Why There are So Many Trucks on the Road and so Few Trains on the Tracks

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State of Play: Crisis

It is early 2010.

We are standing on one of Johannesburg's old yellow mine-dumps, looking south. In the middle distance is the magnificent FNB Stadium that will host the FIFA World Cup Final. In the foreground, an elegantly-arched concrete bridge carrying the shining rails, masts and overhead cables of the revamped 14km rail link between central Johannesburg and Nasrec. After 18 months of construction at a cost of R70 million (2020 value: R115 million), the new line is ready to ferry more than 20,000 peak-hour passengers.

Nasrec (the National Recreation Centre, near the site of the FNB Stadium) is one of 50 stations refurbished by the Passenger Rail Agency of South Africa (PRASA) for the World Cup. After the competition, says Deputy Transport Minister Jeremy Cronin, the station will serve the stadium but also enable citizens of nearby Soweto, who were deliberately placed far from the CBD during apartheid, to be quickly linked to economic hubs. "As we're launching this, we're transforming the very geography of South Africa. We're actually democratising space." [1]

Move on ten years to January 2020.

The Nasrec station is closed. The steel of the rails is rusting; the overhead electrical equipment has vanished, apart from a few lengths of cable drooping uselessly from the masts; and the pillars of the concrete bridge are covered with graffiti and piled with litter. [2]

The broken and deserted Nasrec rail link is an emblem of what has happened to the South African railway network - once regarded as one of the world's best. And its destruction has little to do with the Covid lockdown. Transport Minister Fikile Mbalula admitted in January 2020 that PRASA "has suffered blows from many years of mismanagement and deteriorating corporate governance. Today it is a broken organisation". [3]

In January 2020, before the lockdown was even thought of, PRASA announced it was experiencing "unprecedented levels of vandalism and theft across all the regional Metrorail (commuter) and Shosholoza Meyl (inter-city) services, resulting in massive disruption to commuter services, with vast sections being closed down".

"The enormity of the task to rebuild sub-stations and related support infrastructure cannot be underestimated, there simply are no quick fixes," said Acting PRASA CEO Zwelakhe Mayaba. "Vast amounts of money have been spent on repair - only to have thieves return, armed to the teeth in most cases, to harvest our infrastructure." [4]

Goods trains, the responsibility of Transnet Freight Rail (TFR), did not escape the effects of rampant crime. In March 2020, also before the lockdown, Transnet reported that it was cancelling about 170 goods trains a month because of a spike in 2019 in the theft of overhead cables. Exporters of minerals, grain and motor vehicles were the worst affected. The Ford Motor Company said the disruption "makes us extremely uncompetitive against the rest of the world." Parts of the network were at a complete standstill, unprecedented in South African history.

Lloyd Tobias, Acting CEO for TFR, confirmed what every stakeholder has known for years: "It is clear that organised crime syndicates are engaged in cable theft. There has also been a proliferation of scrap-metal dealers, with 3,300 regulated dealers and more than 6,000 unregistered operations, which tend to be the first port of call for thieves." [5] In some places the rails themselves have been uplifted and stolen for scrap. The overall damage will cost billions of rand to repair.

A year on, in January 2021, the national rail network is no longer on its knees: it is out for the count. Thanks to management instability, incompetence and astonishing neglect of simple governance (the entire PRASA board was fired by Minister Mbalula in December 2019), no rail security guards at all were in place for several months during the lockdown in 2020. The thieves moved in. In mid-September last year, more than 6km of cable was stolen in just 24 hours.

Contrary to some perceptions, our railway decline started long before the ANC took over government in 1994. It is the result of a perfect and sustained storm of misguided policy, poor strategy, incoherent administrative structures, blurred reporting lines, managerial incompetence, skills shortages, corruption, unfair road competition and a criminal neglect of security and safety

The *International Rail Journal* reported in September 2020 that "hundreds of kilometres of overhead cables, signalling wires and catenary masts have been stolen, affecting every Metrorail route in Gauteng. Stations have also been destroyed, with buildings reduced to rubble and platforms torn up by thieves looking for signal wiring. On the once-busy 35km main line between Johannesburg and the western mining town of Randfontein, around 60km of cable was stolen during the lockdown alone. No commuter trains are running on this line, while the handful of Transnet-operated freight trains still running are often caught in cables left dangling by the thieves." [6]

It is a shocking state of affairs – but it should not be a surprise. The Covid lockdown merely provoked a dramatic acceleration of a decades-long downward trend, in passenger and goods services. Annual commuter train trips had fallen from 634 million in 2010 to 208 million at the end of 2019. The Durban-Gauteng freight corridor was carrying 15-20 goods trains a day in 2019, compared to more than 120 in the late 1950s.

These statistics are merely the symptoms of a chronic and possibly fatal decay. Contrary to some perceptions, our railway decline started long before the ANC took over government in 1994. It is the result of a perfect and sustained storm of misguided policy, poor strategy, incoherent administrative structures, blurred reporting lines, managerial incompetence, skills shortages, corruption, unfair road competition and a criminal neglect of security and safety.

