

D

Public-sector infrastructure update

■ Introduction

This annexure provides an update on the status of major infrastructure projects and reports on planned public infrastructure spending. In line with government priorities and the medium-term strategic framework, the 2020 Budget prioritises spending on social and economic infrastructure such as schools, health facilities, roads and transport, energy, and water and sanitation. It also continues to fund programmes to improve the quality of infrastructure spending, and the capacity of government to plan and implement capital projects. The budgeting provisions are complemented by reforms to improve the effectiveness of infrastructure spending.

■ Trends in public infrastructure spending

Between 1998/99 and 2018/19, the public sector spent R3.2 trillion on infrastructure (Figure D.1). Expenditure increased from R48.8 billion in 1998/99 to R216.2 billion in 2018/19. The average real growth in expenditure for the period 1998/99 to 2006/07 was 8 per cent. Spending then escalated on construction projects related to the 2010 FIFA World Cup, resulting in an average real growth of 50 per cent over 2007/08 and 2008/09. Since then, expenditure growth has been declining with an average real growth of 2 per cent.

This declining trend is largely due to municipalities and state-owned companies substantially reducing their spending over the past few years. Several major state-owned companies have struggled to access capital markets to finance infrastructure programmes. Most municipalities have underspent on conditional grants and are not collecting sufficient revenue to finance their capital budgets. In addition, national government has reduced infrastructure conditional grants to provinces and municipalities as the budget deficit and debt have risen. The same trend is visible in infrastructure spending as a percentage of GDP.

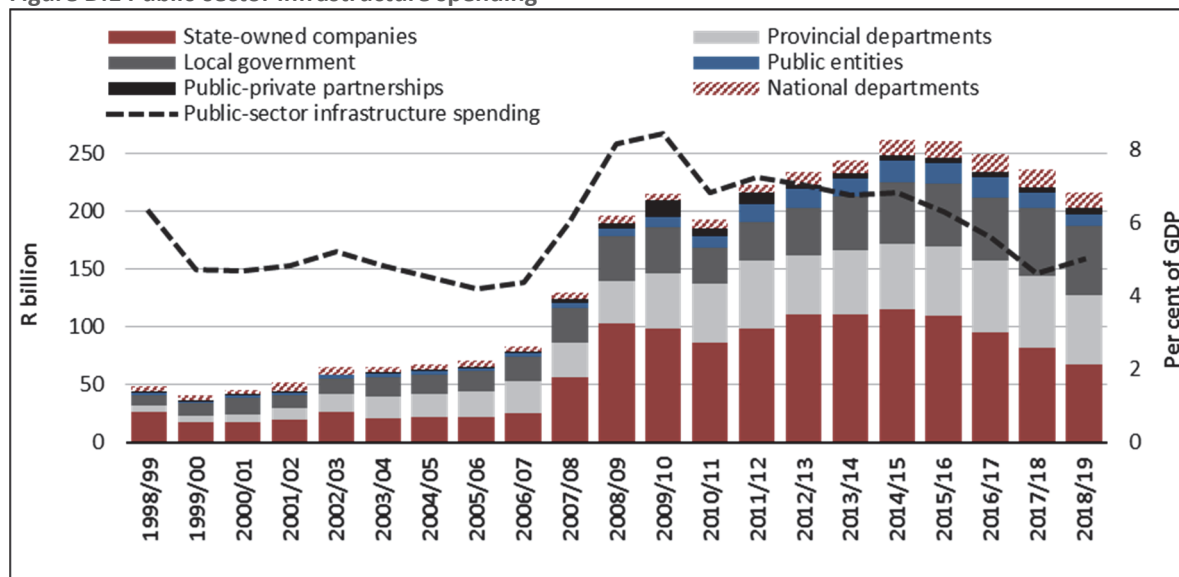
Definitions of infrastructure spending

The annexure presents estimates of infrastructure spending across the public sector, which includes national, provincial and local government, state-owned companies and other public entities, and public funds allocated to public-private partnerships.

