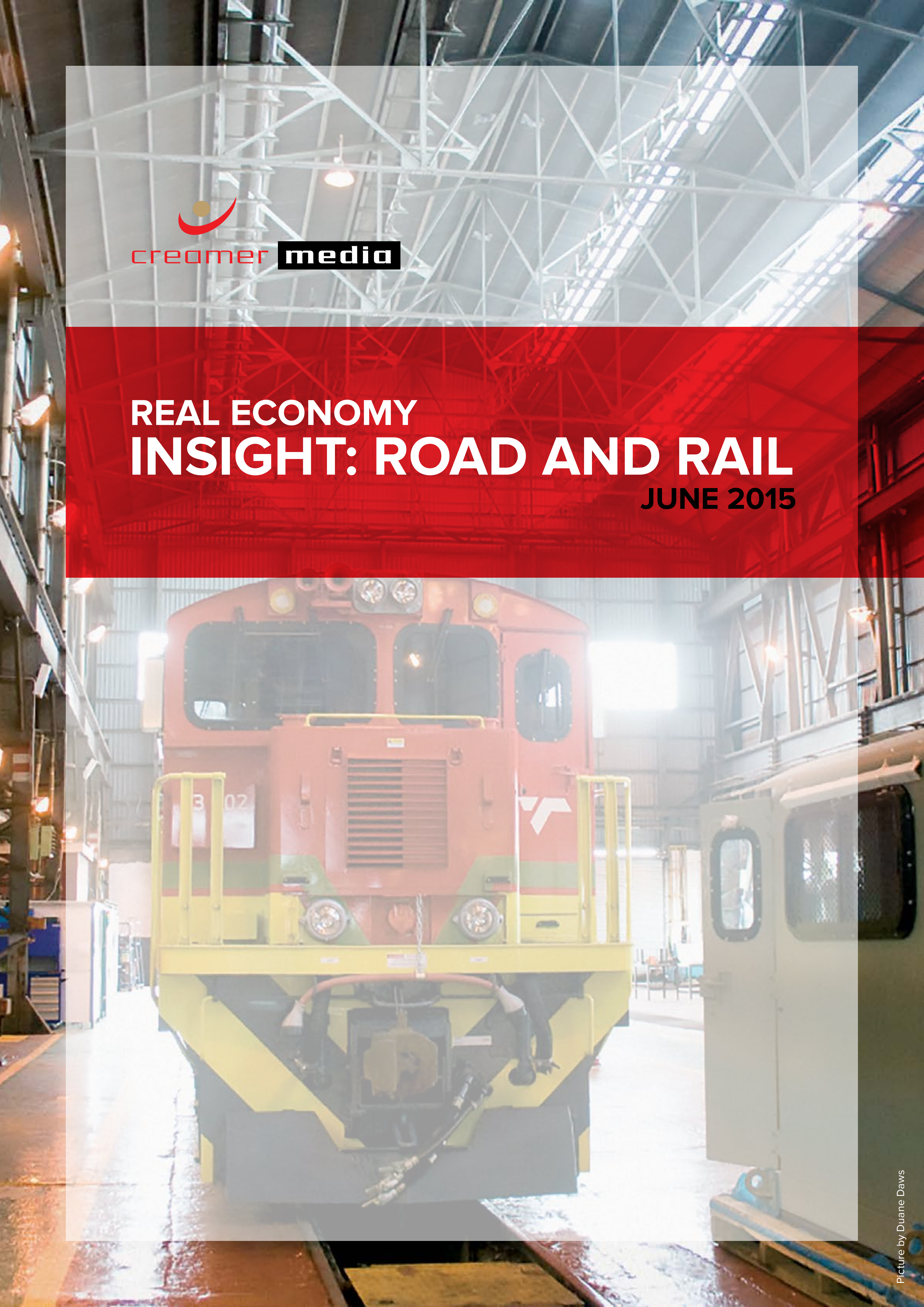

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REAL ECONOMY
INSIGHT: ROAD AND RAIL

JUNE 2015

Picture by Duane Daws

Real Economy Insight: **Road and Rail**

Chanel De Bruyn | Senior Deputy Editor Online

Good road and rail infrastructure is essential for (transporting goods and people and, therefore, the growth of the economy. Government continues to invest in improving and expanding this infrastructure, as well as in promoting the movement of more freight away from being transported on roads and onto rail.

Road infrastructure

South Africa's road network stretches about 750 000 km, making it the tenth-longest in the world. Of that, about 618 000 km are classified as proclaimed roads, of which about 3% are national, 45% provincial and 52% municipal.