The Historical Context

For more than a century, South Africa's railways were a key economic driver and enabler for the country. The first train in the territory that became the Union of South Africa ran from the centre of Durban to the Point in 1860. But it was the discovery of important diamond deposits (1867 in Kimberley) and the world's richest gold reef (1886 on the Witwatersrand) that drove railway expansion dramatically. It is no exaggeration to say that the railways opened up South Africa economically, and helped to unite it politically.

An ox-wagon could pull two tons of goods at 2mph; a steam locomotive in the 1870s could haul 200 tons at 20mph – a thousand times more efficient. By the time of Union in 1910, all the major cities were linked by main lines and there were many important branch lines serving agriculture and sustaining rural communities. The national South African Railways & Harbours (SAR) was formed by combining existing railway administrations: the Central South African Railways (serving the old Boer republics of the Transvaal and Orange Free State), the Natal Government Railways and the Cape Government Railways. The country's railway history is much older than the country itself. [7]

The South African rail network continued to expand until it reached its peak in route kilometres in the late 1920s. Private motor-cars, bus services and powerful trucks were still a rarity, and there were no national roads or air services. As late as the 1930s, to travel by road from Johannesburg to Cape Town meant stopping frequently to open and close farm gates.

For the next 50 years, the rail passenger timetables listed more than 3,000 stations and halts. It was possible to buy a ticket to travel from any one of these to any other. Long-distance trains between the major cities were frequent and generally reliable, and efficient daily commuter services were established on the Witwatersrand and in Pretoria, Bloemfontein, Cape Town, Port Elizabeth and East London. (Like everything else in South Africa, these services were segregated until the late 1980s.) [8]

Nearly all goods traffic went by rail. At any given moment, night and day, dozens of trains were moving on the network. In the cities, businesses were linked to hundreds of private sidings, many of them serviced daily. Major junctions like Germiston were never silent, echoing day and night to the sound of shunting engines. In 1970, Bloemfontein saw an average of 300 train arrivals and departures every 24 hours.

In the rural areas, farmers depended entirely on the railway to reach their market. Hugh Hall, founder in 1890 of the HL Hall & Sons Lowveld farming operation that became the biggest producer of fresh vegetables in the southern hemisphere, was able to send produce as far as Cape Town and Port Elizabeth (often to individual householders), thanks to the railways. [9]

Under the national governments led by the former Boer generals Louis Botha (1910-1919), Jan Smuts (1919-1924 and 1939-1948) and Barry Hertzog (1924-1939), the railways played a conscious and deliberate national developmental role. [10] In the 1930s the SAR was instructed by the Hertzog government to build more houses to relieve the acute shortage of accommodation for whites. Every town and minor junction had its *spoorwegdorp* (railway village) of subsidised white housing.

At their height in the 1970s, the railways were the country's biggest employer, with 230,000 black and white workers. Unofficially, the SAR was expected to take in any white man who could not find work elsewhere. From the 1930s onwards, the SAR was the leading supplier of artisans to the economy, and played a major role in the industrialisation of the country. In World War 2, its heavy engineering workshops proved vital in production of munitions and military vehicles. [11]

In Sir William Hoy, the first General Manager (GM) of the SAR, successive governments had a willing and brilliant executor of this state-developmental approach. Sir William was a railwayman to his fingertips. At the age of 12, he had begun work as a junior clerk for the North British Railway in Edinburgh. In 1889, at the age of 21, he was recruited by the Cape Government Railways and five years later he was its GM. He ran the SAR from 1912 to 1928. He helped write the legislation for the new national railway, and inserted a clause that it should be run on business principles. With his Chief Mechanical Engineer, DA Hendrie, he drove the electrification of the steeply graded Natal main line between Pietermaritzburg and Glencoe in the 1920s – among the first such projects in the world. [12]

In 1930 the Motor Carrier Transportation Act regulated road traffic wherever there was direct competition with the railways. All private road carriers on defined routes had to apply for certificates and compliance was enforced.

As the economy grew, so did competition from road transport. In 1926, Hoy noted in his GM's report that "road motor companies can pick and choose their traffic. They have a further advantage of not being legally compelled to adhere to any fixed tariff … (but) the railways are bound to accept whatever traffic is tendered". In 1927, Hoy said "the Administration is obliged under Acts of Parliament to construct large numbers of developmental lines, which only in exceptional circumstances are expected to meet even interest charges on the capital cost of construction." [13]

In essence, the SAR was demanding commercial protection in return for being forced to provide uneconomic services, for both passenger and goods traffic. This tension was not properly addressed in Sir William's time or for 50 years after he retired.

Government was sympathetic to Hoy's argument: it had invested a great deal in rail infrastructure. The official thinking (heavily influenced by Hoy) was that road users should not be allowed to compete directly where railways already existed, but to complement the rail network in two ways: by providing feeder services to and from stations, and offering service in remote areas where there was no railway.

