RAILWAY COUNTRY

150 Years of Rail in South Africa

South Africa: Railway Country

Although the South African interior is generally high-lying, it is traversable, but it is largely separated from the coastline by a high, mountainous escarpment. Generally speaking too, its rich natural resources and extensive agricultural and pastoral areas are situated far into the interior, beyond the escarpment.

In the early years the ox and horse played an important part in opening up the interior, but the development that was soon to be needed to exploit the newly discovered mineral wealth called for a vastly more efficient mass transport mode. The obvious – and only – choice was rail transport. Even today, despite the development of other modern and sophisticated transportation modes, rail transport still ranks as the most efficient means of transport for the conveyance of bulk freight over medium and long distances and for mass commuter traffic.

Along with the existence of a railway system lies the question of the need for such a system. Vast capital expenditure is involved and has eventually to be recuperated. The history of the development of many countries has proved beyond doubt that the mere presence of natural resources and mineral resources is not sufficient for rapid economic evolution.

Without the contribution of man's mental and other faculties and the constant urge to improve his well-being, these resources mean nothing.

Until shortly before the end of the nineteenth century, South Africa was mainly an undeveloped agricultural country. The population was sparsely distributed over wide areas and depended for its existence on agriculture and stock farming.

Exports, in the form of provisions to passing ships, initially consisted mainly of wine, fruit, vegetables and meat; but with the development of the interior the export of wool, skins, hides and ostrich feathers became more important.

The largest concentration of the agricultural industry initially existed in the Western Cape. Subsequently, with the increased export of wool, skins and hides from the Eastern Cape and sugar from Natal came the development of the Port Elizabeth, East London and Durban harbours. This pattern of establishment had a very important effect on subsequent transport developments.

With the discovery of diamonds in 1868 and gold in 1886 South Africa made great and almost unmanageable strides forward in its economic development. The rapidly increasing demands of the mining industry and the fast expanding towns and cities accompanied by the ever-increasing demands for housing and consumer products,

converted the country within a remarkably short period from an undeveloped agricultural country into one of urban economy.

The demand for transport and the ability to finance it were the telling factors that decided the extent of the railway and road communication schemes and the tempo of their completion; particularly in the early days of our rail history.

Small Beginnings: The Natal Line, 1860

By the mid-1800s the small town of Durban on the southeast coast of Africa was little more than a village with a motley collection of thatched cottages and buildings. The small settlement was situated among sand dunes and bushes and wild animals freely roamed the surrounds. That this far-flung outpost of Queen Victoria's mighty empire would provide South Africa with its first railway is really quite remarkable.

After much planning, debating and quibbling, the newly formed Natal Railway Company finally laid the rails from the Market Square in the town to the Point in the harbour area, some three kilometres away. Even though railway enterprise had been launched earlier in the Cape Colony, the Natal colonists had made more rapid progress: a fact that gave the Natallians no small measure of pride and satisfaction.

On Tuesday, 26 June 1860 Durban was abuzz with excitement. Dignitaries, including the Acting Lieutenant-Governor, Major Williamson and the chief clergyman Bishop Colenso, gathered in the town's Market Square to provide the necessary pomp and sense of occasion. The great moment had finally arrived: the first official train journey was about to take place on South African soil.

Drawn by an engine aptly named *Natal*, invited guests hosted by the chairman of the Railway Company took their seats in the passenger carriage, and the train set off. The journey is colourfully described by George Russell, who was to become South Africa's first station master: "With a prolonged wailing shriek Jacobs turned on the steam, and the first train moved off amid the deafening and prolonged cheers of the assembled spectators. Gathering speed as he cleared the Engine House, he ran smartly down to the Point, which he reached in about five minutes. The crowd of natives hurled back a defying yell, and started in pursuit, while a number of well-mounted young Dutchmen, who knew a thing or two, decided to test the bottom of the iron horse, so put spurs to their quadrupeds and successfully headed the train until it reached Stanger Street, when it was declared to have bolted around the corner into the bush screaming at them as it ran."

Russell goes on to record the reaction of a group of Zulus in translated form: "Wow! But it is a strange beast. Its belly is full of fire and vapour; they feed it with water and wood logs. It is like a Rhinoceros, but it blows smoke and sparks through its horn..."

The *Natal Mercury* pompously reported: "It will substitute the railway age of animation for the wagon age of sloth. It will set upon this portion of barbarism-bound continent the truest seal of the Englishman's presence. It will supersede a state of plodding but primitive action for one of modern enterprise and rapid progress."

Initially this first section of the Natal Line struggled to meet economic expectations. By all accounts the line was poorly built and the timetable frequently interrupted by heavy rains, but compared to the ox wagon rail transportation was better in every conceivable way.

Even though the Natal Railway Company ran the service at a loss in the first few years, commerce, trade and agricultural production steadily increased, along with the need for reliable transport of passengers and freight, and it soon became apparent that rail was vital for growth and progress in the years leading up to the new century. By the end of the decade the line had been extended to Umgeni.

From Procrastination to Progress: The Cape Line, 1861

All the way from the Leith works in Scotland, a small steam engine built by Hawthorne and Co. arrived in Cape Town harbour in September of 1859. It had been imported by Edward Pickering, the British contractor commissioned to build a railway from Cape Town to Wellington, a distance over mountainous terrain of just over 70 kilometres.

Pickering however, to make a long story short, could not cut the mustard – or so it was said. His incompetence is blamed for the fact that it took the rail builders almost two years to lay the first three kilometres. Understandably, the Cape Town Railway and Dock Company, who owned the line, lost patience with the procrastinating Pickering and resolved to give him and his builders the proverbial boot.