The national roads, which are managed by the South African National Roads Agency Limited (Sanral), are considered to be in a good condition, but many of the provincial and municipal networks have been deteriorating over the past few decades, owing to insufficient funding. Sanral estimates the backlog for the development of South Africa's roads at about R197-billion.

Funding allocated by National Treasury to municipalities is generally used for the development of road infrastructure, with the expectation that the maintenance of these roads be funded from municipal revenues; however, the South African Local Government Association argues that, in some instances, there is no tax base to fund road maintenance and that a road infrastructure grant should be provided for municipalities for this purpose.

Meanwhile, government established a Provincial Road Maintenance Grant to upgrade those portions of the provincial road network that are in a poor or very poor condition. More than R30-billion will be spent in the medium-term expenditure framework period to 2017/18 for the maintenance and rehabilitation of provincial roads that are mainly the responsibility of the various provincial transport departments, except for Limpopo, where a dedicated roads agency manages the network.

To further assist in the upgrading of the country's road network, Sanral is also being tasked with taking over responsibility for improving certain strategic provincial roads that are in a poor or very poor condition.

Moloto Road upgrade

The South African National Roads Agency Limited has taken over the responsibility of upgrading the notoriously dangerous R573 Moloto road, in Mpumalanga. National Treasury has reprioritised R1.1-billion from the taxi recapitalisation programme and other road budgets to upgrade the road and ensure that road safety along this route is improved. This included R149-million of funding that was reprioritised from the Provincial Road Maintenance Grant to Sanral over the medium-term expenditure framework period to 2017/18.

Source: *Engineering News*

Funding national road infrastructure

Sanral's national road network, which is expected to eventually increase to 35 000 km, comprises about 21 403 km. National Treasury has allocated about R12.5-billion – compared with the R10.5-billion allocated to the agency in the prior financial year – to Sanral to fund improvements and maintenance on its national nontoll roads, which represent about 85% of its overall network, in the 2015/16 financial year.

The remaining 15% of Sanral's network comprises 3 120 km of toll roads, which are self-funded, by the agency and through three private-sector concessionaires that manage about 1 290 km of national roads on behalf of the agency. No cross-subsidisation is allowed and the agency is, therefore, unable to use the funds allocated by Treasury to fund developments or maintenance on its tolled network. In 2013/14, Sanral's toll portfolio generated R3.5-billion in funding, a 65.7% year-on-year increase.

Sanral also raises funding for the maintenance and expansion of the 1 832 km of the toll road network that it manages directly on the capital markets. It incurred about R20-billion of debt to undertake the first phase of the Gauteng Freeway Improvement Project (GFIP), on which work started in 2007.

The agency decided to adopt the user-pays principle through electronic tolling, or e-tolling, to generate the required funds to repay that debt, but continues to face challenges in this regard, leading to uncertainty over its ability to repay that debt.

Falling revenues

E-toll revenues reached a peak of R120-million in June 2014 and then steadily decreased over the remainder of the year and into early 2015, with only R45-million and R61-million in revenue generated in January and February respectively. This is well short of the R300-million a month income Sanral had expected to earn from e-tolls.

