residents according to certain national standards (with implicit funding support through the LGES), there is a potential for the imposition of additional unfunded mandates by national governments on urban local governments.

It appears that national departments are increasingly interested in providing detailed guidance on the public service delivery standards which local governments are expected to follow (such as library services). If the number and volume of such unfunded mandates that result from such “functional scope creep” increases, this could impose a fiscal burden on municipal budgets and undermine the overall sustainability of urban finance.

Unfunded mandates do not appear to be a major threat to fiscal space at this stage. For instance, projections using the RUIIM model project the introduction of an unfunded mandate or requirement that all urban residents are provided with Community and Public Safety Services equivalent to 100% of the current non-indigent per-person spending level. This mandate is projected to cost approximately R 6 billion per year.

As such, pressures from unfunded mandates seem to be a less pertinent driver than potential pressure on local politicians to support targeted pro-poor programs. For instance, whereas local governments are not required to provide paved roads in low-income areas that meet the same standards as in higher-income neighborhoods, there is often a local political desire to be “fair”. Similarly, there may be local political pressure for municipalities to support the construction of loss-making public bus routes to provide access to low-income townships. While not mandated by higher-level government, such programs can have important implications for how municipalities spend their limited own resources.

## 4.4 Discussion

**The fiscal impact of equity and social mobility efforts.** The current situation with respect to urban finances and the role of urban areas as drivers of equity and social mobility in South Africa could be summarized by the following observations. First, to the extent that it is possible to break

out the cost of municipal services provided to the urban poor, the available evidence suggests that a considerable share of municipal budgets is dedicated to providing urban infrastructure and services to the poor. Second, whereas an important part of pro-poor municipal services is funded by recurrent and capital grants, non-indigent local taxpayers also fund a substantial portion of the provision of municipal services to the poor through cross-subsidization of local property rates and municipal tariffs.

In aggregate, the RUIIM model’s fiscal impact simulations suggest that the marginal fiscal impact of pro-poor urban policies—even when combining the impact of services for new and existing indigent residents, as well as unfunded mandates—is relatively sustainable under the more likely scenarios (Boex et al 2017). Naturally, the exact fiscal impact of pro-poor urban policies in coming years will depend on the nature of future migration patterns and on the extent to which urban areas continue to serve as catalysts of upward social mobility.

However, two important caveats should be noted in this regard. First, care should be taken not to generalize the general conclusion—which is based on the aggregate analysis for all metropolitan municipalities—to individual metros. In particular, it should be recognized that larger metros generally have more robust urban economies and support fewer indigent households vis-à-vis the smaller metros (and in turn, compared to secondary cities), and these income and poverty profiles are growing more disparate over time. As a result, the ability of cities of different sizes and different economic bases to support redistributive urban policies from own revenue sources is evolving, potentially resulting in fiscally unsustainable patterns in the smaller metros.<sup>35</sup>

Second, it should be noted that the question of overall fiscal sustainability of pro-poor urban policies hinges on the ability of the national government to continue to support pro-poor municipal services and infrastructure through the intergovernmental finance system. As the ability of metros to support redistributive efforts from own sources seems to be at its limits, the overall ability to engage in pro-poor urban policies will be determined in large part by the amount of fiscal space that the national government is able to devote to this priority under difficult macro-fiscal circumstances.

### **The spatial impact of equity and social mobility efforts.**

Our interest is not limited to the impact of municipal fiscal redistribution on urban fiscal space: instead, we are equally interested in the interaction between interventions in support of urban equity and social mobility on one hand, and urban spatial form on the other.

In this regard, it is worth noting that unfunded mandates and municipal policy choices regarding equitable service provision to the existing urban poor are unlikely to have

<sup>35</sup> If subsequent research confirms such a trend, this pattern could be mitigated in part by a revision of the LGES allocation formula, or by revising the data upon which grant allocations are based.

a substantive impact of the location decisions of indigent households.<sup>36</sup>

Thus, the main determinant of spatial form related to the urban poor is likely to be the location decision of new (in-migrant) indigent households. Indigent in-migration tends to occur at the urban periphery and in existing townships. The locational choices of new indigent residents are likely driven by non-fiscal factors related to the availability of formal and informal housing opportunities. This may come in the form of peripheral land suitable for land invasions; co-location with extended family networks (i.e., “couch surfing”); the availability of backyard or back-room rental housing; the location of RDP housing projects and the location of other informal or transitional low-cost housing opportunities. These locational tendencies tend to promote a combination of densification of existing townships and expansion of peri-urban settlements (e.g., RDP mega-projects). As such, the location patterns of poor households and individuals tend to reinforce the existing polycentric form of urban areas in South Africa.