The workers did not take this lightly and the Cape Argus records the ensuing 'disturbance' as follows: "A general fight was then commenced. The men flew at each other like infuriated tigers. Mr Pickering's men tore up the rails and sleepers, tore down the culvert at Salt River and commenced making a barricade, the fighting going on all the time."

The upheaval led to a Supreme Court action and, eventually, the railway company completed the work itself, under the leadership of William Brounger, the company's resident engineer.

Unlike Pickering, Brounger's work was exemplary; setting construction standards that were not to be bettered for many years. By February 1862 the line had progressed to Eerste River, reaching Stellenbosch soon after and Wellington in 1863. A branch line was soon opened between Salt River and Wynberg.

By 1869 diamonds had been discovered in Kimberley, which was geographically right in the middle of the country, creating an urgent need for a cheaper, quicker mode of transport for men and goods to the hinterland.

Both the Cape and Natal lines had used the standard British gauge of 1 435 mm, but there was some debate as to its suitability for South African conditions due to the mountainous stretches on the way to the inland central plateau. A narrower gauge would allow a track that could more easily follow the contours of the land. In 1873 a committee of the Cape parliament eventually decided on a gauge of 1 065 mm (three feet six inches), known as Cape gauge, which was to become standard for railway development in South Africa.

The following year saw the Colony take over the private lines around Cape Town and so was born the Cape Government Railways (CGR).

By 1885 Kimberley was successfully linked to Cape Town. Other lines drove forward from Port Elizabeth and East London to the interior.

Gold was discovered in the Transvaal (north of the Vaal River) and the CGR started to extend its line through the Orange Free State towards the Transvaal border.

Gold: New Impetus and Expansion

In 1886 came the announcement that major gold discoveries had been made on the Witwatersrand in the Transvaal. Another rush, bigger than the diamond rush, was on.

The South African Republic (ZAR) had regained her independence after giving the British a bloodied nose at the Battle of Majuba in 1881 and Paul Kruger had been elected President in 1883. The Cape and the British were being viewed with an even more jaundiced eye.

Considerable discussion took place in the Cape Parliament as to whether, in view of the unfavourable attitude of the Transvaal Republic, Kimberley should become the terminus or if the line should be extended northwards.

Cecil John Rhodes had visions of a British railway line extending across the length of Africa; from Cape to Cairo. He also cast longing glances at the Witwatersrand and the Transvaal. Rhodes, on behalf of the British South Africa Company, signed an agreement with the Cape Government in 1889 under which the railway from Kimberley to Vryburg was constructed.

In 1891 Rhodes contracted George Pauling to extend the line to Mafikeng and beyond. It reached the Bechuanaland (Botswana) border village of Ramathlabana in 1984.

The line from Port Elizabeth to De Aar passed through Noupoort in the Northern Cape. By arrangement with the Orange Free State Parliament in 1889 the CGR was allowed to extent the line from Noupoort through Colesburg to enter the Free State at Norvals Pont. The line was continued northwards to reach Springfontein where in 1892 the Eastern Cape line would connect, and pressed on to reach Bloemfontein in late 1890.

In September 1896 the Orange Free State government under President Steyn decreed that all railways within its boundaries would be taken over by the Orange Free State.

Arrangements were amicably drawn up with all parties and locomotives and rolling stock were purchased from the CGR. Thus did the OFS Government Railways come into existence.

During this decade the Natal Government Railways had also made significant progress. Beggarsburg Junction (Glencoe) and Newcastle had been reached by 1890. The section between Newcastle to the Transvaal border station was completed and opened in April 1891 by Sir Charles B. Mitchell in the presence of the President of the South African Republic, Paul Kruger.

The Iron Road: Pretoria to Delagoa Bay, 1887

After his country's initial military success against the British Forces at the Battle of Majuba in 1881, President Paul Kruger was anxious to have an independent outlet to the ocean. Due to a favourable response from the Portuguese colonists in the bordering Portuguese East Africa (Mozambique), this route was destined to reach Delagoa Bay.

The first step in realizing the ideal of an "iron road" to the sea, was the founding of the Netherlands South Africa Railway Company (NZASM) in June 1887 to construct and work a railway between Pretoria and Lourenco Marques (now Maputo).

After much political wrangling, work finally started in all earnest on the line to Komatipoort, on the border of Mozambique. The first major engineering feat was to construct a dressed stone bridge to cross the Komati River. Work continued steadily with engineers and labourers slogging their way through the untamed Lowveld.

In the meantime work on the line also commenced from the Pretoria side. The whole area from Pretoria to Komatipoort was buzzing with contractors and their gangs of workers, and ox wagons laden with stores and materials.

High up on the northern reaches of the Drakensberg Mountains, a tunnel had to be dug. The drilling work was done with a steam-driven contraption which modern engineers would probably scoff at. Two teams of workers tackled the job from both

ends and when they met in the centre, the line-up confirmed they were only 50 mm out – a remarkable achievement! The ZASM tunnel is, by any standard, still one of South Africa's best examples of brilliant railway design and execution.

The two groups of workers steady closed the gap and they finally met at Wilgerivier. Here at last was South Africa's first interstate railway; the Transvaal Republic's lifeline; its iron road to the sea. What remained were the finishing touches but soon the NZASM proudly announced that New Year's Day of 1895 would mark the commencement of a full commercial operation to Maputo.