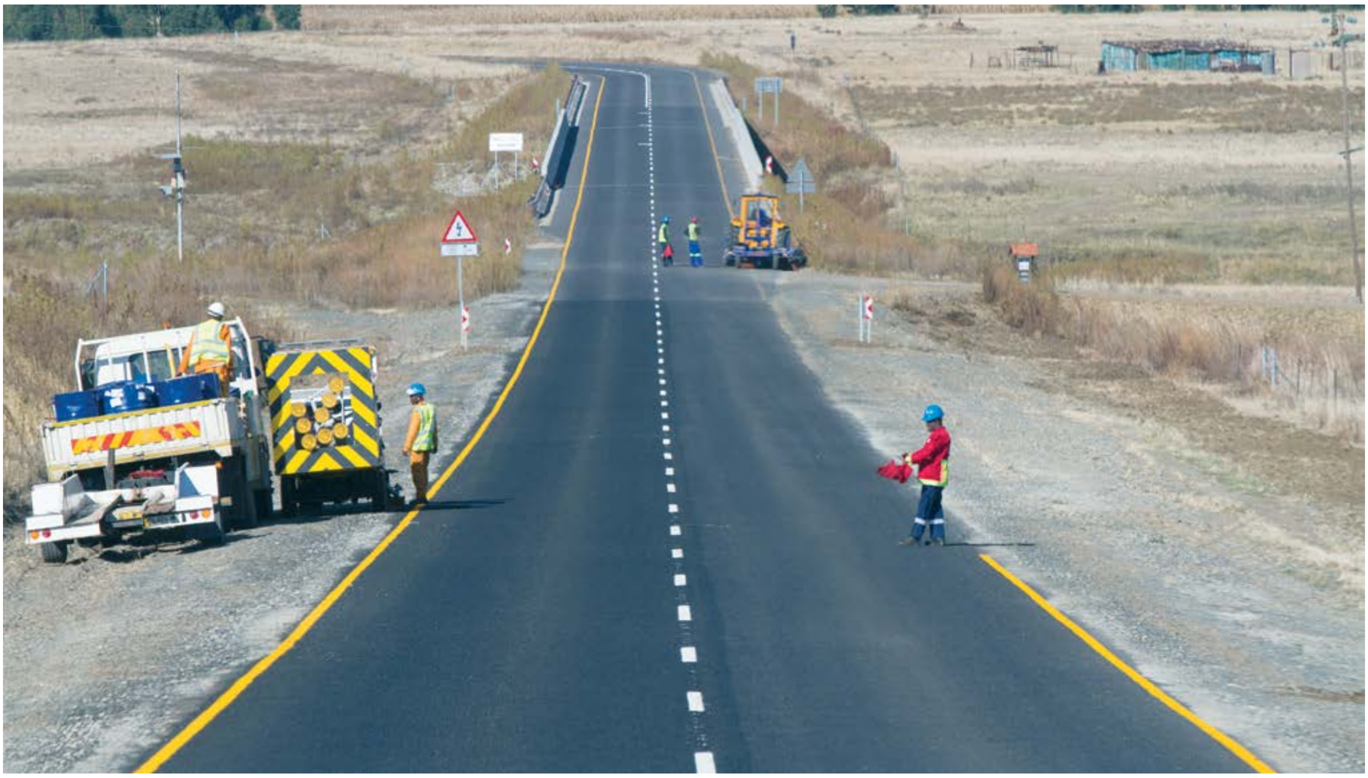
Source: *Engineering News*

Following complaints about the high cost of e-tolls, the tolls fees were reduced and e-tolls were officially implemented as from December 2013; however, many road users in the province have refused to pay the toll fees since their inception, while others have since stopped paying e-tolls and deregistered their e-toll accounts. By August 2014, unpaid e-toll bills were nearing the R1-billion mark and Sanral stated in February 2015 that it had collected only about 62% of its forecast e-toll revenue for the financial year, leaving the agency with a R588-million e-toll shortfall. Only about 262 000 key account holders, or about 22% of registered GFIP road users, were said to be regularly paying their e-tolls by April 2015.

Sanral has, therefore, resorted to funding the GFIP repayments from debt and started holding monthly bond auctions in 2014. The first three auctions, held in April, May and June 2014, each raised R500-million, as expected. However, Gauteng Premier David Makhura announced in July 2014 that the province would initiate a process to assess the socioeconomic impact of e-tolls. The uncertainty created by this process, even after the assessment had been completed, has led to less successful bond auctions for Sanral, with its April 2015 auction raising only R270-million of the R600-million the agency wanted to raise. This prompted Sanral, in May 2015, to cancel further bond auctions.

A 15-member panel, established by Makhura, held several hearings in August 2014, with submissions made by business, other organisations, Sanral and Transport Minister Dipuo Peters, besides others. Several organisations argued that a fuel levy should be implemented to cover the costs of repaying the GFIP debt, but Sanral CEO Nazir Alli and Peters strongly opposed this. Alli told the panel that an additional 16c/ℓ would have to be added to the fuel level to pay for the GFIP in lieu of the e-tolls and a further R1/ℓ addition to the levy would be required to cover the R65.8-billion in costs to maintain the national road network.

He and Peters argued that increasing the fuel levy to cover the costs of upgrading the road network in Gauteng would be unfair towards citizens in the rest of the country who did not use those roads.



Picture by Duane Daws

After concluding the hearings, the panel delivered a report to Makhura at the end of 2014, in which it made several recommendations. The panel found the e-toll system to be administratively cumbersome and that it placed a disproportionate financial burden on low- and middle-income households; however, the system was also found to benefit the provincial economy and residents through reduced travelling time, improved fuel efficiency and improved logistics.

Of the more than 50 recommendations contained in the report that was submitted to Makhura, a key element was the proposal of a hybrid funding model incorporating various revenue streams, including funding from the provincial fiscus, reducing the cap on e-tolls, ring-fencing a national fuel levy and recovering funds from the construction industry for the construction of the GFIP roads, to finance debt incurred for Phase 1 of the GFIP and to raise the funding needed for phases 2 and 3.