It bears repeating that despite persistent concerns about urban poverty and spatial mismatch within the country’s main urban areas, the urban poverty rate in South Africa declined precipitously from 67 percent in 2001 to 51 percent in 2011.

It is likely that this pattern does not reflect systematic migration of non-poor households into urban areas, but rather, reflects in-migration of indigent households in combination with the upward social mobility of the urban poor. This would mean that despite the residential segregation and spatial mismatch inherent in the current urban spatial form, the urban poor have been able to climb out of poverty over time. Regrettably, the specific social and spatial dynamics that facilitate rural migrants in climbing the socio-economic ladder once they arrive in an urban area are not well-understood. Much is yet to be learnt about how employment location, residential location, social networks and urban space interact in a way that enables poor South Africans to find greater economic success in South African metropolitan areas.

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## 5. An analysis of urban spatial inclusiveness efforts

The current low-density, polycentric spatial structure of South African was born out of the apartheid system, which used urban space to purposely segregate and

divide. This evolution of this low-density, polycentric spatial structure process was facilitated by the development of a highly efficient network of highways in and around major urban areas. The national government is committed to achieving more integrated, equitable and inclusive cities by complementing economic reforms with “plans to reconfigure the urban landscape, which remains dominated by inefficient and inequitable patterns of settlement” (National Treasury 2017b).

In line with this policy ambition, Turok (2016) notes that “[a]n important goal is to start reversing the inefficient and exclusionary urban form inherited from apartheid, through processes of urban integration, compaction and densification. Specific priorities have been to encourage more property investment on well-located vacant land, and to improve public transport connections between dispersed residential areas and places of work.”

As noted in Section 2, in order to reverse the apartheid legacy, cities have been tasked to drive the spatial transformation of their urban areas through the pursuit of inclusive spatial plans, guided by the Spatial Planning and Land Use Management Act (SPLUMA) of 2013 and the Integrated Urban Development Framework (CoGTA, 2016b). The ambition is to transform urban space in a way that meets the need for inclusivity, mobility and access, economic development that drives local and national growth prospects and transforms space in a manner that is socially and environmentally sustainable (SACN, 2015; 2016). Integrated transport and mobility and integrated and sustainable human settlements are seen as key areas of intervention to restructure cities, shifting ownership profiles and choices, and creating more humane, environment-friendly, safe living and working conditions (CoGTA 2016b).

### Box 5.1 Urban spatial form in South Africa: monocentric versus polycentric urban areas

The conventional wisdom in South Africa is that its urban areas have an unnatural, non-inclusive and inefficient spatial form, and thus, that intervention is required to shape them in accordance with the model of a typical or “ordinary” city that “evolved in a more organic way without rigid state controls” (Turok 2012:23). In doing so, Turok equates “ordinary cities” to monocentric cities which evolved prior to the introduction of the automobile. This drives Turok (2016) to advocate for “compaction and densification” of cities in South Africa.

However, such analysis ignores the impact that the introduction of the automobile has had on the evolution of urban form. For instance, when compared to the evolution of cities in the south and west of the United States (such as Atlanta, Dallas or Los Angeles), South

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<sup>36</sup> To the extent that pro-poor services and unfunded mandates are provided universally across an urban jurisdiction, it is possible that these services would encourage lower-income residents to remain in townships and in peri-urban locations, as it is likely that urban services would disproportionately improve in these locations. However, this assumes that low-income households are responsive to urban public services in their location decision. In this regard, d’Aoust (2017) finds that the location decision of indigent households in South Africa is determined more by the availability of employment opportunities than the quality and availability of municipal services.



African urban areas have pretty typical polycentric spatial structure. Despite its pernicious origins during the apartheid regime, the perpetuation of the polycentric form of South Africa's urban areas today is driven to a large extent by the locational preferences of households and businesses, including the preference across all income groups for low-density housing, facilitated by a decline in the cost of private (or semi-private) transportation in a context of abundant land on the urban outskirts.

In addition, to the extent that employment opportunities do not seem to be concentrated in the central business district of South Africa's largest cities (as previously expected), compaction and densification will not necessarily solve the spatial mismatch problem.

In this context, therefore, seeking to promote densification or monocentricity for its own sake would be working against the grain. Evidence from the United States suggests that the legacy of residential segregation in urban areas is likely to be felt for many decades, and that residential desegregation is difficult to achieve through public policy and urban planning (Platt Boustan 2013).

Compared to other urban infrastructure and services, the roles that urban housing and public transportation play in urban development are unique for a number of reasons. Perhaps most significantly, Schedule 4 of the Constitution has assigns these urban functions as functional areas of concurrent national and provincial legislative competence, rather than as areas of municipal competence. In this context, national and provincial governments spending on housing, roads, and public transport should be considered part and parcel of urban finances.