A special train brought the Portuguese Governor up from Lourenco Marques on a ceremonial run and was cheered at every station. When the train steamed into Pretoria station, President Paul Kruger proudly declared the line open. A round of festivities followed, and then the President travelled back to Maputo with the Governor, to enjoy a fiesta with all the warmth of Portuguese hospitality.

As a final end to the festivities every citizen in the Republic was granted a free return trip throughout the length of the line; and one special train after another did the journey, laden with an excited crowd of farmers and townsmen.

Renowned author and historian, T. V. Bulpin, colourfully recounts the rugged nature of life during the construction of the Lourenco Marques to Komatipoort line:

"From the very beginning, the construction of the line was a noisy business. The half-forgotten port of Lourenco Marques was transformed. Now some of the most rugged characters ever known in Southern Africa flooded into the place, as though it was a new goldfield.

Sir Thomas Tancred was appointed chief construction engineer of the line. To do the work for him two hundred Europeans and three thousands Africans were recruited; and the type of man who was prepared to work in the heat and fever of Mozambique was both rough and tough.

The contractors organized their workers into gangs and rivalry and fights between the gangs were frequent. Particularly notorious were the so-called "Salvation Army" and the "Irish Brigade" gangs.

Sir Thomas Tancred appears to have been partial to celebrations. He arranged that a special picnic banquet be prepared to celebrate a new section of the line, and sent up food with waiters on a train following the official party. The inaugural train duly reached the terminus and speeches were made. Lunch time arrived, but there was no sign of the train carrying the food and drink.

Eventually, when Sir Thomas was almost suffering from apoplexy, there was a toot down the line and the missing train came into view. Sir Thomas purple in the face, went to meet the driver. The greasy man had bad news.

“Sir,” he explained, “Them blasted Irishmen held the train up at Kilo 369; they drank all the liquor and gnawed the turkeys like famished wolves. They said to tell you they were celebrating your health!”

The Turn of the Century and the New Union

By 1902 the Second Anglo-Boer War had been fought, and even though the British Empire had reasserted their dominance over the Boer Republics, the cost was enormous. As far as the fledgling railways were concerned the war certainly took its toll. Fortunately a very competent regiment of Royal Engineers did sterling work during the war to repair the damages wreaked on rail infrastructure by the Republics’ Boer guerrilla fighters.

The Transvaal and Orange Free State were colonised by the Brits and a concerted effort was made to achieve the ideal of a union of the four colonies south of the Limpopo River.

From the south, east and north-east the glistening spearheads of new railroads penetrated deep into the hinterland of the Cape, the Orange Free State, Transvaal and Natal. By 1910 the long history of effort towards unification finally came to fruitition. On 31 May 1910 the four South African colonies were amalgamated into the new Union of South Africa.

It was indeed a bold political step aimed at terminating the dispute and division of more than a century. One of the main points of disagreement amongst the colonists and the republicans was the ownership and access to railways and harbours. Whoever exploited these strategic arteries would have won the day. But on 31 May 1910 the South African Railways and Harbours came into being as one organisation to serve the whole country.

The initial years after unification were tempestuous indeed. In 1912 the first cabinet crisis arose, followed in 1913/14 by labour unrest and a rebellion. The same year the most devastating war the world had ever seen to date broke out. This was followed by an economic depression and crippling unemployment. In 1922 the country experienced a serious mine workers strike. In 1924 a new government was formed.

In contrast to the political turmoil of the first 14 years, this period served as a period of consolidation for the South African Railways and Harbours (SAR&H). The activities of three large railways systems had to be united into one organisation.

The former colonies now expected the Union Parliament to provide for transport services which they had not seen fit to undertake themselves. In the 14 years from 1910, almost 9 000 kilometres of railway lines were added to the existing network, the major portion being branch lines – ensuring that the agricultural sector was not neglected.

The expertise and know-how of our local civil engineers were really put to the test during hostilities with the German colonists in 1914/15 with the urgent construction of a railway line to German South-West Africa (Prieska to Nakop). Never before in Southern Africa had a railway line of 227 km been completed in just 82 days.

With the start of hostilities between the United Kingdom and Germany in August 1914 South Africa, as a British dominion, automatically considered herself at war. German troops in South West Africa lost no time in occupying the Walvis Bay enclave.

In the following year South African forces under General Louis Botha ousted the Germans from Walvis Bay and Luderitz by sea, and, by land advanced into the territory through Upington. The Imperial German forces finally surrendered at Korab.

In 1915 South Africa took over the administration of the railways of this former German colony, but it was only in 1922 that the railways of South-West Africa practically became part of the South African network.

Within the Union of South Africa the war years resulted in economic expansion. The inability to obtain consumer and capital goods from abroad made it necessary for those goods to be produced at home. The number of registered factories almost doubled. The railway network came under terrific strain. New lines with their branches had to be laid and existing line had to be doubled, tripled and quadrupled.

The management of SAR&H took up its task to assist the country during its early stages of development. In 1919 a shipping industry was started. Our great agricultural potential had to compete on the world export markets, so a massive grain elevator project was launched. The tourist industry was also launched in earnest during this time. On 18 December 1923, the first radio broadcasts in South Africa took place – under the auspices of the S.A. Railways' Broadcasting Committee.

The S.A. Transport Services can truly claim to be the father of organisations such as the SABC, SATOUR and SAFMARINE.

South Africa First: 1924 – 1939

In 1924 the new government under J.B.M. Hertzog took over, and in accordance with the policy of "South Africa First", national pride was encouraged. The first five years was a welcome, flourishing period for the economy, and large projects were undertaken. The establishment of parastatals Iscor and Eskom were natural consequences of the new optimism.