Government policy now became officially rail-friendly. In 1930 the Motor Carrier Transportation Act regulated road traffic wherever there was direct competition with the railways. All private road carriers on defined routes had to apply for certificates and compliance was enforced. [14]

In 1947 the Page Commission supported the need for "continuous regulation of road transportation and the prevention of excessive competition" between road operators and the SAR. The permit system remained in place. [15]

But the national road system was steadily improving, while the railways battled to clear the growing traffic. The rail network was often upgraded technically – as with signalling, and major realignments of the Natal main line in the 1950s to speed up transit times – but was essentially static in its capacity. [16]

Policy Shift

By 1977, government policy finally switched to being road-friendly. Prompted by the strong economic growth of the 1960s and early 1970s, the Van Breda Commission recommended that "qualified deregulation should take place gradually".

Experts trace the beginning of the railways' decline to Act 14 of 1977, the Road Transportation Act. This made more concessions to road transport in the name of competition. Permits were now issued by local boards which imposed conditions regarding the type of goods, the area of operation, and the duration of the permit. An unintended consequence of this devolution of the permit system, and its increased complexity, led to inconsistency and less effective control. A "trade" in permits flourished and corruption became endemic.

The intended gradual deregulation of the road sector became a torrent. Policing was impractical and so largely abandoned. The genie was out of the bottle: more and more traffic was exempted from the permit system, and more operators simply ignored it. [17]

However, the SAR administration still planned to expand and improve its services, as if rail traffic would continue to increase. It was justifiably proud of its two new dedicated heavy-haul export lines: Sishen-Saldanha (861km, iron ore) and Ermelo-Richards Bay (588km, coal). In the 1980s the Sishen line established a world record for the longest and heaviest train ever run - 7.3km, with 660 fully-laden ore trucks, nine electric locomotives and seven diesel engines. [18]

On the passenger side, there were successful experiments in high-speed operation, which resulted in 1984 in the Metroblitz service between Johannesburg and Pretoria. This train could reach 150km/hour – a world record for the relatively narrow gauge used in South Africa. But the project was stymied by the presence of too many other slower trains on the tracks. [19]

Other projects were less successful. A massive world-class marshalling yard at Sentrarand, which took four years to build, was opened in 1982 – just in time for a rapid decline in goods traffic. Much the same happened with investment in passenger traffic. [20] The magnificent old Durban station, built in the late 1890s, was abandoned. In its place was built a vast, ugly and expensive multi-platform station. This opened in 1980 – just as management began cutting passenger services. Within a few years it was occupied by squatters and was a very expensive white elephant, just like Sentrarand. [21]

We can now see that, strategically, the railways had entered a no-man's-land. After more than six decade as a protected national carrier, they now faced unrestricted road competition for passengers and goods. It was unintended, but one unfair system had been rapidly replaced by another. Faced with the key question - how to enforce the right balance – government went the route that organisations usually take when they are confused: restructure and rename.

In 1981, the SAR & H was renamed the SA Transport Services (SATS), with the vague aim of eventually having it managed as a private entity. Beyond the name change, the old SAR & H structure remained. It was like a massive ocean tanker that would take time to turn. Consultants were brought in and applied the business jargon fashionable at the time – "business units," "goal-orientated management," "core business, "profit centres" – and succeeding mainly in disrupting without creating anything new or finding solutions. The old staffing levels of a massive bureaucracy could not be sustained, and employees were encouraged to take early retirement or generous severance packages. Dead wood was cut – but so was institutional memory, experience, and managerial and technical skills. As is always the case, the best people left because they had more options. [22]

As one former senior SATS civil engineer put it, "rather than relying on experienced men coming through the ranks, there was increasing emphasis on employing 'business managers' from outside, most of whom were clueless about railroading." SATS continued its strategic drift, with declining revenues and plummeting staff morale. [23]

Corporatisation

Enter Dr Wim de Villiers, a formidable senior mining executive (Gencor) with a string of influential academic papers to his name. He was commissioned by a worried government to study the "strategic planning, management practices and systems" of SATS.

His name is now forgotten, but no man since Sir William Hoy has had more influence on South African railway policy and practice than De Villiers. His 1986 report went to the heart of the matter: “The railways' role as an instrument of national policy promoting settlement and production of traffic by the incentive of cross-subsidisation through a classified rate structure is obsolete. It follows that the only way to preserve the railway as a viable commercial operation is to have it concentrate on fulfilling those transportation functions in which it has inherent cost advantages... If rail services are demanded by the nation beyond inherent competitive advantages, the cost of such demands cannot be avoided by the nation." [24]

Government moved fast. Its Transport White Paper of 1986 recommended that the railways, for the first time, would no longer have to provide loss-making socio-economic services; would be allowed to introduce cost-related rail freight rates, and to refuse traffic and suspend services. The Transport Deregulation Act of 1988 empowered the Minister of Transport to phase out the remaining restrictions of the Road Transportation Act.

In April 1990, after 80 years of direct government and parliamentary control of the railways, SATS became a limited liability company under the name of Transnet Limited. This seemed to make strategic sense. The National Party administrations of PW Botha and FW de Klerk were in favour of privatisation of major state-owned entities, an approach that was broadly adopted by the first ANC administration under Nelson Mandela. The formation of Transnet was seen as a first step. But the push to privatisation in the 1990s was later abandoned by the ANC under President Thabo Mbeki. [25]

> It was a great mistake to separate goods trains from passenger traffic, which mostly used the same tracks. This created major operational, safety and accountability problems that had not existed before. Transnet still owns the entire rail network over which PRASA operates.