Recent analyses of urban finances suggest that while investments in inclusive urban housing and public transportation are only a relatively small share of urban finances today, further investments in this area have the potential to quickly become very costly. For 2015/16, R 14.8 billion and R 13.5 billion were spent urban housing and urban public transportation, respectively (combining spending from all government levels). While this spending currently represents only 12.5% of total urban spending, recurrent implications of additional investment in these areas are likely to be considerable. Beyond being costly both in terms of capital investments as well as recurrent implications, analysis suggests that investments in inclusive urban housing and public transportation are actually unlikely to decisively alter urban spatial form.

## 5.1 The impact of inclusive housing efforts

The National Department of Human Settlements (2015: 16) estimates that only 30% of South Africans are able to afford a house of more than R500,000. Although higher-income households are able to rely on housing provided by the market, poor households are increasing dependent on publicly subsidized housing. As such, public housing provision through the Reconstruction and Development Programme (RDP), and more recently as outlined in the Breaking New Ground (BNG) policy has formed the core of subsidized housing delivery in South Africa (Gardner and Graham 2017).

The implementation of human settlements and housing is mainly a provincial function in South Africa. The Human Settlements Development Grant (HSDG) is transferred from the national Department of Human Settlements to provinces for the creation of sustainable and integrated human settlements. A large share of this grant is budgeted to be spent by the provincial governments on public housing construction in urban areas. According to the Housing Act (1997), provinces may use municipalities as developers for HSDG-supported housing projects, leading to the on-transfer of HSDG grants to municipalities. In addition, provincial funding for financial housing interventions (such as FLISP subsidies and social housing subsidies) is captured as recurrent provincial spending on urban housing (Table 5.1).<sup>37</sup>

**Table 5.1 Budgeted Provincial Spending on Human Settlement Programmes in Urban Jurisdictions, 2015/16 (R millions)**

	R Millions
1. Financial Intervention	1,358.0
2. Public Housing Construction Programmes	3,685.2
3. Social & Rental Housing	784.4
4. Rural Housing	126.1
5. Priority Projects	161.1
6. Provincial Specific Programmes	99.2
<b>Grand total</b>	<b>6,214.0</b>

Source: Boex and Karger-Lerchl (2017); Figure 3.1.

Although a full review of public housing programs in South Africa is beyond the scope of the current analysis, a number of areas of tension are obvious.<sup>38</sup> First and foremost, there is significant tension between fiscal sustainability and the national policy desire to provide free housing to millions of South African households. Second, there is a disconnect between the national and provincial governments on one hand—whose main policy objective

<sup>37</sup> In addition to provincial spending on urban housing, national government also provides a limited amount of direct funding for human settlements. For instance, the Social Housing Regulatory Agency regulates and invests to deliver affordable rental homes and renewal of communities in urban areas.

<sup>38</sup> In addition to provincial spending on urban housing, national government also provides a limited amount of direct funding for human settlements. For instance, the Social Housing Regulatory Agency regulates and invests to deliver affordable rental homes and renewal of communities in urban areas.



is to maximize public housing outputs—and municipal governments on the other, as municipalities are not only responsible for providing the network infrastructure but also end up bearing the recurrent cost of providing basic services to the additional indigent households in perpetuity. Third, there is a tension between volume and location: whereas inclusive urban development is a key tenant of urban policy, the focus on mega housing projects results in public housing being constructed on the urban fringe where land is relatively available and space is sufficient for the development of large-scale projects. As such, the focus on volume tends to reinforce—rather than resolve—the existing patterns of residential segregation and spatial mismatch.

Gardner and Graham (2017) note that overall urbanization rates hide an important cyclical migration process, whereby people or households locate in urban areas for economic, educational and other needs, yet retain a rural home and may continue to invest larger resources in this rural home than in urban areas. Cyclical migration, as well as the provision of subsidized houses in fixed locations, has caused urban household size to decrease significantly over the last two decades, and continues to decline. This indicates that the location of subsidized houses and the preferred location of households have a level of mismatch, contributing to a duplication of housing and a fragmentation of households. However, it also indicates an opportunity for densifying urban areas through providing smaller accommodation units on a rental basis within the existing city fabric (for instance, through backyard rooms and shacks). Although the bulk of affordable housing solutions are located further away from the urban core, different metropolitan municipalities are exploring ways in which they are able to shift a greater share of public housing opportunities towards areas with better access and greater employment opportunities. As in other countries, however, local political economy pressures tend to prevent new low income housing from being placed in higher-income neighborhoods.