The data in this annexure may differ from infrastructure or capital expenditure estimates presented elsewhere in the 2020 *Budget Review*. Here, “infrastructure” is defined broadly, including spending on new assets; replacements; maintenance and repairs; upgrades and additions; and rehabilitation, renovation and refurbishment of assets. Capital and interest payments are also included in the definition. In contrast, “capital spending” typically excludes maintenance and finance charges.

The annexure also includes expenditure on public housing as part of infrastructure spending. In accounting terms, housing subsidies are usually defined as transfers rather than capital spending.

Figure D.1 Public-sector infrastructure spending



Source: National Treasury

Public-sector infrastructure spending highlights

Table D.1 summarises government's infrastructure spending plans for the next three years. The data combines infrastructure financed at national, provincial and local government level with spending estimates received from state-owned companies and other public entities.

Table D.1 Public-sector infrastructure expenditure and estimates

R billion	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	MTEF total
	Outcomes			Revised estimate	Medium-term estimates			
Energy	67.0	55.1	39.9	49.7	52.4	52.4	45.3	150.0
Water and sanitation	30.8	26.8	27.1	33.5	37.0	39.6	40.6	117.1
Transport and logistics	70.9	75.4	74.4	90.5	97.8	105.4	105.1	308.3
Other economic services	14.3	17.1	13.5	13.1	11.8	12.2	12.5	36.5
Health	10.4	9.7	11.3	12.0	12.3	12.3	12.6	37.3
Education	17.8	17.6	17.2	19.5	18.7	19.7	20.7	59.1
Human settlements ¹	18.3	14.3	15.0	18.8	16.6	13.4	13.9	43.9
Other social services	10.3	11.2	10.1	10.5	10.2	9.8	10.2	30.2
Administration services ²	10.1	9.1	7.7	9.4	10.3	11.0	11.2	32.5
Total	249.9	236.3	216.2	257.0	267.1	275.9	272.0	815.0
National departments	15.8	14.9	13.6	15.8	16.1	16.9	17.3	50.4
Provincial departments	62.6	62.3	59.5	60.8	59.9	57.1	59.9	177.0
Local government	54.4	58.8	61.0	61.7	62.3	65.7	68.7	196.8
Public entities ³	17.1	13.2	9.6	18.7	19.0	19.6	20.6	59.2
Public-private partnerships	4.8	4.8	4.9	5.6	5.7	6.1	5.9	17.8
State-owned companies ³	95.2	82.2	67.5	94.2	104.0	110.5	99.5	314.0
Total	249.9	236.2	216.2	257.0	267.1	275.9	272.0	815.0

1. Human settlements includes public housing and bulk infrastructure amounting to R43.9 billion over the MTEF period

2. Administration services include infrastructure spending by the departments of International Relations and Cooperation, Home Affairs, and Public Works and Infrastructure, Statistics South Africa and their entities

3. Public entities are financed by capital transfers from the fiscus and state-owned companies are financed from a combination of own revenue, borrowings and private funding

Source: National Treasury

Public-sector infrastructure spending over the medium-term expenditure framework (MTEF) period is estimated at R815 billion. State-owned companies continue to be the largest contributor to capital investment, spending a projected R314 billion over the next three years. Provinces are expected to spend R177 billion on infrastructure over the same period, while municipalities are forecast to spend R196.8 billion. Public housing and bulk infrastructure built through the *human settlements development grant* in provinces is expected to total R43.9 billion. Although these assets are transferred to homeowners, this spending is a substantial government contribution to the built environment.

Spending on economic infrastructure, mainly by state-owned companies, accounts for 75.1 per cent of the medium-term estimate. These funds are used to expand power-generation capacity, upgrade and expand the transport network, and improve sanitation and water services. Social services infrastructure accounts for 20.9 per cent of the total, of which health and education account for 4.6 per cent and 7.2 per cent respectively.

In 2019/20, the public sector is estimated to spend R257 billion on infrastructure, an increase of 19 per cent relative to 2018/19. This is mainly because of higher estimated spending by state-owned companies including the Passenger Rail Agency of South Africa, Eskom, Transnet and Rand Water, which are expected to resume or begin infrastructure projects that were deferred in previous years.