After many months of waiting, government provided Gauteng residents with an outcome in May, following the work of the panel. Although many had been hopeful that e-tolls in the province would be scrapped, government instead opted for a hybrid funding model. Deputy President Cyril Ramaphosa announced late in May that Sanral would, in phases over the coming months, implement a standard tariff of 30c/km and a monthly cap of R225 for all users regardless of their having an e-tag, compared with the current 58c/km and the R450 cap subject to using an e-tag.

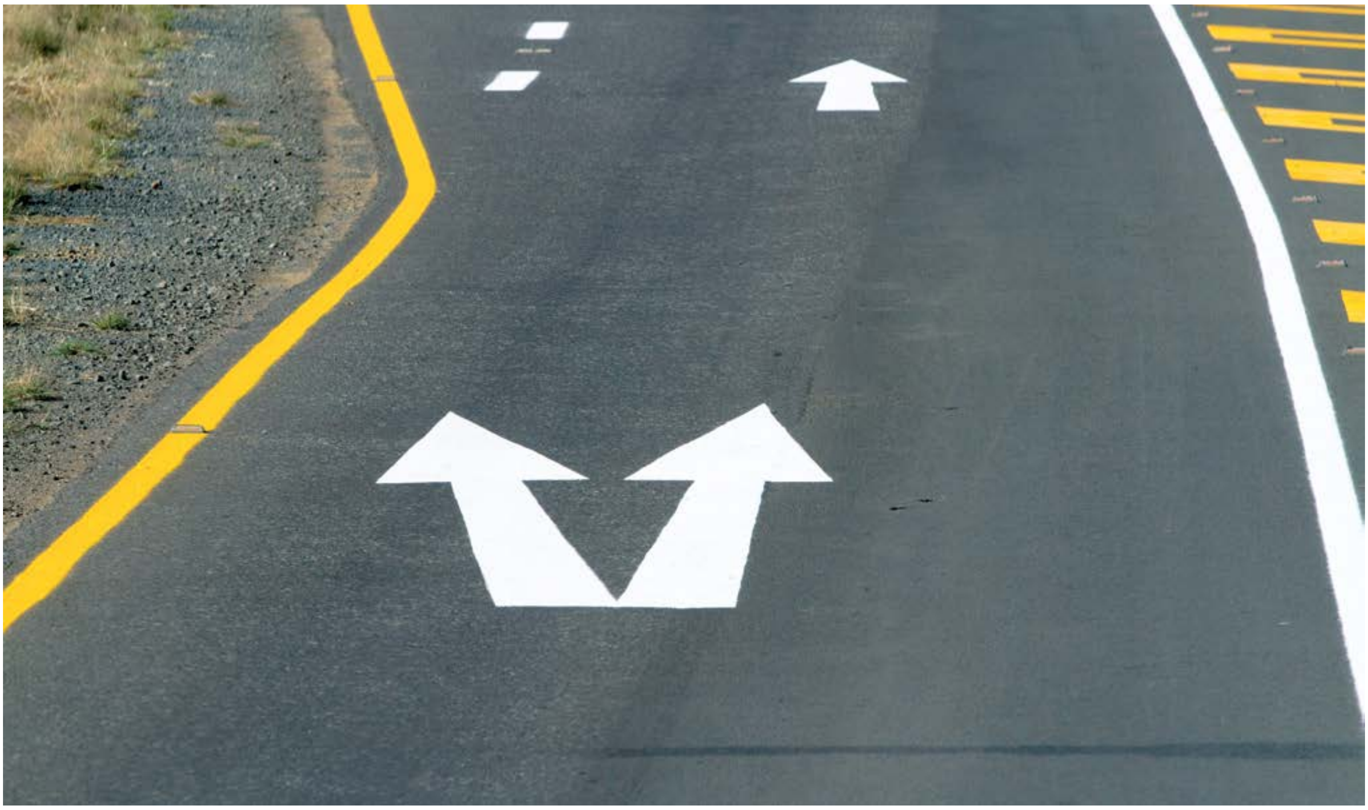
The reduced tariffs would result in a yearly revenue shortfall of R390-million for Sanral, which would be shared between national government and the Gauteng provincial government.

Meanwhile, to incentivise road users to pay their outstanding e-toll bills, users would receive a 60% discount on outstanding fees, provided this was paid within six months.

To ensure even greater compliance, government plans to introduce amendments to the Administrative Adjudication of Road Traffic Offences Act, which will entail that motor vehicle licences can be renewed only if a user's e-toll fees have been paid.