The fiscal implications of different approaches of urban public housing development are difficult to generalize. For instance, there are mixed cost implications for locating public housing further away from the urban core: whereas land availability increases and the opportunity cost of land drops further away from the urban core, the cost of extending urban infrastructure networks into peri-urban areas tends to increase. At the same time, however, the cost of constructing small-scale, multi-level or mixed-use public housing developments closer to the urban core tends to be greater per unit when compared to traditional RDP/BNG housing at the urban periphery. Cost estimates

prepared by Gardner and Graham (2017) based on cost profiles developed by the Centre for Affordable Housing Finance in Africa (CAHF) suggest that while delivering low-density public housing opportunities at scale at the urban fringe costs approximately R 260,000 per unit, delivering high-density housing opportunities closer to the urban core would increase the cost of providing urban housing by 50-100 percent, and thus, would put substantial downward pressure on the number of housing units that could be constructed. This means that important trade-offs need to be made between the competing policy objectives of greater inclusion and integration of the urban poor into the urban space economy on one hand and the political economy pressures within the sector to deliver large numbers of housing units on the other hand. Pursuing a robust “high-density, high-volume” strategy that would deliver 75,000 housing units per year (as opposed to a baseline of 41,000 units) is estimated to cost an additional R 10.4 billion extra per year.

An equally important (or in fact, even greater) part of the housing cost story is the ancillary cost and the foregone revenues associated with developing additional urban public housing units. When poor urban in-migrants are formally housed at a rate of 3 percent per year, the additional cost for complementary infrastructure, along with the recurrent cost of additional municipal services, is estimated to be up to R 25.2 billion Rand extra per year (Boex et al 2017). Although much of the complementary infrastructure is likely to be funded by capital grants, the additional recurrent cost of serving formally-housed indigent residents is fully borne by the municipal fiscus.<sup>39</sup> As such, municipalities have a considerable fiscal incentive to pace the construction of new housing for the urban poor.

Not only would a “high-density, high-volume” strategy likely be fiscally unsustainable, it goes against the apparent preference of most South African families for low-density housing. Furthermore, the impact of densification efforts on urban form—even if successful—would be quite limited. If a “high density, high delivery” strategy were pursued, approximately 600,000 additional housing units would be produced over a ten-year period. Even if the majority of these housing would be located closer to the urban core (thus improving accessibility for poor urban residents), the additional housing units would only comprise roughly 8 percent of the projected urban housing stock. As such, the location of the vast majority of urban housing opportunities (92%) under this scenario would remain unchanged.<sup>40,41</sup>

<sup>39</sup> In contrast, the recurrent implications for the municipal budget of informally-housed in-migrants are likely to be much more modest.

<sup>40</sup> While this computation should not be understood to be an implicit policy recommendation against pursuing such a high-density, high-delivery strategy, these numbers do underscore that changes in urban form come at a price and require long-term policy commitments.

<sup>41</sup> A potentially much more important driver in shaping urban form will be the location of future private sector housing. Indeed, to the extent that higher income households and businesses are settling in denser development nodes near the urban core, densification is being achieved in this housing segment without public sector intervention. Similarly, the housing choices of poor urban households will equally have an important impact on future urban form and spatial inclusion. As the incomes of poor households rise, will they choose to locate in more accessible (presumably higher density) transportation corridors, or will rising incomes result in these households purchasing an automobile and opting for low-density housing locations away from the urban core? Such a discussion falls beyond the scope of the current analysis.

## 5.2 The impact of inclusive public transport efforts

Although apartheid policies have been an important factor in shaping South Africa's low-density urban form, perhaps a more important determinant of urban form has been the automobile-based urban planning that prevailed during the second half of the twentieth century (Table 5.2).

Indeed, one of the most significant urban mobility projects since 1994 has been the Gauteng Freeway Improvement project. Although incremental improvement in urban transportation is possible and ought to be pursued, it is unlikely that these improvements will substantially change the overall DNA of the automobile-based urban form of South African cities (van Ryneveld 2017).

		Total daily trips 2003	Total daily trips 2013	Change in number of daily trips 2003 - 2013	Change 2003 - 2013 (%)
Public transport	Train	667 000	841 000	174 000	26.1%
	Bus	735 000	835 000	100 000	13.6%
	Taxi	2 324 000	3 408 000	1 084 000	46.6%
	<b>Total</b>	<b>3 726 000</b>	<b>5 084 000</b>	<b>1 358 000</b>	<b>36.4%</b>
Private transport	Car	2 639 000	4 593 000	1 954 000	74.0%
	Walk	3 371 000	3 626 000	255 000	7.6%
	Other	179 000	133 000	-46 000	-25.7%
	<b>Total</b>	<b>6 189 000</b>	<b>8 352 000</b>	<b>2 163 000</b>	<b>34.9%</b>
<b>Total daily trips</b>		<b>9 915 000</b>	<b>13 436 000</b>	<b>3 521 000</b>	<b>35.5%</b>

Source: Prepared by van Ryneveld (2017) based on data produced by the National Household Travel Surveys of 2003 and 2013 (Stats SA, Pretoria).