The value of infrastructure budgets, however, is eroded by insufficient capacity and skills to build a sustainable pipeline of projects, as shown by infrastructure backlogs and the lack of business confidence. Government is therefore adopting a multi-faceted approach by resourcing project preparation facilities, reviewing regulations and policies, and introducing reforms. This approach is expected to improve the effectiveness of infrastructure spending and develop a project pipeline for funding by government and the private sector.

■ Sectoral updates

Energy

Energy expenditure is expected to total R150 billion over the next three years, accounting for 18.4 per cent of total infrastructure spending. Eskom accounts for R128 billion, or 85.3 per cent, of this amount.

The Department of Mineral Resources and Energy will focus on increasing household access to electricity over the medium term. A total of R16.4 billion has been allocated to support the Integrated National Electrification Programme. The programme will fund an estimated 560 000 new connections to the power grid over the MTEF period. An additional 15 000 households will be provided with non-grid (stand-alone power system) connections per year. Over the medium term, government will transfer R6 billion to municipalities and R9.7 billion to Eskom to fund this programme.

To help municipalities replace and upgrade municipal infrastructure with more energy-efficient technology, R691.3 million has been allocated to the *energy efficiency and demand-side management grant* over the medium term.

The Department of Mineral Resources and Energy continues to support the renewable energy market, in line with the national commitment to transition to a low-carbon economy. Government has committed to procuring 14 725 megawatts (MW) of power from renewable energy sources in terms of the Integrated Resource Plan 2010 to 2030. Up to 2019, 6 422 MW has been procured from 112 renewable energy independent power producer projects over seven bid windows, and 3 976 MW of electricity generation capacity from 64 projects has been added to the national grid. Private-sector investment in the programme amounts to R209.7 billion to date, of which R41.8 billion is from international investors and funders.

Water and sanitation

Government will spend R117.1 billion on water and sanitation over the next three years, accounting for 14.4 per cent of public-sector infrastructure expenditure.

The Water Infrastructure Development Programme is allocated R41.6 billion over the medium term. The majority of this allocation, R24.5 billion, will be transferred to the Water Trading Entity, the *regional bulk infrastructure grant* and the *water services infrastructure grant*.

The Water Trading Entity will receive transfers amounting to R6.6 billion over the medium term for new and existing projects such as the acid mine drainage operations in Gauteng, phase 2D of the Olifants River water resources development project, the Mokolo-Crocodile River water augmentation project, the raising of Tzaneen Dam, the Mdloti River development project, and the raising of Hazelmere Dam. Disbursements through the *regional bulk infrastructure grant* and the *water services infrastructure grant* will amount to R17.2 billion over the medium term. The funding will be used to implement regional bulk and water services infrastructure projects.

Transport and logistics

Public-sector infrastructure investment plans for transport and logistics total R308.3 billion over the medium term. This accounts for 37.8 per cent of total infrastructure expenditure during this period. These investments will improve the transport network, enhance the mobility of people and service provision, reduce transport costs, and facilitate regional trade. Revenue from services provided by state-owned companies will help fund infrastructure investment, complemented by national and provincial allocations for road construction and maintenance of the non-toll network.

Over the MTEF period, major investments in roads and rail include the following:

- The South African National Roads Agency Limited has been allocated R64.6 billion over the medium term. Of this amount, R35.4 billion will be used to improve and construct non-toll roads, R3.4 billion to construct the N2 Wild Coast highway, R2.5 billion to upgrade the R573 (Moloto Road) and R1.9 billion to compensate for reduced tariffs in the Gauteng Freeway Improvement Project.
- The *provincial roads maintenance grant* has been allocated R36 billion to maintain the provincial road network by resealing a targeted 16 226 lane kilometres, rehabilitating 6 199 lane kilometres, and patching 3.7 million square kilometres of potholes.
- The Passenger Rail Agency of South Africa has been allocated R32.4 billion in capital transfers to modernise the rail network. In addition, R20.4 billion has been allocated to the *public transport network grant* to fund the integrated public transport networks in 10 cities across the country.