The rail network was augmented further with the takeover of the last privately owned railway line – the New Cape Central Railway – between Worcester and Voor Bay in 1924.

Electrification, one of the most capital-intensive projects, was also completed in this period. October 1924 saw the first electric test train running between Ladysmith and Chieveley in Natal.

Unfortunately, the American economy failed in 1929 and South Africa, relying heavily on the Gold Standard, gradually suffered the consequences. Severe depression, drought and impoverishment wracked the country. Poverty and unemployment, however, were tempered to an extent by governmental assistance in the provision of jobs in dam and canal constructions, as well as by employment with the SAR&H.

In this self-preservation project, the South African Railways played a major role. Thousands of labourers were given a livelihood. Many stayed on and later occupied important posts in the organisation.

Although the country was still in the grip of a severe depression, significant projects such as the electrification and the doubling of the Natal main line were continued. With the founding of Eskom and the transfer of power stations in its control, certain obstacles in regard to power supply and tariffs arose which raised doubts about railway electrification in general. However, these problems, as well as SAR&H's relations with the Post Office regarding telephone communications were duly rectified.

Today South Africa is still reaping the benefits of many of these agreements, advances and achievements made in the pioneering spirit of these years.

The years between the two World Wars saw great change in the South African economy as well as the pattern of populated areas. More people migrated away from the rural areas resulting in an increase in skilled and semi-skilled labour in the emerging industrial areas.

World at War: 1939—1945

At no other time in South African history were so many demands made in such a short period of time upon its transport services. With the outbreak of the Second World War the local war effort caused domestic production of all conceivable articles to rocket. An efficient transport system was essential.

Troop transportation placed an additional burden on train operations. The S.A. Railways and Harbours' manufacturing abilities were tested to the full in the production of war materials, while it was also obliged to release 14 000 members of

its own personnel for active service in the military. They served with distinction in Europe, the Near East and East and North Africa and earned the highest accolades.

The railway line between Haifa and Beirut is but one monument to our crops of engineers. This 250 kilometre stretch entailed the gouging of a ledge along the sheer cliff faces just twenty feet above the sea and the building of massive sea walls. Two tunnels and seven major bridges were built as well as eight smaller bridges and 98 culverts. Despite these difficulties plate laying progressed at the rate of close to one kilometre per day.

Locally the war brought many problems for the railways. Supplies of new rolling stock and material were virtually cut off but the demand for railway services continued to expand. Engines, coaches and wagons which would normally have been scrapped were repaired and kept working long beyond their normal useful lifespan.

In Europe the loss of the French and Belgian coal-fields had been a serious setback for the British. South African coal-fields became the only readily available source of supply. Production and hauling was significantly increased.

The large mechanical workshops situated throughout the country -- strained as they were with the task of keeping the trains running -- were called upon for the production of munitions. Millions of component parts were made for guns, tanks, ships and bombs. Women were also called upon to supplement the depleted labour force.

In the Western Desert the South Africans restored lines which the enemy had demolished. They extended the line from Tobruk railhead to Benghazi and in Tunisia they worked on the restoration of the line west of Gabes.

In Italy South Africans were assigned the task of reconstruction and maintenance of the demolished lines from Teroli to Ortona, the west-to-east line from Civitavecchia to Ancona via Rome, and the main line over the Appenines from Plato to Bologna. These lines had been severely damaged by the retreating Germans who towed large hooks behind a locomotive to tear the sleepers in half and then tossed the rails aside.

All this had to be rebuilt, and it was done, in the minimum of time, sometimes under heavy shell fire.

Some of these soldier railwaymen came back home and some did not. The country is, however, eternally indebted for the crucial roles they played to help rid the world of the likes of Hitler and Mussolini.

The Boom Years: 1946—1959

Against the condition of depression which usually reigns after a war, South Africa rode the wave of economic growth. Year after year traffic records were exceeded and the SAR&H could hardly keep up with creating infrastructure to meet the demands made by the sudden industrial expansion. The war made South Africa an exporting country, and the period after 1946 was marked by a phenomenal growth in mineral exports. Projects previously only dreamt about, arose as monuments of a new optimism.

In 1947 South Africa was honoured by a visit of the British Royal Family, and a train was especially built for their use. The high manufacturing standards were soon passed on to other rolling stock.

In the early fifties various projects resulting from post-war planning were completed. The first portion of the new Johannesburg station was opened, the huge workshops complex at Koedoespoort was taken into service and Kaserne with “the largest concrete deck in the world” took over the goods handling of the pulsating City of Gold.

In addition to these large and important capital-intensive projects, the period is also characterised by the energetic efforts to shift the growing volume of traffic. Severe personnel shortages prevailed, to such an extent that unskilled labour had to be recruited from abroad. They were trained in posts where the need was the greatest, like shunters for example.

The biggest single project in the history of the Natal main line was inaugurated with the building of the Broughton-Cedara deviation where the longest double tunnel on the South African Railways was constructed.`

In June 1955 the first crossing of two trains through remote control was effected, and with that began the era of Centralised Traffic Control (CTC).

It is significant that a number of railway lines especially for the transport of minerals were built during that time, including Grootvlei-Redan; Ogies-Broodsnyerspas; Whites-Allanridge; and Lohatla-Sishen. As early as 1955 it had become necessary to stop the conveyance of export manganese via the Natal main line and to divert such traffic to Port Elizabeth.

This era closed on a historic note with the takeover of the Mahalapye-Bulawayo railway line on 1 December 1959 by the then Rhodesia Railways. With this event, the alliance with the South African Railways and the old Cape Railways and the legacy of Cecil John Rhodes finally came to an end.