For many decades, public transport in South Africa has been seen as mainly for those who cannot afford private vehicles. However, rising congestion is increasingly strengthening the argument for providing public transport to avoid a significant deterioration in urban efficiency through containing the number of vehicles using the road network. For instance, in addition to the Gauteng Freeway Improvement project, the introduction of Gautrain has helped contain congestion in Gauteng over the last seven years. However, there are indications that the improvement in congestion may have been a relatively short, temporary hiatus, as urban automobile ownership continues to rise with economic conditions.

Like urban housing interventions, urban transportation is an urban function that involves national, provincial as well as municipal governments. In addition to all three spheres having partial responsibility for the construction and maintenance of urban roads, the provision of local public transport services is a municipal function which is supported by provincial and national governments through Metrorail and provincial bus systems connecting urban areas. The national Department of Transport subsidizes operations and capital investments of Metrorail and these subsidies are considered direct national spending on urban public transport.

Provincial buses connect urban as well as rural areas. A large share of operational funding for provincial bus services comes from the national Public Transport Operations Grant (PTOG), which subsidizes commuter bus services. Some of the provinces spend most or all of their PTOG in urban areas, such as Gauteng, Western Cape and Eastern Cape and KwaZulu-Natal. In addition, some of the provinces use part of their Provincial

Equitable Share to operate additional provincial bus services. As it is difficult to track the exact amount of direct provincial spending on urban public transport, the allocation of the PTOG to each province that contains a metropolitan area is used as a reasonable approximation of this amount.

In addition to direct involvement of national and provincial departments in urban transportation systems, the national government also provides considerable support to the development and operation of urban public transit systems (i.e., bus rapid transit) in different urban areas in the form of a conditional grant (the Public Transport Network Grant or PTNG).

In addition to cars, trains and buses, a significant share of urban transportation is provided by minibus taxis. In fact, minibus taxis account for 66% of all public transport trips in South Africa's metropolitan areas. Run by informal sector operators, minibus taxis have proven remarkably effective and efficient in providing public transport services, particularly over shorter routes where the subsidy advantage benefitting competing services is not as pronounced. Their informal business model and small vehicle size gives them flexibility in operating cost effectively as demand responsive services in a manner that cannot be matched by more formal services such as buses and trains (van Ryneveld 2017).

It is in the context of this highly fragmented urban transportation landscape that the Integrated Urban Development Framework developed by CoGTA is seeking to introduce integrated transport and mobility interventions that will restructure cities, shifting ownership profiles and choices, and creating more

humane, environment-friendly, safe living and working conditions (CoGTA 2016b).

One of the main strategies for achieving greater urban inclusion and a denser urban form has been to encourage transport oriented development (TOD) and the development of spatial development frameworks that incorporate urban integration zones developed around urban transportation nodes and urban transportation corridors. Given the existing low-density spatial form of urban areas—and the underlying preference by many South African families for single-family homes and automobile transportation—it is fair to question the extent to which public transportation-driven solutions will be able to shape urban form.

Indeed, an initial assessment of the introduction of bus rapid transit (BRT) in South Africa—which can be seen as an early attempt to create inclusive transportation corridors—suggests that attempts to change urban form through public transit interventions will face challenges from numerous directions. The introduction of BRT routes in different cities has presented significant social, planning and engineering design challenges and faced significant cost overruns. With some notable exceptions, there appears to be only a limited densification response (if any) as a result of the BRT projects. Similarly, whereas Johannesburg is placing strong emphasis on densification along its Phase 1C corridor now under construction, van Ryneveld (2017) notes that it is finding difficulties in accommodating low-income housing on the route, other than around the Alexandra township.<sup>42</sup>

Estimates in the context of the RUIM model suggest that when efforts are made to rapidly increase urban public transportation systems, the net fiscal burden on the public sector as a whole is quite considerable, and has the potential threaten the long-run fiscal balance of metropolitan municipalities (Boex et al 2017). An expansion of the public transportation network of 6% per year is projected to cost 26.9 billion Rand per year in additional capital and operating expenditures by year 10. Investments in urban public transportation present a potential “triple risk” with regard to their fiscal impact, as fiscal space is reduced by (i) increased capital investment in public transit, (ii) the resulting increase in operating expenditures, while (iii) the expansion of public transport networks may also cause a reduction in fare revenues per unit. The fiscal risk is particularly great if the use of public transportation by the urban poor is path dependent and if the current dearth of public transportation options is causing the emerging urban middle class to switch to cars (and in so doing, opt out of public transportation for future years).