Key road projects

Peters stressed during a media briefing prior to her Budget Vote in May 2015 that the Department of Transport (DoT) was prioritising the expansion of the country's road network, given that the number of vehicles on South Africa's roads have increased from five-million in 1994 to more than 11-million in 2014.



Picture by Duane Daws

In addition to various smaller road-upgrade projects being undertaken by Sanral, as well as provincial and municipal entities, the roads agency also has several large multibillion-rand projects in the pipeline, including the proposed N1/N2 Winelands project and the N2 Wild Coast road – both of which have been dogged by controversy.

The project will result in a 105 km stretch of the N1 highway between Cape Town and Worcester, and a 70 km stretch of the N2 highway between Bot River and Cape Town, being upgraded. Tolling would be implemented through traditional toll booths on both routes. A record of decision was first issued for the proposed project in 2005, but its implementation has been delayed amid an ongoing court battle between Sanral and the City of Cape Town. The city is heavily opposed to the project and initiated a court bid in November 2013 to have certain documents related to the project made public, which Sanral did not want to do.

After various court appeals, the city was granted permission in March 2015 by the Supreme Court of Appeal to disclose details of the tender, for which Protea Parkways Consortium (PPC) has been selected as the preferred bidder to build and operate the N1/N2 Winelands project through a concession agreement. Following the ruling, the city said the proposed tariffs for the project were 84.95c/km and that PPC would earn R48-billion in toll revenue over the concession period. It stated that the high toll tariffs would outweigh any benefits for road users and that the high costs would negatively affect the transportation of agricultural goods.

Alli, however, refuted the claims, stating that the toll tariffs for the project had not yet been set, as this could be done only by the Transport Minister. He added that there was no truth to the claim that PPC would earn R48-billion in toll revenue from the project.

The Western Cape High Court will hear an application in August 2015 by the city to have Sanral's decision to implement tolling along these routes reviewed.

The national roads agency is also facing opposition to the implementation of its proposed N2 Wild Coast toll project. It was initially planned to stretch from East London, in the Eastern Cape, to Durban, in KwaZulu-Natal, but following strong opposition, Sanral decided to develop the road infrastructure only in the Eastern Cape. In March 2015, there were allegations that the roads agency had fraudulently filed affidavits from Wild Coast residents expressing support for the project. Sanral is investigating the allegations.

Another significant proposed road project is the R5.3-billion De Beers Expressway, which will be built and operated by an existing Sanral concessionaire – N3 Toll Concession – and which will entail the construction of a 99 km dual carriageway from Keeversfontein, in KwaZulu-Natal, to Warden, in the Free State. Sanral outlined in a February 2015 media release that the proposed route would be 15 km shorter than the existing N3 Van Reenen's Pass route, offer flatter grades, a smoother alignment and fewer sharp curves. The agency believes these advantages will reduce travel time for light vehicle drivers by 30 minutes and for heavy vehicle drivers by an hour.

Public transport by road

Taxis are the main mode of transport for nearly 70% of all households in South Africa, transporting about 15-million commuters a day; however, safety and reliability are two of the biggest concerns for commuters. The DoT plans to review the taxi recapitalisation programme, which was introduced in 2006 to renew the country's ageing fleet of taxis and improve the safety of this mode of transport.

The programme is, however, regarded by many as having been a failure, as it has not achieved the desired outcome. Further, violence between taxi operators is also a significant concern, with claims that illegal taxi operators, who have obtained fake taxi operating licences, are encroaching on the routes of those operators who have valid operating licences.

Meanwhile, several cities in South Africa are rolling out bus rapid transit (BRT) or integrated rapid public transport network (IRPTN) systems. Four BRT systems – the Rea Vaya, in Johannesburg; MyCiTi, in Cape Town; A Re Yeng, in Tshwane; and Yarona, in Rustenburg – have been initiated.

Phases 1A and 1B of the Rea Vaya BRT have been completed, with work now focused on Phase 1C, which will extend from Parktown to Alexandra and then to Sandton. While construction progressed on the most recent phase, the Phase 1A and 1B operations were halted in early 2015 after bus drivers embarked on an illegal strike. Many of the workers were fired and the bus operator Piotrans had to halt operations while it worked to appoint new drivers. Operations resumed in April.

The MyCiTi BRT system, in Cape Town, has achieved some notable successes as it continues to expand. The number of passenger journeys had increased to 1.29-million by October 2014. The City of Cape Town expects the full Phase 1 service to be available by September this year, while Phase 2 – the Lansdowne/Wetton corridor – will be completed by 2020.