Meanwhile, the main change at Transnet from the old SAR & H/SATS structure was that all suburban train services now fell under a new SA Rail Commuter Corporation (SARCC). The idea was that SARCC would commercialise the land and property assets around commuter stations, with the ultimate aim of reducing subsidisation of train services. Later the SARCC was renamed PRASA, with long-distance passenger trains added to its responsibility, and the goods operation was placed under Transnet Freight Rail (TFR). This evidently made sense to expensive consultants with their focus on “core businesses,” but it ignored the complex operational integration on which the old SAR was built. [26]

It was a great mistake to separate goods trains from passenger traffic, which mostly used the same tracks. This created major operational, safety and accountability problems that had not existed before. Transnet still owns the entire rail network over which PRASA operates. TFR naturally had no interest in passenger trains, which went from having priority in the old structure to being supplicants, at the mercy of freight timetabling and having to beg to use locomotives. In addition, the new structure created blurred reporting lines, and expensive new hierarchies of boards and managers.

To make matters worse, PRASA reports to the Minister of Transport, which is responsible for national transport policy, but Transnet falls under the Department of Public Enterprises. [27]

On the Roads

South Africa has about 750,000km of roads and streets, the tenth biggest network in the world. About 158,000km of roads are tarred. Some important inter-city national roads are in excellent condition because they are maintained by toll revenue. The SA National Roads Agency (Sanral) is responsible for 21,400km of the network, and only 3,500km of these are tolled. [28]

Tolling is a highly efficient and fair tax: only the users of the road pay for it, and they cannot avoid paying. A heavy road-rig of more than four axles will pay about R1,000 for one journey on the N3 from Gauteng to Durban. [29] However, by law, the revenue from tolling cannot be used by Sanral to cross-subsidise other roads. [30]

Responsibility for the rest of the road network is divided between national, provincial and municipal authorities. Their record is dismal.

In 2017, no less than 33% of provincial tarred roads were classified as “poor” or “very poor”, up from 26% in 2013 (and far above the global benchmark of 10%). Of the 591,000km of gravel roads, more than half were classified as “poor” or worse – and “worse” can mean literally impassable. [31]

As early as 1997, the Council for Scientific and Industrial Research (CSIR) warned that “the trend in maintenance expenditure on national roads has been one of steady decline since the late 1980s. Since then, the number of commercial vehicles on South African roads has increased by between 5% and 10% per year. The total road network represents a huge investment. This asset is facing a crisis in terms of funding for road maintenance and of the growing vehicle population.” This analysis could be applied unchanged in 2021, more than 20 years later – but with road conditions now much worse. [32]

What is government doing about it? National Treasury allocates an annual grant to provinces based on their road conditions, weather patterns and traffic volumes. However, there is a massive backlog in maintenance, against which the expected increase in the grant from R10.3 billion in 2017/18 to R12.1 billion in 2020/21 can make little impression. That assessment does not even take into account the risks of wasteful expenditure, lack of technical and project-management skills in the provinces, and of course corruption. Cities and towns generally have not the money, administrative capacity or skill to fix and maintain their roads. [33]

The main cause of rapid road deterioration over the past 30 years has been the constantly rising volume of vehicles on the same roads, along with overloading.

The CSIR explains: “Every vehicle which passes over a road causes a momentary, very small, but significant deformation of the road pavement structure. The passage of many vehicles has a cumulative effect … The damage caused by the passage of any heavy vehicle is determined by the magnitude of each of its axle loads, the spacing between the axles, the number of wheels, the contact pressures of the tyres and the travelling speed.” [34]

According to Ismael Essa, a regional manager at Sanral, if a truck is overloaded beyond the maximum by at least 7%, “a single trip can do more damage to the road than 80,000 cars. If a national road was designed to last for 20 years, and we are overloading by 10%, we reduce the lifespan of the road by 8-10 years”. [35]

The maximum load in South Africa for a truck (or a truck-tractor and trailers) is 56,000kg. That is the highest in southern Africa, 55% higher than in the USA and UK, 40% higher than in Germany and 27% higher than in Australia.

Overloading has been a problem, and has been officially acknowledged as such, ever since deregulation of road freight began in the 1970s – yet little has been done in 40 years to stop it. In August 2020, transport minister Fikile Mbalula said “overloaded vehicles remain one of the biggest threats to South Africa’s national road network”. [36]

Overloading is measured against an already high base. The maximum load in South Africa for a truck (or a truck-tractor and trailers) is 56,000kg. That is the highest in southern Africa, 55% higher than in the USA and UK, 40% higher than in Germany and 27% higher than in Australia. [37]

The answer, of course, was and is law enforcement and proper load controls, but the authorities and the road freight industry have consistently failed to achieve this.