## 5.3 Discussion

The Integrated Urban Development Framework launched by CoGTA in 2016 is an important effort to direct municipal governments to improve the planning of their various activities—housing, transportation, municipal services, community development, and so on—in the context of a coordinated, integrated development plan.

Care should be taken, however, to manage expectations about the extent to which improved urban planning can truly “reconfigure the urban landscape” to achieve more integrated, equitable and inclusive cities (National Treasury 2017b:4). Estimates prepared by Boex et al (2017) suggest that even when measured over the course of a decade, in excess of 90% of urban residents would not be directly impacted by investments in inclusive housing and transportation. As such, these investments are unlikely to redefine the overall urban spatial form or dramatically alter the inclusiveness of urban space.<sup>43</sup>

While integrated planning can improve urban inclusion and access at the margin, better urban planning by itself will not resolve the underlying competing policy objectives and tensions, such as the policy tension between volume and inclusion with respect to the location of public housing, or the tension between the desire to promote public transportation in a low-density, automobile-driven environment that is unable to fiscally sustain traditional public transportation solutions. On a positive note, however, better urban planning will bring these issues to the forefront, and will allow municipalities to better identify binding constraints with regard to inclusion and make more informed and more effective decisions.

In the context of more effective, integrated urban planning, it will also be important to reconsider the role of metropolitan municipalities in the realm of public housing and transportation. In fact, the current legislative framework already envisions a more prominent role for metropolitan municipalities in these two areas of urban infrastructure and service delivery. The Housing Act (1997) makes explicit the intention to devolve the urban housing function to the municipal level, but the actual transfer of these power and resources has been resisted. Similarly, the National Land Transport Act, passed in 2009, largely places responsibility for public transport on metropolitan authorities. Again, however, these legal provisions are yet to be implemented.

While greater devolution in the areas of public housing and public transportation will provide metros with greater flexibility in developing and implementing

<sup>42</sup> This point highlights a weakness in TOD, as transportation improvements are not a panacea for resolving competing—and sometimes incompatible—urban challenges. For instance, whereas greater access to road transport or Gautrain may result in mixed-use development and densification suitable for higher-income households, better access to public transportation is unlikely to be a major benefit to unemployed or informally employed urban poor. Similarly, development of mixed-income nodes or corridors is likely to depress property values, which in turn reduces the revenue potential of land value capture strategies which are envisioned to generate some of the revenue needed to offset the high cost of densification.

<sup>43</sup> The “high-density, high-volume” approach to urban housing would impact the locational decision of no more than 8% of urban households over the span of decade. Likewise, under one of the more optimistic scenarios, the increase in urban bus ridership might only increase by 3 percentage points of the urban population.

more integrated, more inclusive spatial plans, such devolution will be meaningless—and can even be counterproductive—unless these additional functional responsibilities are accompanied by a corresponding increase in fiscal resources.

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## 6. Policy lessons for urbanization and urban public finance in South Africa

As noted at the outset of this paper, a common viewpoint about urbanization in South Africa is that the country inherited a low-density urban spatial structure that is economically inefficient, social exclusive, and fiscally expensive. Based on this legacy, many observers conclude that South Africa should transform urban space in a way that achieves a more inclusive—denser, more integrated and more connected—urban form in order not only to achieve greater inclusivity, but also to avoid the perceived vicious cycle where costly urban infrastructure and urban service subsidies are required (e.g., for public transportation and housing-related services) in order to mitigate the costs to households and firms of the inefficient spatial structure. In this context, this paper has considered the interaction between urban public finances and urban spatial form.

A review of urban public finances in South Africa and urban location patterns has revealed a much more nuanced picture regarding the sustainability of urban public finances. Five key policy lessons can be drawn:

### 6.1 The overall intergovernmental fiscal architecture is sound

As noted in Section 2, South Africa's intergovernmental fiscal architecture was carefully designed and calibrated during the formulation and implementation of the post-apartheid constitution to ensure that "finance follows functions" and to balance local autonomy versus equity concerns in intergovernmental relations. It bears repeating that, overall, the architecture of intergovernmental (and urban) finances in South Africa continue to be sound and fit for purpose (Boex and Karger-Lerchl 2017; Boex et al 2017). The country's urban finances are generally on a sustainable trajectory, with no apparent danger of an imminent systemic urban fiscal crisis. However, analyses of urban public finances also suggest that urban local governments are subject to a range of forces that create upward pressure on local government spending in an environment of revenue-side constraints. While at this stage no single urban function threatens the

sustainability of urban finances, the combined impact of policy decisions across different urban functions can pose a long-term cumulative risk.