Winds of Change: 1960—1990

The year 1960 marked one hundred years since the first public train ran between Durban and the Point, and on 31 May the Union of South Africa celebrated its centenary.

It was also the year that diesel locomotives were introduced on a large scale to the South African Railways. This heralded the gradual end to steam traction.

On 31 May 1961, South Africa became a Republic.

In January 1963 the South African Railways took delivery of its first locally manufactured electric locomotive. The technology to achieve this feat in such a short span of time was truly astonishing. There are few undertakings that have done so much to stimulate development of local industry as the country's transport services.

The sixties were indeed South Africa's golden era. The country's prosperity was noticeable in all spheres and its rate of growth was unequalled (in 1967 it was 6,9 per cent). The transport industry could hardly cope with this immense growth.

The seventies started off with a record for the operation of heavy goods trains. For the first time a load of 9 000 metric tons was transported. Seven diesel locomotives were employed to run this ore train which was more than 1,2 km long. In 1979 further experiments with 21 800 gross ton trains followed. One train on the coal line 2,65 km long!

In 1975 a historically significant meeting took place in a specially prepared train on the bridge over the Zambezi River at Victoria Falls. South African premier John Vorster, Rhodesian Prime Minister Ian Smith and Zambian president Kenneth Kaunda were the main players. Their discussions were aimed at brokering a deal for democratic elections in Zimbabwe (then Rhodesia) and bringing to an end the hostilities of the so-called Bush War.

In 1976 a railway record was set when a test train reached 208 km/h, and in 1979 the record was broken when it reached 245 km/h.

But 1976 will be remembered for Richards Bay and the coal line. This line, along with the take-over of the Sishen-Saldanha railway line from Iscor a year later, represent major achievements in transforming South Africa into a major ore and coal exporting country.

In September 1978 the Sentrarand macro-project kicked off. This huge central yard was to perform the shunting work of marshalling trains that had previously been undertaken by several smaller yards over the Gauteng area. It was completed in record time of four years and was opened in 1982.

During the 1970s it was agreed upon by the government that the SAR&H should restructure itself along defined business lines. Integral to the process was a change

in the name and image of the organisation, which would appropriately reflect its new vision and mission as a successful state business enterprise. In 1981, the country's railway, harbour, road transport, aviation and pipeline operations became known as South African Transport Services (SATS). At the same time, the enterprise was restructured into units and divisions, with a strong emphasis on localized management.

In October 1981, after seventy years under the banner of South African Railways and Harbours the name was changed to South African Transport Services (SATS). The change was necessary as the multi-model nature of the organisation needed a more descriptive name.

Nine years later this state-run organization was transformed into a limited company, Transnet, of which the rail business division was renamed Spoornet. In July 2007 Transnet unveiled a new image which entailed adopting a monolithic brand and Spoornet was renamed Transnet Freight Rail.

Into the New Millenium

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By the end of 1989, the goal of managing SATS as a private entity was well within reach, and on 1 April 1990, after 80 years of government and parliamentary control, SATS was given company status. A new, limited liability company, representing a vast transport network, was finally born. Its name was Transnet Limited.

Since 1994, Transnet has kept pace with a fast-changing society, dealing with a multitude of challenges in an emerging democracy. Transnet, realising these challenges, has met them head-on by investing heavily in infrastructure and integrating and coordinating programmes within the country.

The South African transport system has come a long way from its humble beginnings in the 1800s. This can be attributed to Transnet playing a vital role not only in everyday life, but in the national economy and economics of several other African states that use the networks and harbours within South Africa to transfer their imports and exports.

In recent times, however, much criticism has been levelled at railways authorities for allowing the general deterioration and decline of commuter and passenger services.

PRASA (Passenger Rail Agency of South Africa) is at the forefront of Government's new efforts to transform public transport in South Africa, with rail services forming the backbone of the network.

Beyond this, the most important reason for consolidating passenger rail entities was the need to address the under-performance of rail passenger services and the historical under-investment in this sector. The mobilisation by ordinary South Africans and their determination to have access to decent public transport were among the key drivers for the transformation.

PRASA's establishment also comes against the background of major changes in the world that present opportunities for the railway industry to play a positive role in global development.

The first step is to acknowledge South Africa's strong railway tradition with the aim of using past knowledge to enable PRASA to rise to the new challenges of providing effective and efficient public transport in this country. It's also of vital importance to mobilise the energies of each employee in creating a railway service that forms an integral part of the renewal of the transport system and our society as a whole.

There is growing consensus that things can no longer be done in the old way. There is a need for rapid change that must be led by PRASA's most important resource – its people; real change that will make PRASA and all South Africans proud.

The Age of Heavy Haul

South Africa is no stranger to the concept of dedicated ore-carrying railway lines, or to the use of heavy wagons to facilitate the export of such products. In fact, South Africans can be justly proud of their achievements in this arena over the years; many of them world "firsts".

Although it would not have met the closely defined parameters set by the International Heavy Haul Association (IHHA) today, the 150 kilometre long 762 mm gauge copper ore line from Port Nolloth on the Atlantic coast to the mines at O'Kiep, which was started in 1870, was for its time and place a heavy haul line in its truest sense. Its statistics may seem puny now but with a mountain section that rose 405 metres in just 12 kilometres, it handled loaded trains of 20 wagons – no mean feat at that time. In 1889 alone, it carried 45 260 tonnes of copper ore for export to Swansea in Wales over its 12,7 kg rails.