Progress is also being made with the roll-out of the 80 km Tshwane Rapid Transit, or A Re Yeng, with Phase 1A operations having started in November 2014. Construction on Line 2B is expected to start in August this year, to be followed by construction work on Line 2C in November. A Re Yeng will eventually include 62 stations.

Construction is also under way on the R7-billion Yarona BRT system, in Rustenburg, which is expected to start operations in 2016. The overall system, comprising two BRT trunk corridors and feeder services, will be rolled out in phases to 2022.

Other cities, like Durban, in KwaZulu-Natal, and Ekurhuleni, in Gauteng, are developing IRPTNs that include various modes of transport, including bus and rail. The eThekwini municipality's GO!Durban IRPTN, which will be rolled out in four main phases up to 2030, will deliver an interlinked transport network comprising roads, rail and bus lines to connect the different parts of the city.

Public Transport

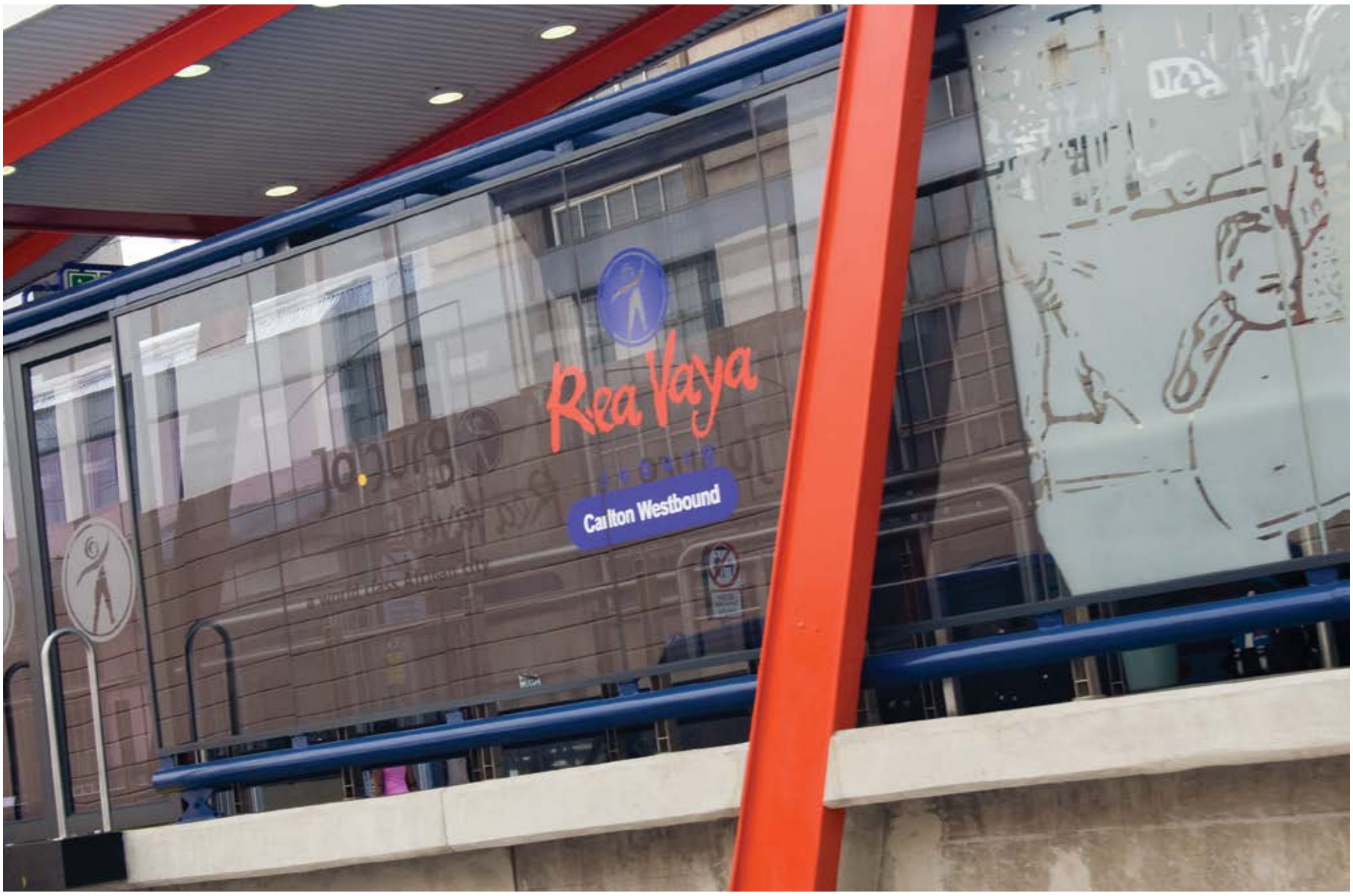
President Jacob Zuma noted in his February 2015 Station of the Nation Address that R6-billion would be spent on the planning and implementation of integrated public transport networks in 13 cities in the 2016 financial year.