It is important to note once again that this does not necessarily mean that all metros are on a fiscally sustainable trajectory. In particular, smaller metros and secondary cities are not likely to benefit from the same buoyant economic base as large metropolitan areas. Furthermore, urban poverty rates are likely higher in the smaller metros, thereby putting greater strain on the local fiscus. This likely divergence in urban experiences may require ongoing adjustment and fine-tuning of the horizontal distribution of grant resources among urban areas.

### 6.2 The importance of urban growth and related capital investments

Although there are several aspects of urbanization that impose a burden on urban fiscal space, urban economic growth is the only aspect of urbanization that has the potential to generate considerable long-term net fiscal space. In order to ensure urban fiscal sustainability, it will be critical to ensure continued growth of the non-residential (business or productive) sector in urban areas as well as growth of the high-income residential sector.

In this light, the apparent stagnation of urban infrastructure investments is disconcerting (National Treasury 2017a). While urban growth results in a positive net fiscal impact in the long run, realization of this growth is premised on the necessary investments being made in the meantime.

How to fund these added capital investments is an important urban finance concern. Urban local governments seem uninterested in increasing the burden on local taxpayers to fund such added investments—either directly from own source revenues, or indirectly through the repayment of greater debt—as higher-income households are already providing considerable cross-subsidization of services to the urban poor. All financing modalities—including borrowing, but also reform of the grant system, greater revenue space for local governments as well as revenue sharing—should be considered in order to ensure that the short term political disincentives of funding long-term urban expansion are appropriately balanced.

### 6.3 The relative sustainability of pro-poor urban finances

Ensuring a more equitable and inclusive society—among others, by providing free housing and housing-related services to (existing and new) indigent urban residents—has been, and continues to be, an important political priority in the two decades since the end of apartheid. The central government has been "putting its money where its mouth is" by providing roughly 0.5% of GDP



in unconditional recurrent grants to metros through the Local Government Equitable Shares. Despite the fact that the LGES is unconditional, the allocation formula makes clear that the intent of these resources is to support municipalities in their legal responsibility to provide basic municipal service free of charge to indigent residents (Manuel 1998). Similarly, discretionary capital grants are provided to metros that are intended to help metros fund urban infrastructure in a pro-poor manner.

Fiscal impact simulations suggest that the marginal fiscal impact of pro-poor urban policies—even when combining the impact of services for new and existing indigent residents, as well as unfunded mandates—is relatively sustainable under the more likely scenarios (Boex et al 2017). The most costly intervention to the urban fiscal space in this area would be the rapid expansion of public housing programs, which would not only cause an increase in the requirement for network infrastructure (electricity, water, roads, and so on), but would also increase the financial requirement for providing recurrent services to indigent households. Although there are considerable gaps between actual service delivery levels and the service delivery commitments made with regard to the urban poor, there is considerable cross-subsidization of pro-poor services at the municipal level and little evidence to substantiate the concern that “urban budgets are balanced on the backs of the urban poor.”

To the extent that there is a belief among national-level policy makers that urban local government are not engaging in “sufficient” redistribution or pro-poor service delivery (in line with its policy expectations and municipal governments’ constitutional responsibility to ensure equitable delivery of services), it would be prudent to revisit—and possibly revise upward—the degree to which the LGES funds municipal governments to provide municipal services to indigent households, possibly even reaching beyond the narrow range of trading services currently taken into account in the calculation of the LGES allocations. Doing so would reduce the need for local cross-subsidization of municipal services to the poor, which would free up own source revenues which could be redirected towards other functions, such as infrastructure development in support of urban growth.

While the central government has been shouldering a considerable share of the burden of pro-poor municipal service delivery, macro-fiscal constraints at the national level may make it more difficult for the national government to increase—or even maintain—the share of the national budget that is dedicated to ensure equitable service delivery within urban areas.

## 6.4 Transformation of urban form is not a precondition for economic mobility and urban inclusion

Much attention has been paid in recent years to the potential of inclusive housing and transportation interventions to reshape South Africa’s urban spatial forms in order to reducing the inefficiencies and inequities associated with the current low density spatial form and the associated spatial mismatch. Despite the tight fiscal space at the national level, the MTBPS continues to highlight the need to “plans to reconfigure the urban landscape, which remains dominated by inefficient and inequitable patterns of settlement.” (National Treasury, 2017b: 4).

In contrast, a trend that appears to have received relatively little attention is the fact that urban poverty has seen a drastic decline in South Africa since 2001. In fact, if urban poverty reduction continues at the current pace, urban poverty may all but be eliminated in South Africa in one generation. Although the exact dynamics of urban poverty reduction are not fully clear, the available evidence suggests that—despite its low-density, polycentricity and continued residential segregation—urban spaces in South Africa have performed as highly effective catalysts for upward social and economic mobility. This implies that the transformation of urban form is not a precondition for economic mobility and urban inclusion.