Government policy did to some extent anticipate these problems. When the legislation changed in the 1970s and 1980s, it was accepted in principle (as it had been in the 1930s) that private road hauliers should have to contribute "their relative proportion" to the provision and maintenance of roads. As a method of control to replace the permit system, the Road Transport Quality System (RTQS) was introduced in 1991. It was widely accepted by the road transport industry as fair and practicable, and welcomed by Transnet. [38]

However, the devil was in the application. In 2001, road industry magazine *Fleetwatch* noted that "RTQS has not been implemented by the authorities, and it has not been applied by the operators." In 2007, a presentation to parliament by the RailRoad Association of SA noted that implementation of the RTQS "has never happened. The result is an almost completely unregulated road transport industry." [39]

Little has changed since then. In 2015 the CSIR's Paul Nordengen noted that there were not enough weighbridges and they were not always manned. "Where weighbridges are operational," he says, "they don't have the right facilities for screening and we end up with long queues of trucks." [40]

Also in 2015, Gavin Kelly from the Road Freight Association (RFA) pointed to inconsistent policing. "There are huge levels of corruption among officers, stretching from fines to dockets. Traffic officers have poor technical skills and can often not perform basic tasks." Kelly said the biggest challenge was in operator licensing: "These problems include poor control over the granting of operating permits; no centralised system to record operator details and their history; and non-compliant operators who operate under the radar and who seem to be immune. Operators who have transgressed get back on the road without having corrected their operations or the condition of their trucks. Problem vehicles are not taken out of circulation, problematic test centres are not dealt with and there is widespread corruption in certification." [41]

Rail in Retreat and Defeat

The impact on rail traffic was inexorable.

In 1993, about 400 million tons of goods were transported by road, compared to 175 million tons by rail. By 2009, 16 years later, road traffic had risen by 242% to 1.37 billion tons, whereas the total carried by rail had increased just 17% to 205 million tons. Over the next four years to 2013, rail added only five million tons – an increase of just over 2%. The railways did not help themselves with inept management (but there has never been a shortage of wonderful strategic PowerPoint presentations). [42]

Of the 210 million tons carried by rail in 2013, two-thirds were on block trains of primary minerals: iron and manganese ore, and coal. In the country's main transport corridor, the 600km route between Johannesburg and Durban, rail-friendly traffic amounting to 68 million tons included containers, steel, new cars, coal, manganese ore and liquid fuels. In theory nearly all of this should have gone by rail. In fact, rail carried only 24 million tons of it (35%), and road 44 million tons.

On the corridor to Cape Town, which at 1,600km is two-and-a-half times further from Gauteng than Durban, rail did rather better in 2013 with rail-friendly traffic (cars, grains, containers, perishable goods, cement, steel): 11 million tons, but that was still less than the 14 million tons that went by road. On most rural lines, freight traffic simply ceased. [43]

The Department of Transport's railway Green Paper of 2015 noted that the "rapid increases in road freight are a growing cause for concern," citing pollution, urban congestion, rising accident rates and low operating standards. These problems were all "in part due to the high percentage of goods being transported by road instead of rail".

None of this analysis was new, nor were the Green Paper's proposed solutions. It spoke of introducing policies "to permit the widening of the investment base in rail freight," and the "development of operational, technical, and managerial skills in the rail freight sector". Research was needed, said the Paper, "to inform national policy decisions on railway development … into the creation of a legislative framework for sustainable intermodal rail freight systems." There is no shortage of such jargon - and no evidence of any practical implementation.

The 2015 Green Paper also called for "an urgent investigation into strategies to maximise the potential for the use of branch lines in rural areas".

Branch line closures began in the early 1980s and continued into the 1990s and 2000s. By the end of the century, more than three dozen branch and duplicate lines had been closed, removing thousands of kilometres from the network. Many of these lines were short and genuinely redundant; others extended more than 250km, were still carrying traffic, and were candidates for survival with a different management approach.

From the bean-counter approach of the 1980s and 1990s, the old development role of the railways began to be revisited in the 2000s, not just by government. The CSIR argued in 2015 that "for a developing country, where rural development needs to be stimulated, government should play a bigger role in ensuring these rail links to the rural areas remain operational by providing the required financial support to ensure viability of the branch lines." [44] Government's own Draft White Paper of June 2017 says the Department of Transport "must support the revitalisation of branch lines" and speaks of investment in new railway links where appropriate. [45]

Danger Down the Line

Against the backdrop of operational, managerial and financial decline, the railways became progressively more unsafe and unsecured. This was a 35-year process that culminated in unchecked theft and sabotage in the 2020 lockdown.

To understand this, we need to go back to the 1980s, when an effective railway policing system was simply abolished – in retrospect, an astonishing decision, but one that explains a great deal of what has gone wrong.

The South African Railways & Harbours Police was established by the Department of Transport in July 1934. Its military-style training and rank structure mirrored that of the South African Police. The railways police had their own charge offices and a detective arm. In their distinctive green uniforms, the job of the railways police was to patrol trains, stations and goods yards. Constables on duty at railway stations attracted the unkind nickname of *blompotte* (flower-pots), but they provided a constant and visible deterrent to petty and major crime.

In the 1980s the security resources of the state were increasingly stretched by the "Border War" in Namibia and Angola and the 1980s State of Emergency. In this context the railways were not seen as especially vulnerable. So in October 1986, the 16,500 members of the Railways Police were amalgamated with the South African Police (SAP) to beef them up.