Then, in 1927, to facilitate export of coal from the mines in Natal, the South African Railways placed in service twenty 76 tonne wagons that were probably the largest in use on any 1 067 mm gauge line at that time. Today Transnet Freight Rail is proud to operate the Sishen-Saldanha Iron Ore Line and the Richards Bay Coal Line which not only fall comfortably within IHHA criteria, but are among the world leaders in this field of transportation.

The Richards Bay Coal Line

Coal is a vital export commodity, generating billions of Rands in foreign exchange earnings for South Africa and deserving its pseudonym 'Black Gold'. In response to the world energy crisis the South African government authorised the export of increased amounts of coal, prompting the speedy completion of a dedicated coal line to Richards Bay.

Starting at Mpumalangas's 44 coal-rich mines, the 580 km rail line descends from the Highveld through rural KwaZulu-Natal and terminates at Richards Bay. The double line is bi-directionally signalled and fully electrified.

Built in 1976, the Richards Bay Coal Terminal is the country's premier bulk port. It handles in excess of 80 million tonnes annually, representing 55% of South Africa's seaborne cargo. This makes it the country's largest port in terms of volumes handled.

The fleet size of coal line’s wagons is 8 012 of which 7 327 are available for use. Similarly in locomotives, the fleet size is 310, out of which 285 are available for use. Two 100-wagon trains are coupled to form a single 200-wagon train at Ermelo, typically using CCL type wagons. These trains stretch 2,5 km and are loaded to 20,800 gross tons. Coal and related commodities are moved in open-topped wagons for large-volume, siding-to-siding consignments or in open-topped containers for door-to-door, smaller loads.

The Sishen-Saldanha Ore Line

The Sishen–Saldanha railway line is an 861 kilometre long heavy haul railway line connecting iron ore mines near Sishen in the Northern Cape with the port at Saldanha Bay in the Western Cape. It is used primarily to transport iron ore.

The Sishen–Saldanha line was built by Iscor, the then iron and steel parastatal, opening in 1976. In 1977 the line was transferred to Transnet Freight Rail (then South African Railways and Harbours) and a decision was taken to electrify the line. A voltage of 50 kV AC was chosen instead of the usual 25 kV in order to haul heavier loads and to enable a larger distance between transformers.

A single set of tracks with ten crossing loops to allow trains travelling in opposite directions to pass was constructed; this has since been increased to 19 crossing loops to increase line capacity.

From an altitude of 1295 metres at Sishen, the line climbs for 42 kilometres before descending to cross the Orange River about 10 kilometres downstream of Groblershoop. For the next 300 kilometres, the line rises and falls before descending towards the Atlantic coast. The railway crosses the Olifants River on a 1 035-metre viaduct between Vredendal and Lutzville and reaches the coast about 90 kilometres north of Saldanha. From here it follows a coastal route.

Initial train lengths consisted of 3 class 9E electric locomotives, hauling 210 type CR ore wagons with a payload of 80 tons. Upgraded wagons now carry 100 tons. Train lengths have been increased to 342 wagons, employing Radio Distributed Power (RDP) technology. These four kilometres long trains (10 locomotives and 342 wagons), are the longest production trains in the world.

These trains are generally acknowledged to be the world's largest and heaviest. In 1989, the line set a world record when it comprised 660 wagons plus tank and caboose and 16 locomotives. It was 7,3 kilometres long!

Trams and Tram Lines

Few modes of transport can claim to be more convenient and economical than urban and suburban trams. In September 1862 the Cape Town and Green Point Tramway Company was formed, and began operations on 1 April 1863 using both single- and double-deck horse-drawn trams. In 1896, the power station at Toll Gate, Cape Town (with two stacks supplied by Milliken Brothers of New York), was completed and the old horse sheds were remodelled, heralding the era of electrified tramways. Cape Town's electric tram system initially had ten cars, built in Philadelphia, USA. On 6 August 1896 Lady Sivewright, wife of Sir James Sivewright, had the honour of opening the long-awaited new system. By 1897, the year of Queen Victoria's Jubilee, Cape Town and suburbs had thirty-two electric trams running on about 37 kilometres of track.

Tram services also followed in Johannesburg (where the suburban railway to Boksburg, opened in 1890, was also called the Rand Tram), Pretoria, Kimberley and Durban, but were all later replaced by petrol, diesel and trolley bus systems by the early 1960s.

Horse-drawn trams were introduced to Johnnesburg in February 1891 by the Johannesburg City and Suburban Tramway Company. This introduction was described in the local press as follows: "One of the greatest boons conferred upon the town has been the establishment of the Street Tram-line. Trams leave Doornfontein, Jeppetown and Fordsburg for the town every 20 minutes, traversing all the principal streets."

The first electric trams were introduced to Johannesburg in March 1906, travelling from the town to Siemert Road in Doornfontein. These trams ran on tracks throughout the city until March 1961 when they were discontinued.

Durban had a tramway system that linked different areas to the town centre. The trams for Musgrave Road, Umbilo, Toll Gate and Overport departed from the corner of Gardiner and West Street, next to the Post Office. The trams to Marriot Road, Stamford Hill and Umgeni left from the opposite side of the road while the trams for the Beach and the Point areas started from Gardiner Street outside the Post Office.

These trams, painted bright yellow with a cowcatcher in front, had two decks. The lower deck was closed, with comfortable padded seats covered by woven cane work. There were windows which opened, a window sill on which parcels could be placed and a foot rail to support weary feet after a shopping expedition. The upper deck was open but had canvas blinds to let down in case of rain. Seats on the upper deck were made of wood and the two or three seats at the back were reserved for Non-Europeans.

Since 1985 the tram service was reintroduced as a heritage system in Kimberley.