Source: *Engineering News*

The Ekurhuleni municipality's IRPTN will connect nine towns on Gauteng's East Rand through existing and new bus services, revitalised rail networks, minibus taxi routes, cycling paths and pedestrian walkways.

While the development of BRT systems and IRPTNs is good news for some commuters, traditional bus operating companies, such as Putco and Metrobus, have indicated that their businesses are struggling financially, owing to government funding increasingly being directed towards BRT systems and IRPTNs, away from traditional bus services.

Putco has decided not to renew contracts on three loss-making routes in Gauteng, while Metrobus has asked the City of Johannesburg to pay its subsidy on



Picture by Duane Daws

the basis of the number of passengers transported or kilometres travelled, rather than through a yearly grant of about R300-million. Metrobus was also planning to halt operations on routes that compete with the Rea Vaya system.

Road freight

More than 80% of all freight in South Africa continues to be transported on road rather than on rail, despite government and private-sector efforts to move more rail-friendly freight back onto the rail system to reduce logistics costs, damage to the country's road network and congestion, as well as improve South Africa's competitiveness and safety on the country's roads.

As part of efforts to achieve these objectives, State-owned freight logistics group Transnet is investing heavily to improve its infrastructure and service; however, logistics service providers, road hauliers and other private-sector companies are encouraged to also contribute to ensuring the integration of road and rail logistics solutions, as this is likely to be less costly than using o either mode on its own.

Picture by Duane Daws

Rail freight

Transnet embarked on its R300-billion seven-year Market Demand Strategy in 2012 to improve its rail, port and pipeline infrastructure. The counter-cyclical investment programme aims to create capacity ahead of demand.

The lion's share of the investment – about R200-billion – focuses on improving and expanding the entity's ageing rail infrastructure to increase volumes from 200-million to about 344-million tons by 2021. Transnet Freight Rail (TFR), which is responsible for the group's rail operations, is undertaking several key expansion projects.

TFR will invest about R45.5-billion to expand capacity on its coal export line, from the Mpumalanga coalfields to the Richards Bay Coal Terminal (RBCT), to 97.5-million tons in 2021. Coal rail volumes have for some time been unable to keep up with capacity expansions at the RBCT, which has the capacity to export 91-million tons a year of coal and which could potentially be further expanded to 110-million tons a year. TFR and Swaziland Railways are collaborating on the proposed SwaziLink project – a 146 km railway line between Lothair, in Mpumalanga, and Sidvokodvo, in Swaziland, that will enable TFR to divert the transportation of general freight from the coal export rail line through Swaziland instead. This could potentially increase the coal export rail line's capacity to 120-million tons a year. TFR plans to make an investment decision on the proposed project by August.

Further, TFR is investigating options for the development of a 560 km Waterberg heavy-haul rail line to link the Waterberg coalfield, in Limpopo, to the existing export coal rail line. A feasibility study on the proposed project is due for completion in August 2015. Transnet acting CEO Siyabonga Gama has said that the SwaziLink project will likely be funded through a special purpose vehicle owned by Transnet and Swaziland Railways, while the Waterberg rail line will likely be implemented as a public–private partnership.

Meanwhile, the capacity on the 861 km heavy-haul iron-ore export rail line between Sishen, in the Northern Cape, and the Port of Saldanha Bay, in the Western Cape, will be expanded to 70-million tons by 2021.

In addition, TFR is working to establish its third heavy-haul export rail line, which will increase the volume of

Safety measure

Transnet Rail Engineering has developed a new automated, level-crossing traffic-control mechanism that prevents a vehicle from passing through a level crossing while a train is approaching. The system uses hydraulically operated road blockers that rise up from the road surface when a train is approaching the level crossing. Transnet plans to eventually roll the system out to 4 000 level crossings across the country.

Source: *Engineering News*

manganese ore transported from mines in the Northern Cape to the Port of Ngqura, in the Eastern Cape, to 16-million tons a year. It is, therefore, upgrading the Postmasburg–Port Elizabeth/Ngqura rail line.

TFR's General Freight Business (GFB), which transports various commodities, products and minerals, as well as containers, increased its rail volumes to 87.9-million tons in the 2014 financial year, compared with 82.6-million the year before. GFB rail volumes were, however, below the 91.22-million tons targeted for the 2014 financial year. Some of the additional capacity being created will be through the proposed SwaziLink project.