Human settlements

The Department of Human Settlements has been allocated R95.9 billion over the medium term, which will support delivery of 226 906 housing subsidies.

The department will facilitate the delivery of state-subsidised housing through implementing agents such as provinces, metropolitan municipalities and related departmental entities. These implementing agents are funded through the Housing Development Finance Programme in the form of conditional grants and transfers.

The *human settlements development grant* has been allocated R43.9 billion over the medium term to fund housing and human settlements programmes at a provincial level. Over the same period, the *urban settlements development grant* has been allocated R26 billion to fund infrastructure provision for broader urban development in metropolitan municipalities.

The National Housing Finance Corporation will increase access to affordable housing finance for low- to middle-income households by facilitating private-sector lending for housing. Over the medium term, the

corporation will focus on incremental housing finance; developer and emerging contractor finance; affordable rental housing finance; and finance-linked individual subsidies for qualifying households. Over the medium term, the corporation will receive an additional allocation of R1.3 billion for its finance-linked individual subsidy programme.

Health

Over the medium term, the Department of Health plans to accelerate the delivery of infrastructure in the health sector for the implementation of national health insurance. The direct *health facility revitalisation grant*, which is transferred to provincial health departments, will receive R19.9 billion over the next three years. Over the same period, R4.6 billion will be allocated to the health facility revitalisation component of the *national health insurance indirect grant*. A portion of this allocation will fund the planning and building of the Limpopo Central Hospital in Polokwane, which is expected to be completed in 2025/26.

Education

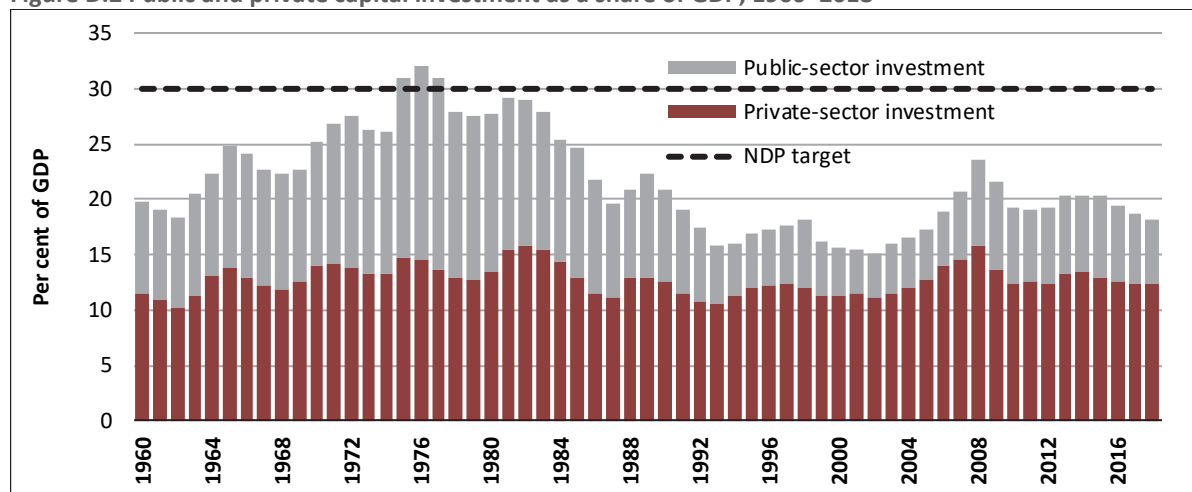
Government plans to spend R59.1 billion on infrastructure for the education sector over the MTEF period. The Department of Basic Education plans to spend R41.4 billion on school infrastructure over the medium term. The *education infrastructure grant* has been allocated R35 billion over this period to accelerate the construction, maintenance, upgrading and rehabilitation of new and existing school infrastructure. The *school infrastructure backlogs grant* will receive R6.5 billion to provide water, sanitation and electricity to schools, and replace schools constructed with inappropriate materials. In 2020/21, R1.7 billion will be used to build 31 new schools and to provide water and sanitation facilities to 125 and 691 schools respectively.