As Johan Burger of the Institute for Security Studies has written, this integration "was accompanied by undertakings that with an enlarged SAP, more attention would be given to the rail industry, its property, staff and commuters. Over the next few years quite the opposite happened, and the situation deteriorated to the extent that the rail industry had to employ private security companies." The specialized services and expertise of the Railways Police were lost or ignored. SATS now not only had no responsibility for its own security, but no control over the agency supposed to provide it. [46]

As for the SAP itself, its main role had evolved into maintaining apartheid rather than fighting crime. The literal disappearance of the Railways Police meant that criminals migrated to the rail environment. Moving commuter trains became terrifying battlefields in the 1980s civil war between Inkatha and the ANC, as well as soft targets for routine criminality. Under apartheid, the crowded trains serving the black townships had never been safe; moving into the 1990s and 2000s, there was not even a semblance of security on trains or at stations.

Occasionally, the daily stoic suffering of millions of working-class and unemployed commuters was illuminated by a publicised incident.

On 8 June 2001 Juan van Minnen, a 21-year-old student travelling in a first-class carriage of a Cape Town suburban train, was repeatedly stabbed by an unknown person between Kenilworth and Wynberg stations and died the following day.

Van Minnen's mother Leslie helped form the Rail Commuter Action Group. "At the time," she wrote in 2017, "there was no security on the trains and fewer than 30 Metrorail security personnel for the whole Western Cape railway region. Passengers were left at the mercy of criminals and there were murders, rapes, assaults and robberies. Trains had defective doors and many passengers fell or were thrown out of moving trains after being robbed, sometimes dying or being badly hurt."

The group took legal action against the SA Rail Commuter Corporation (later renamed PRASA), the SAPS, the Ministers of Transport and Safety & Security and the provincial MEC for Community Safety. Eventually, in 2004, a full bench of the Constitutional Court confirmed that PRASA was "fully accountable" for the safety of commuters and could be liable for civil and criminal action.

As a consequence, dedicated railway policing was re-introduced after an absence of nearly 20 years, with the establishment of the SAPS Rapid Railway Police Unit (RRPU).[47] Con Court of SA. Case CCT 56/03

However, another Con Court judgement against PRASA, in 2016, seemed to show that little had changed in 12 years. This case concerned one Irvine Mashongwa, who sued after he had been assaulted on a moving train near Pretoria and then lost a leg after being thrown through the open doors.

South Africa's commuter trains have been driven since the 1980s (and still are) with open doors: passengers routinely hold them open and destroy the mechanisms. In theory, the train should not depart until all sliding doors are closed; railway managers admit off-the-record that if this was enforced, no trains would ever leave the station, so a blind eye is turned.

> The use of private security companies had seemed an obvious, if belated, solution to the vacuum left by the abolition of the Railways Police. But this brought its own problems related to competence and integrity.

In delivering the judgement of another full bench, Chief Justice Mogoeng Mogoeng ruled that PRASA had been negligent in failing to ensure that the doors of the train were closed, and in failing to hire sufficient staff to ensure the safety of commuters; and that PRASA was liable for damages.[48]

Government had responded structurally at least by establishing the Railway Safety Regulator (RSR). Its first report appeared in 2005/2006. It referred to "ineffective safety management systems, a shortage of trained staff in safety-critical positions, and a lack of investment in safety". Over the next decade, the RSR's scathing criticisms continued, backed by detailed statistics, but there seemed to be little practical effect, even against a background of declining passenger numbers – commuter journeys more than halved between 2010 and 2019.

The most recent RSR report reveals that, between 2016 and 2019, security incidents (assaults and robberies) involving passengers on PRASA trains rose 25%

from 368 to 461; similar incidents at stations went up 45% from 391 to 570. In its commentary, the RSR says "assault still appears to be a major problem on trains … 22 fatalities were recorded for security incidents in 2017/18. These figures are reflective of an increasing trend in fatalities and injuries since 2012/13." [49] RSR annual report 2019

Hardly surprising, then, that the Rapid Rail Police Unit has repeatedly been accused of being worse than useless in its 15 years of existence. However, its functioning has been crippled by incompetent PRASA management and confusion over lines of command and accountability.

In its defence, the RRPU has pointed out that its broader operating context is hardly conducive to law and order. Suburban trains are often late or cancelled. At most stations there is no passenger access control or ticket inspection, and inadequate lighting at night. Shortages of train sets, caused by arson or poor maintenance, result in dangerous over-crowding – which in turn makes on-the-beat policing of trains difficult. Some coaches have no windows, lights or seats. In such conditions, policing is nullified before it starts.