At the same time, inclusive housing and transportation interventions—when seriously pursued—have the potential to become quite expensive, absorb considerable fiscal space and contribute considerably to the risk of fiscal unsustainability (Boex et al 2017). Furthermore, such interventions are likely to have only a limited impact on urban form, as even under optimistic scenarios, the number of people whose locational decisions would be impacted by such programs—compared to the total urban population—is relatively limited in the medium term.<sup>44</sup>

The impact on public housing policies on urban finance and urban form in the coming years will be determined to a large extent by which of the competing policy objectives in the delivery of public housing will prevail. Provision of free public housing to all qualifying residents through mega-projects at the urban fringe would worsen—rather than improve—the density of urban space and would most likely reduce the inclusive access of poor residents. At the same time, such an approach could place undue fiscal pressure on the urban fiscus as municipalities would be required to provide free basic municipal services. Efforts to create greater density by promoting infill and other approaches to achieve more mixed-use development would likely be more expensive on a per-household

<sup>44</sup> Estimates by Boex et al (2017) suggest that the locational decision of no more than 8% of urban households would be directly impacted by a “high-density, high-volume” approach to urban housing over the span of decade. Likewise, their results suggest that under the more realistic scenarios, it is likely that the increase in urban bus ridership might only increase by 1-2 percentage points of the urban population, therefore having only a minimal—if any—impact on the overall urban spatial form and the inclusiveness of access.



basis, but pacing the creation of additional low-income housing opportunities could help to offset the recurrent implications of public housing expansion.

Similarly, urban public transport interventions—as they are currently being pursued—are unlikely to contribute substantially to reducing spatial mismatch or to changing the urban spatial form. Indeed, with regard to fiscal risk, investments in urban public transportation present a potential triple threat, where fiscal space is reduced by (i) the cost of increased capital investment in public transit, (ii) the resulting increase in operating expenditures, while (iii) the expansion of public transport networks may also cause a relative reduction in fare revenues. The fiscal risk is particularly great if the use of public transportation by the urban poor is path dependent and if the current dearth of public transportation options is causing the emerging urban middle class to switch to cars (and in so doing, opt out of public transportation for future years).

## 6.5 The key to long-run urban fiscal sustainability is to ensure that urban residents climb the fiscal ladder

When taking into account the important roles that urban areas play in South Africa's economy and society—in terms of being the engine of economic growth, as well as providing space for social and economic transformation—it is likely that urbanization is likely to continue for the foreseeable future, and that the demand for additional urban infrastructure and urban service will continue to grow into the future. While future urban spending requirements are difficult to determine with precision, it is clear that urban expenditure will be subject to upward pressure in order to address existing infrastructure backlogs; in order to accommodate urban growth; to provide expanded municipal services to the urban poor; and to fund inclusive public housing and transportation interventions.

The degree to which this growing urban expenditure burden will be borne by municipalities versus the national government will depend on a variety of factors, including (i) any shifts in functional responsibilities, such as the proposed devolution of responsibility for urban public housing and urban public transportation to urban local governments; (ii) the continued commitment of the national government to provide robust intergovernmental fiscal transfers (both through the LGES as well as through capital grants); and (iii) any changes in the vertical assignment of revenue sources (e.g., introduction of VAT revenue sharing in addition to—or instead of—conditional capital grants). In this context, it should be noted that the tightening of urban fiscal space is coming at a time at which national fiscal space is also tightening as a result of challenges in the macro-economy (National Treasury, 2017b).

Whereas long-term financial stability is needed to ensure the continued growth and success of urban areas, South African urban public finances may be coming to a tipping point as urban expenditure requirements continue to increase and the reliance on trading services as a local revenue handle—and the associated local cross-subsidization of public services to the poor—seems to have reached its limits.

Long-term urban fiscal sustainability will therefore depend to a large extent on the ability of the intergovernmental finance system to create stronger links between the urban economic ladder and the urban fiscal ladder, whether by addressing the failures in land and housing market, or by finding ways to (indirectly) tax informal economic activity. Given the current situation, it would be logical for municipalities to rely more on consumption taxes (beyond surcharges on municipal trading services). This, however, is explicitly prohibited by the Constitution. To the extent that municipalities are politically, administratively and constitutionally handicapped in introducing new local revenue sources, it may be unavoidable for them to rely more heavily on intergovernmental fiscal transfers or revenue sharing (for instance, by assigning a small share of the VAT to municipalities).

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