The Department of Higher Education and Training will focus on increasing student access and improving staff development in the university system by increasing allocations to universities with a high proportion of students and staff from historically disadvantaged population groups. In 2020/21, the University Capacity Development Programme will receive R1.1 billion, the Historically Disadvantaged Institutions Development Programme will receive R536.3 million and the Infrastructure and Efficiency Programme will receive R2.8 billion.

Infrastructure reforms

Infrastructure investments facilitate economic activities and thus enable economic growth, job creation and poverty alleviation. The National Development Plan targets infrastructure investment of 30 per cent as a percentage of GDP by 2030.

Figure D.2 Public and private capital investment as a share of GDP, 1960–2018



Source: Reserve Bank

Bridging the infrastructure investment gap requires developing innovative approaches to leverage private-sector finance, making the necessary regulatory changes and improving infrastructure planning across government to build a pipeline of projects. To unlock this potential, government has initiated broad reforms in infrastructure provision. The reforms will ensure that infrastructure is built faster and that costs are controlled, with appropriate sharing of risks between the private and public sector. In addition, government is integrating climate-change considerations into existing tools to strengthen the climate resilience of infrastructure. The components of these reforms are summarised below.

The Budget Facility for Infrastructure

The Budget Facility for Infrastructure (BFI) was launched in 2016 to support the planning and execution of priority infrastructure projects and programmes. The facility evaluates proposals before committing fiscal resources to avoid funding poorly planned and inadequately prepared large-scale projects.

The BFI creates a window for annual submissions for budgets of large infrastructure projects and programmes, assesses the submissions, and makes recommendations to budget authorities and political decision makers. Since 2017, there have been three annual BFI windows. In total, submissions were received for 169 projects worth R374.5 billion, and 26 projects worth R37.1 billion were recommended for funding. Most proposals submitted through the BFI are poorly planned and packaged, mainly because of insufficient technical expertise and institutional capacity to develop good projects.

Appraisal and evaluation guideline

With funding from the World Bank, the National Treasury is developing a government-wide project appraisal and evaluation guideline. The guideline will provide simple, uniform methodologies and criteria that will apply to all new proposals. It will guide practitioners on how to package projects and enable decision makers to select projects that offer value for money and maximise economic benefits for government. The guideline is expected to be drafted within the next six months.

Infrastructure Fund

Government has committed R100 billion to the Infrastructure Fund, including R10 billion over the next three years. This includes new funding, new guarantees and repackaging of existing projects. The fund focuses on blended-finance projects, most of which will be funded primarily by the private sector. The Infrastructure Fund will increase private-sector investment in public infrastructure and contribute to higher economic growth, productivity and employment creation.

The fund's implementation unit, housed within the Development Bank of Southern Africa (DBSA), aims to facilitate and speed up the development of projects and programmes. The unit aims to build a pipeline of potential projects worth over 700 billion over the next 10 years.

Stringent criteria are applied when deciding which projects should be included in the Infrastructure Fund pipeline. To be accepted, projects must:

- Be large, as the preparation costs for blended-finance projects are prohibitive for small projects and large-scale investment is being targeted.
- Be suitable for blended financing, with clear and predictable cash flows, sufficiently attractive risk profiles for investors, and the need for some financial support from government.
- Mobilise private-sector skills and resources.
- Align with government's infrastructure priorities.
- Be scalable and replicable.

Over the next three years, the DBSA will identify, plan and package at least five blended-finance mega projects (valued at over R200 billion), using the funds committed by government to close funding gaps and reduce risks for the private sector. Results from the first set of projects will be used to adapt and

strengthen the final design of the Infrastructure Fund. The DBSA is collaborating with private-sector investment associations, the Banking Association South Africa, the Association for Savings and Investment South Africa, and the Public Private Growth Initiative to build partnerships and attract private-sector funding. Project proposals will be evaluated through the BFI.

Public-private partnership review

In 2019, the National Treasury began reviewing the public-private partnership (PPP) regulations and guidelines. The review aims to identify and address challenges that have negatively affected PPP project readiness and private-sector participation. Improvements stemming from the review are also expected to enhance the Infrastructure Fund work on blended-finance projects. The review of the PPP framework is a key reform as most of the blended projects will be partnerships between the public and private sector.