In September 2018, the Western Cape Standing Committee on Community Safety was briefed by the Western Cape SAPS and the Rapid Rail Police Unit. The committee was told that CCTV cameras had not been working since 2015. There was no memorandum of understanding between the RRPU and PRASA. Private security companies were employed by PRASA, but the RRPU was not receiving any information from them. [50]

The use of private security companies had seemed an obvious, if belated, solution to the vacuum left by the abolition of the Railways Police. But this brought its own problems related to competence and integrity. The guards hired by PRASA and private companies were not trained to the level of the old Railways Police, nor were they a match for the armed and criminal gangs that roam the Cape Flats trains and terrorise commuters. They have also come under suspicion for criminal activity themselves. Between 2013 and 2019, 214 train-set carriages were set alight, mostly in the Western Cape, with few arrests and no convictions. There was strong suspicion that a dispute between PRASA and two unions was behind arson attacks that destroyed 60% of Cape Town's commuter train stock. [51]

Such a high and sustained level of unpunished arson naturally attracted international attention. The BBC reported the speculation that "powerful criminal gangs were destroying the trains, either in order to secure contracts for corrupt companies looking to replace the carriages, or to win control of lucrative contracts to guard the trains and railway lines. This theory has not refuted or proven." [52] BBC News, October 29 2018

The safety record on freight operations was hardly better. The RSR report for 2017-2018 showed a 17% increase in train derailments on the previous year. Theft of assets and malicious damage to property rose 21% in the same period. The causes of derailments and collisions "include theft and vandalism; poor maintenance of rolling stock wheels; and the incorrect setting of points". Many collisions were "due to improper handover processes during shift changeovers that led to the authorisation of trains into an already occupied sections. Another factor is the significant vacancy rate in safety-critical grade categories. There was poor supervision or a lack of supervision … The lack of fitness-for-duty checks has resulted in tired and fatigued employees, as well as employees that are under the influence of substances responsible for safety-critical operational tasks." [53]

Management: Questions on Integrity and Competence

PRASA can argue that it has been dealt a poor hand structurally, that it is under-resourced, and that it inherited security and safety problems that it has tried hard to overcome. But its weak position has been made much worse by management instability, incompetence and corruption.

In March 2020 PRASA suspended 12 senior officials for alleged misconduct and corruption over the past decade – five years after an investigation by then-Public Protector Thuli Madonsela. Her report, titled "Derailed," found that at least R2bn had been misappropriated at PRASA. In her introduction she said: "I must record that the investigation team and I had immense difficulty piecing together the truth as information had to be clawed out of PRASA management. I must also indicate that the authenticity of many of the documents submitted by PRASA management as evidence, principally relating to procurement, is doubtful." [54]

In December 2014 the media reported excitedly on the launch of the Afro 400, a new diesel locomotive "designed locally" by the 34-year-old "Dr Daniel Mtimkulu, head of a star team at Prasa's engineering services division". Mtimkulu had apparently studied engineering at Wits University for three years, and then studied and worked in Germany for six years before returning to South Africa and being engaged by Prasa. [55]

After five years of service as Prasa's chief engineer, Mtimkulu was exposed as a fraud in 2015 and fired. He did not have a doctorate, or indeed any qualifications in engineering – only a matric certificate. As for his Afro 400 locomotive, it was in fact designed in Europe. Twenty units were ordered from Spanish company Vossloh at a cost of R600 million. Thirteen had already been delivered when it was discovered that they were "too tall" for South Africa's railway infrastructure, because they would fail to clear the overhead electrical equipment. Eventually the locomotives had to be auctioned off. [56]

Lucky Montana, who as Prasa CEO had appointed Mthimkulu in 2010, said after the latter's dismissal that Mthimkulu "was a genius of an engineer … It's really unfortunate that South Africans equate academic qualification with competence to do the job." [57]

Montana himself resigned in 2015 but was fired before his resignation took effect. Both men are alleged to have been involved in the notorious Swifambo locomotive leasing contract, which the courts found was a result of Gupta-linked tender rigging, at a cost to the taxpayer of more than R2.6 billion.

Montana has been a prominent figure at the Zondo Commission of Enquiry into State Capture, along with other senior former railway executives: Transnet CEO Brian Molefe, TFR CEO Siyabonga Gama and Transnet CFO Anoj Singh. Gama was dismissed for "irregularities' and was subsequently reinstated with a "final written warning". Achieving this reinstatement involved the firing of the recently appointed, no-nonsense Minister, Barbara Hogan, and the entire Transnet board of directors – a governance aberration that that is expected to be examined more fully by the Zondo Commission. Later, Gama was again dismissed. [58]

Since the advent of the Ramaphosa administration three years ago, new boards and managers at PRASA and Transnet have been making the right noises and working on repairing the damage to infrastructure and governance. In June 2020, PRASA finally dismissed four senior officials for procurement irregularities in the awarding of security-related tenders. In July 2020 it started recruiting 3,100 security guards to protect its assets – or what was left of them. [59]

TFR has had some success in tracking down cable thieves, and technology such as drones and sensors are being to detect interference with infrastructure. Transnet is replacing copper wire with a copper-manganese product that cannot be melted down into copper. It is lobbying the government to introduce laws to regulate scrap-metal dealers, so that all transactions must be recorded and payment may not be in cash. [60]

However, one cannot help concluding that this is a classic case of the stable door being closed after the horse has bolted.

Next Steps

What is to be done? If the railways are to be saved, there has to be a recovery plan. It must be based on lessons from history; and on realities, not on ideology, wishful thinking or ANC factional dynamics.