The Railway Station: A Way of Life

Historically speaking, the railway line and its railway stations have played a pivotal role in the day-to-day lives of South African communities, especially in rural areas.

Apart from the telegraph line, the railway was often the vital link to the outside world. Before the Second World War few people, if any, had motor cars or access to any such transport other than the iron horse and carriages.

The railway station was often the hub of public and business life: a social rendezvous for arriving and departing passengers, and a point of collection and delivery for townsfolk and businessmen. At this point the mail and newspapers arrived regularly, as well as milk and fresh produce, and from here farmers would dispatch their harvests to the markets.

The station master ranked among the pillars of society in the town or village, along with the headmaster, the doctor, the bank manager and the clergyman. He prided himself on the condition and the appearance of his station and competed enthusiastically with other station masters to see whose station looked the best. For many years the SAR&H ran a nationwide competition in this regard, annually rewarding the most impressive venue with a coveted title.

The result was that passengers travelling along the line were treated to one clean, beautifully kept station after another, all fastidiously groomed, maintained and signposted, and planted with lush, manicured gardens.

In some towns and villages the railway station was often the main reason for the town’s existence, especially in arid regions like the Karoo and the Kalahari where vast distances separated the inhabitants from the next town. In many cases farming only became an economically viable venture once a halt or train station was established in the region.

Some of these stations like De Aar, Laingsburg, Noupoort and Matjiesfontien, to name but a few, became strategic railway junctions and primary commercial distribution centres for the areas they served.

The Blue Train: Flagship of Luxury

The Blue Train has an aura of mystique about it: kings and presidents have travelled on this magnificent moving five-star hotel. Its very name has become synonymous with comfort, opulence and premium service.

The train's origins date back to the *Union Limited* and *Union Express* trains which began in 1923, taking passengers from Johannesburg to the ships departing from Cape Town to England. The *Union Express* introduced luxury features such as a dining saloon in 1933 and air-conditioned carriages in 1939.

After a break in service in World War II, the service returned in 1946. With the reintroduction of the train, the colloquial "blue train" moniker, a reference to the blue-painted steel carriages introduced in 1937, was formally adopted as the new name.

In 1997, three years after the first democratic elections, a new Blue Train was introduced and its traditional route between Cape Town and Pretoria was extended northwards to the Victoria Falls. In the following year, a second identical train came into service, allowing the Blue Train to add to its destinations Hoedspruit, on the western edge of the Kruger National Park, and Port Elizabeth at the eastern end of South Africa's Garden Route.

The Blue Train's routes, both scheduled and chartered, take guests through some of the most breathtaking countryside to be found anywhere in the world.

As the ever-changing scenery flashes past the windows, guests can savour exquisite meals freshly prepared on board by top chefs. The suites on the train live up to its reputation for magnificence and splendour. The finest bed linen, marble tiles and gold fittings in the bathrooms and sheer opulence all ensure that guests will never forget the time they spend on The Blue Train.

The Blue Train's suspension, braking, lighting and under-floor heating systems have been designed and customised with the guests' comfort as the primary consideration, allowing them to savour the experience of a smooth, pleasurable ride. Every modern convenience, including a telephone service and a choice of digital entertainment channels, serves to make the journey all the more memorable.

The train's regular route between Pretoria and Cape Town, which includes a stop-over in Kimberley, is a 27-hour journey of 1 600 kilometres through some of the most diverse and spectacular scenery offered by the African sub-continent.

There are currently two Blue Train "sets". The one accommodates 82 guests in 41 suites, while the other carries 74 guests in 37 suites and includes a conference or observation deck at the rear of the train.

The train has received numerous awards through its 64-year existence, including Diners Club platinum awards for its wine lists, a "superior status" award from the AA

Grading Council, and numerous "world's leading luxury train" awards in the World Travel Awards.

Private Rail Operators

A number of private rail operators have identified and taken advantage of the obvious benefits of rail.

Rovos Rail, probably the most recognised name among the private operators, has earned an international reputation for its exclusive and unique travel experiences. Passengers are invited to step aboard the wood panelled coaches - classics remodelled and refurbished to excellent condition - and enjoy fine cuisine in first-class luxury while admiring some of the most varied scenery imaginable beyond the trains' windows. Guests travel in a relaxed and elegant fashion and experience the atmosphere of a bygone area. The trains, which may be hauled by steam, diesel or electric locomotives at various stages of the journey, carry a maximum of 72 passengers in 36 luxuriously appointed suites.

Focussing more on industrial applications, **Sheltam Rail** operates and maintains rail lines for or on behalf of various clients. Situated in the Randfontein and Virginia areas, Sheltam operates virtually the entire rail system for the gold mining industry in these areas. The gold mines have some of the longest privately owned railway lines in Southern Africa. Sheltam hauls gold ore from where it is mined to the extrusion and finishing plants where the gold is extracted from the ore.

Among other projects it also operates locomotives and hauls products for clients in the paper and pulp industries situated in the Nelspruit and Tugela areas.

Friends of the Rail, a railway club using steam trains for excursions on the unused branch line between Pretoria and Cullinan, are true enthusiasts of the rich legacy of the steam era. They offer nostalgic day trips under steam power to the quaint village of Cullinan to the east of the city.

A recent decision by Transnet (June 2010) to lease some of its unused branch lines to private business was unanimously welcomed by smaller rail operators.

The Railroad Association of South Africa have said that involving private enterprises to run some of these lines, especially in the deep rural areas, would prove to be a boon to business in these regions.