Key stakeholders in government and the private sector are providing input to the review. The recommendations are expected in September 2020. Feasible recommendations will be incrementally introduced to scale up the pipeline of PPP projects.

Municipal Investment Programme Project Preparation Facility

The Neighbourhood Development Programme helps municipalities improve the development and management of their built environment. To expedite spatial transformation in cities, the focus has been on planning well-located, mixed-use and mixed-income development programmes and projects as required by built environment performance plans.

Metropolitan municipalities have growing infrastructure investment needs, established institutional capacity, autonomous borrowing authority and generally healthy balance sheets that can be used to leverage private finance. A dedicated grant will be created to support them to establish effective and efficient programme management and project preparation facilities for their capital investment programmes. They will be financed by reprioritising funds from the *integrated city development grant* and *neighbourhood development partnership grant*. From 2020/21, the Cities Preparation Support Fund will provide co-financing, which declines as these municipalities increase their capacity.

Cities Support Programme's work on climate change and infrastructure

For many cities, strengthening the resilience of infrastructure and supporting low-carbon development of capital projects is a large-scale undertaking that requires strong partnerships and new sources of capital. Some cities lack technical expertise or access to the capital required. The National Treasury's Cities Support Programme helps cities increase their capital investments in climate resilience and low-carbon development through targeted technical assistance to strengthen project design, packaging and preparation.

The programme will also strengthen cities' capability to manage climate-resilient assets by integrating climate-change considerations into their planning tools, including the Infrastructure Delivery Management System, guidelines for catalytic land development programmes and the BFI's project appraisal and evaluation guideline. Support on applying these tools will be provided at the national and city level.

Major infrastructure projects

Table D.2 provides a pipeline of projects that are at various stages of development. Some projects are still in the early stages of project preparation while others are at advanced stages. These projects are not yet approved for funding. Large projects have to go through a number of approval gates involving successively more detailed planning before being considered for funding through the budgeting process. Most of the proposed projects and programmes will be financed in partnership with government, the private sector and development finance institutions. Health sector projects, however, are fully funded by government.

Table D.2 Major infrastructure projects per sector

Project name	Implementing agent	Project cost (R billion)	Project description	Current status
Health				
Limpopo Central Hospital	Limpopo Department of Health	4	Construction of a new 488-bed central hospital on a greenfield site donated by the Polokwane Local Municipality	Procurement
Tygerberg Hospital	Western Cape Department of Health	4.3	Construction of a 550-bed regional hospital	Feasibility completed
Klipfontein Hospital	Western Cape Department of Health	4.2	Construction of a 1 238-bed hospital to replace the GF Jooste Hospital	Feasibility completed
Education				
Student Housing Infrastructure Programme (SHIP) pilot phase	Department of Higher Education and Training	96	Construction of student residences	Various stages
Gauteng Schools Programme	Gauteng Provincial Government	4.7	Construction, expansion, refurbishment and facilities management of 64 schools in Gauteng	Feasibility
Housing				
Social Housing Programme Phase 1	Social Housing Regulatory Authority	10.3	Construction of social housing in well-located areas for low- to middle-income families	Implementation
Social Housing Programme Phase 2	Social Housing Regulatory Authority	18.5	Social Housing Programme Phase 2	Pre-feasibility
Office accommodation				
Kopanong Precinct	Gauteng Department of Infrastructure Development	16	Construction of Gauteng Provincial Government office to consolidate administration function of 19 buildings in the Johannesburg CBD	Procurement
Rural Development and Land Reform head office accommodation	Department of Rural Development and Land Reform	4	Construction of the head office accommodation	Procurement
Bhisho Office Precinct	Eastern Cape Department of Roads and Public Infrastructure	5	Construction of offices for seven Eastern Cape departments in a single location in Bhisho	Procurement
Telecommunications				
Broadband rollout (SA Connect)	Department of Telecommunications and Postal Services	80	Broadband infrastructure in areas where pure private provision thereof is not commercially viable	Feasibility