Strategy

Strategy is essential. Its purpose is to identify the hard choices that must be made. This has happened twice to the railways: first, under Smuts, Hertzog and Sir William Hoy, and their model proved durable for half a century; second, with the acceptance of the De Villiers report in the mid-80s – but that foundered on poor execution and ideological confusion.

Government must now bite the strategic bullet it has been avoiding since the late 1990s. It must accept in principle that full or partial privatisation is the only way to save the railways, and then run them efficiently – and, indeed, provide a development role. The state simply does not have the money to repair the horrific damage to infrastructure during the lockdown, nor to make the necessary investment for future operations; and it has proved it does not have the management expertise. The biggest question, though, is whether the private sector would be interested in trying to salvage a network that may now be beyond repair.

Another hard choice will be to get a grip on the road-rail imbalance. Since the 1930s, roads were supposed to be funded and maintained by charging a levy on every gallon of fuel sold – but this was never applied systematically or directly related to spending on roads. Then as later, the tax on fuel found its way to funding other government priorities.

Policy

There is still no formal national transport policy, which must have something to do with political turnover: in the last 10 years there have been six Ministers of Transport, at one stage three in four years. But the Department of Transport has produced many sensible proposals, not least in its 2015 Green Paper. In a sense the conceptual battle has been won: for more than two decades, it has been widely accepted that substantial passenger and goods traffic needs to revert to rail.

> Sadly, the revelations produced by the Zondo Commission have shown that integrity in executives cannot be taken for granted – in this, the ruinous management of the railways is merely a reflection of a broader moral crisis in South Africa.

As for restoring parts of the network that have been closed or are in disrepair, strategy needs to be aligned to resources. The longer a branch line has been closed, the harder and more expensive it is to rehabilitate. There is a lesson in the ambitious Kei Rail Project, which in 2008 reopened the 281km branch line from Umtata to Amabele at a cost of R133m (2020 value: R254 million). Trains ran for two years, with passenger tickets heavily subsidised. In October 2010, the service was abruptly suspended because the Eastern Cape government ran out of money. Hundreds of millions of rand had been wasted. [61]

President Cyril Ramaphosa's announcement in October 2020, proposing privatisation of some key routes in Gauteng and the Western Cape, cannot be taken seriously until the damage to the network is acknowledged. With squatters having taken over railway land in Cape Town and actually living on the tracks, and proving impossible to remove, it is hard to imagine how any recovery, private or public, can happen.

However, restoration of some branch lines might be viable with privatisation. The one and only successful rail privatisation on any scale was the Alfred County Railway company, which took over the narrow-gauge timber-carrying line from Port Shepstone to Harding. This was run by Charlie Lewis, a former SATS civil engineer, and Allen Jorgensen, a railway expert and marketer. It operated with success from 1988 to 2004, when maintenance costs became overwhelming. But it showed what could be done by entrepreneurship, expert management and willing customers – and a sympathetic approach from the state, which there was for a time under Spoornet CEO Braam le Roux. [62]

For privatisation of any kind to work, it needs to be approved in principle by policy, and then executed proactively. Until now, it seems that successive railway managements since the 1980s have taken a dog-in-the-manger attitude – "we don't want to run this railway, but we won't let anyone else do it either".

As for the High-Speed Train (HST) idea, no time need be wasted on it, as tempting as it may be. A HST link from Gauteng to Durban was one of Siyabonga Gama's pet projects. This kind of "projectism" gives the illusion that work is being done, but merely distracts attention from getting the present network, which is functioning far below capacity, to work properly. In any case, a Gauteng-Durban HST would cost the equivalent of the total 2019 national budget. [63]

Structure

Here at least there is an available quick win. It has never made sense that the passenger and freight operations report to different masters – or that rail should fall at all under the Department of Public Enterprises. All railway operations should be placed immediately under the Department of Transport, where policy is made and its implementation can be monitored.

In governance terms, Transnet and PRASA have become ghastly hybrids. Each is still effectively a government department, with constant "sole shareholder" interference and instruction; yet they have all the paraphernalia (and costs) of private-sector boards.

Management

However great the policy, strategy, structure and systems may, it all depends on appointing the right people. Ideally, a railway should be run by professional railwaymen, just as a hospital's work is done by doctors and nurses. Men and women like Sir William Hoy are not readily available, but there is no shortage of educated, experienced professionals who might be turned into railway managers.

The secret to getting the best of out of them, for the individual and the organisation, is to reward them for doing the right things. For 30 years since the formation of Transnet, railway "business managers" were encouraged to cut costs by closing operations, instead of looking for opportunities to keep them open; and to find reasons not to please customers, instead of adapting to their needs. They have behaved like Eskom managers in the early 2000s, who were rewarded for reducing inventory, instead of for maintaining coal stockpiles – the result was rolling blackouts.

Sadly, the revelations produced by the Zondo Commission have shown that integrity in executives cannot be taken for granted – in this, the ruinous management of the railways is merely a reflection of a broader moral crisis in South Africa.

We are now at the point where most of South Africa's railway network is likely to be written off and closed. Unless government gets the strategy, policy and governance structures right, and appoints men and women of integrity and competence who can execute a realistic, sensible strategy, the Covid lockdown of 2020 will come to be regarded merely as the last nail in the coffin.

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