The expansion of the GFB will also require significant investment in new rolling stock. TFR will procure 1 064 locomotives – 599 electric and 465 diesel – for its GFB unit by February 2018 and has awarded tenders, worth a collective R50-billion, to consortiums led by General Electric (GE), China North Rail, China South Rail (CSR) and Bombardier Transportation.

The contracts have strict local-content requirements of 40% each, with the majority of the locomotives to be produced at Transnet Rail Engineering's (TRE's) facilities in Koedoespoort and Durban, in Tshwane and KwaZulu-Natal respectively. To fund the procurement of locomotives from the consortiums led by GE and Bombardier, Transnet secured funding agreements worth a collective R13-billion with the Export–Import Bank of the US and Canadian export credit agency Export Development Canada in March.

TFR also, took delivery in April of 95 Class 20E locomotives from CSR Zhuzhou Electric Locomotive, which secured a R3-billion contract in 2012 to build the locomotives. Ten of the locomotives were built at CSR's facilities, in China, and the remainder assembled at TRE's Koedoespoort facility. TFR is also procuring 60 Class 43 diesel locomotives from GE.

Picture by Duane Daws

Transnet will also, in the coming months, assess the viability of using vehicles capable of operating on rail tracks and roads on its Cape and Natal corridors.

Passenger rail

The Passenger Rail Agency of South Africa (PRASA) is mainly responsible for commuter rail services in South Africa. Its Metrorail services form the bulk of its commuter rail operations, transporting more than two-million people to and from work every weekday and making an estimated 500-million passenger trips a year. Metrorail has a fleet of about 270 train sets, or about 3 100 passenger coaches.

PRASA also provides intercity rail services between some of the larger cities in the country through its Shosholoza Meyl and Premier Class operations. The number of passengers using these services has, however, declined significantly from more than three-million in 2009/10 to 900 000 in 2013/14, leading to a R700-million loss for the rail agency. Simultaneously, the number of operational trains available for these services has halved to 3 000 a year, compared with 6 000 a year in 2009/10.

Following many years of underinvestment, the rail agency has embarked on a 20-year rolling stock fleet renewal programme to replace ageing trains, which are on average more than 40 years old, and to expand its available rolling stock. PRASA will invest R123-billion over two phases to acquire about 7 200 new rail vehicles by 2034. The Gibela Rail Transportation consortium, comprising French multinational Alstom and several South African partners, has been awarded a R51-billion contract to supply the first 600 trains – Alstom's X'Trapolis Mega trains – for PRASA's Metrorail service by 2025. Each train will comprise six cars, capable of transporting more than 1 300 passengers.

Picture by PRASA

Moloto rail line

The Passenger Rail Agency of South Africa has been tasked with developing a R12-billion rail line along the R573 Moloto road between Mpumalanga and Gauteng to reduce the number of road accidents and fatalities on the road. A feasibility study has identified Cape Gauge as the best option for the rail line development and a public–private partnership plan has been developed.

Source: *Engineering News*

The first 20 trains are being manufactured in São Paulo, Brazil, while a local manufacturing facility, to be built in Dunnotar, Ekurhuleni, will produce the remainder of the trains at a rate of 62 a year once in full operation. Gibela CEO Marc Granger indicated in May that construction on the plant would start soon, with the first locally assembled train to be produced in June 2017. The consortium is striving for a 70% localisation target for all trains, but Granger has pointed out that there are few black companies active in the South African rail sector and that local companies might struggle to meet Gibela's requirements.

In addition to rolling stock upgrades, PRASA is also investing in upgrades to its signalling networks and train stations, the extension of existing rail lines and modernising its rail depots.

Meanwhile, ridership numbers on the 80 km Gautrain rapid-rail system, in Gauteng, have remained well below the targeted 110 000 passengers a month, with about 55 000 passengers having used the service per weekday in January 2015. The Gautrain Management Agency (GMA) has attributed the low ridership numbers to uncertainty about the implementation of e-tolls on the GFIP; however, commuters have also had to face unplanned strikes by bus drivers, interruptions in services because of electricity cable theft and rail undercapacity at peak times. Rail fares have also increased by between 4% and 6%, and parking fees by R1, as from June 1.

The GMA is considering expanding the Gautrain system along four proposed routes. A consortium comprising SMEC South Africa, DLA Cliffe Dekker Hofmeyr and Deloitte, as transaction advisers, have been appointed to undertake a feasibility study on the proposed expansion, with this work to be concluded by January 2016.

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