Table D.2 Major infrastructure projects per sector (continued)

Project name	Implementing agent	Project cost (R billion)	Project description	Current status
Transport				
Gauteng Rapid Rail Network Extension Phase 1 and 2	Gauteng Department of Roads and Transport	112	A two-phase extension of the existing Gautrain rail system	Feasibility
Gautrain: Acquisition of additional rolling stock	Gauteng Department of Roads and Transport	2	Procurement of 48 additional coaches and expansion of depot facility to accommodate increased demand	Feasibility
National Roads Programme – upgrades to existing non-concession national toll roads	South African National Roads Agency	22	Major upgrades to various sections of the N1, N2 and N3 roads	Pre-feasibility
Provincial roads concessions	Provincial roads and transport departments	45	Provincial roads infrastructure projects	Pre-feasibility
Expansion of the MyCiTi Bus Rapid Transport System in Cape Town	City of Cape Town	7.5	Expansion of the current MyCiTi Bus Rapid Transport System network	Procurement
Small Harbours Programme	Department of Public Works and Infrastructure	8.2	Upgrading and refurbishment of 12 proclaimed fishing harbours in the Western Cape, and nodal-based refurbishment and development of new harbours in the Northern Cape, Eastern Cape and KwaZulu-Natal	Feasibility
Transnet natural gas networks project	Transnet	10	Develop, design, finance, construct and operate liquefied natural gas midstream infrastructure to enable gas import	Pre-feasibility
One-stop border posts	Department of Home Affairs	11	Upgrade, refurbishments and facilities management for the six busiest border posts	Procurement
Energy				
Approach to Distribution Asset Management	Department of Mineral Resources and Energy, Cooperative Governance and Municipal Infrastructure Support Agent	30	Maintenance, refurbishment and strengthening of municipal electricity distribution networks	Pre-feasibility
Research				
SA Isotope Facility	National Research Foundation	1.4	Construction of the South African Isotope Facility	Procurement
Solid waste				
Mossel Bay regional landfill facility	Garden Route District Municipality	0.8	Development of solid waste and landfill	Procurement
KwaDukuza waste services	KwaDukuza Local Municipality	0.3	Collection and disposal of solid waste from households	Procurement

Table D.2 Major infrastructure projects per sector (continued)

Project name	Implementing agent	Project cost (R billion)	Project description	Current status
Water and sanitation				
Water reuse	Cooperative Governance and Municipal Infrastructure Support Agent	50-75	Increasing bulk water supply, through wastewater reuse or putting in place new sources of supply such as desalination	Pre-feasibility
Water and sanitation private-sector participation	Cooperative Governance and Municipal Infrastructure Support Agent	100	Increasing private-sector participation in the provision of municipal water and sanitation services	Pre-feasibility
Non-revenue water (water conservation and water demand management)	Cooperative Governance and Municipal Infrastructure Support Agent	35-50	Improving water infrastructure to reduce losses, and improving metering, billing and collection from non-indigent customers	Pre-feasibility
Olifants River Water Resources Development Project	Trans-Caledon Tunnel Authority	20	Bulk water infrastructure development	Pre-feasibility
Bulk infrastructure				
Industrial Development Corporation (IDC) infrastructure for industrial projects programme	Industrial Development Corporation	15	Industrial Development Corporation infrastructure for industrial projects	Feasibility
Vumela - municipal bulk infrastructure financing	Cooperative Governance and Municipal Infrastructure Support Agent	50-60	Development of municipal bulk infrastructure	Pre-feasibility
Coega Special Economic Zone Return Effluent Scheme	Coega Development Corporation	0.9	Construction of critical bulk infrastructure (water, return effluent and sanitation) around the development of a bulk return effluent scheme	Feasibility completed
The establishment of basic economic infrastructure in Zone 3, 5, 6 and 7 of the Coega Special Economic Zone to unlock gas-to-power, aquaculture development and bulk water demand	Coega Development Corporation	0.5	The provision of bulk services, including water, sanitation, electrical and energy	Feasibility completed

Source: National Treasury