Transnet stated it was preparing to offer concession opportunities for private rail operators on approximately 7 300 km of branch lines situated at locations across South Africa. About 4 000 km of these branch lines are currently operational while the remainder are closed.

It confirmed all branch lines would remain in Transnet ownership as they were feeder lines to the country's core railway network, which is owned and operated by Transnet Freight Rail (TFR).

These under-utilised assets could be revitalised and put to economic use if the concessionary arrangement proposed by Transnet was successfully concluded. TFR would focus on hub-to-hub operations on the core network if the arrangement was finalised.

With this exciting development, more cargo will hopefully move by rail with smaller operators applying different operating models suited to branch lines. New operators will bring renewed entrepreneurial innovation into the railway networks. No doubt, rail will once again prove its indisputable usefulness.

Phelophepa: The Health Train

In 1994, the custom built Phelophepa Healthcare Train was born to supply quality healthcare to communities where health services and infrastructure were not yet fully in place.

This Transnet Foundation initiative is still welcomed with open arms by the communities it visits throughout South Africa as it not only offers health services, but also provides members of the community an opportunity to earn an income.

The name Phelophepa combines elements of Sotho and Tswana, two of the eleven official languages in South Africa, and roughly translated means “good, clean health”. In rain, shine, heat or cold, patients travel long distances – sometimes walking more than 30 kilometres, to visit Phelophepa. The journey is often followed by queues and long periods of waiting, but the patients all agree, it is well worth it.

This project is about sharing and about caring. Community empowerment can be witnessed at each station, from the preparation phase to well after the train departs from the station (area) it has visited for a week. “I greatly value the tremendous energy and inspired work that has driven this wonderful initiative to the success where it today features internationally as a shining example of healthcare delivery, empowerment and technology in a developing country” says Archbishop Emeritus, Desmond Tutu.

A special team of resident staff live on the train for its annual 9 month operational period. These dedicated healthcare professionals and support staff, together with the Transnet Foundation Office, manage the logistics and supervise the continuous stream of final year students from leading academic institutions all over South Africa, who participate to gain invaluable practical experience for two weeks at a time. Annually, approximately 1 200 final year students practice on board Phelophepa.

The services rendered on the train enhance existing primary health care services, or provide services where these currently do not exist. The major objective of services

rendered by the Phelophepa team is that of screening and education, making people aware of looking after their own health.

Rapid Rail: Enter the Gautrain

The Gautrain is a state-of-the-art rapid rail network in Gauteng. The rail connection comprises of two links, namely a link between Pretoria and Johannesburg and a link between OR Tambo International Airport and Sandton. Apart from the three anchor stations on these two links, seven other stations will be linked by approximately 80 kilometres of rail along the route.

This modern train offers international standards of public transport with high levels of safety, reliability, predictability and comfort. Travelling at maximum speeds of 160 to 180 kilometres per hour it will reach Pretoria from Johannesburg in less than 40 minutes.

Although railways in South Africa use the 1067 mm (3ft 6in) Cape gauge, Gautrain will be built to the more expensive standard gauge of 1435 mm (4 ft 8.5in). According to the Gautrain planning and implementation study, this is done for several reasons, including that standard gauge is safer and more comfortable to passengers. The rolling stock is also easier, quicker and less expensive to obtain than Cape Gauge rolling stock, and standard gauge is also less expensive to maintain as it is more tolerant of track imperfections than Cape Gauge. Standard gauge allows for travel at Gautrain's required speed of 160 km/h. The overhead lines' voltage is 25 000 V AC, as is the norm in many countries.

While increased flexibility could be obtained by keeping the system interoperable with the South African railway system, a strong case exists for keeping Gautrain separate from the existing network. According to the Gautrain planning and implementation study an interoperable network may impact service delivery, increase the operating cost and tarnish Gautrain's image. It's rolling stock will be used only on the new tracks. An interoperable network might also increase safety requirements as existing steam and diesel trains would be able to access the new network.

Bombardier Transportation's Electrostar, a model of train common in south-east England, was selected for the system. Fifteen cars were manufactured and assembled by Bombardier in Derby and the remaining cars will be assembled by UCW Partnership (Union Carriage & Wagon Co. (Pty) Ltd) in South Africa using structural components made in Britain. Gautrain will have 24 trains, each made up with four cars: 19 trains will service the commuter network and five the airport link; the latter will consist of forward rail cars specially adapted for the airport link with storage area for luggage and more luxurious seating.

Besides the commuter service, air passengers enjoy a dedicated service between OR Tambo International Airport and Sandton. This purpose-designed service brings Gauteng in line with global practice which links cities by rail to international airports.

Designed with facilities suited to their specific needs, airport passengers can check-in their luggage at Sandton station. The trip between the airport and Sandton station typically takes less than 15 minutes.

The Project is now managed as part of the Gauteng Department of Transport. Gautrain was initiated as one of eleven Blue IQ projects of the Gauteng Provincial Government (GPG).

Blue IQ is a multi-billion Rand initiative of the provincial government to develop economic infrastructure for specific major projects in smart industries, high value-added manufacturing and tourism. It works in partnership with business and government departments as a catalyst to promote strategic private sector investment in key growth sectors of the Gauteng economy.

Into the Future

The significance of the railroad and its rich history in South Africa cannot be underestimated. Its heritage is unquestionably woven into the very fabric of our society.

Even today, despite the turbulence of our recent past and the rapid changes brought about by technology, rail is still very much in vogue. Moreover, it is still practical, still efficient, and in most cases the still most economical way to go.

The railways still occupies a critical role in the transport system of our country. Every day millions upon millions of tons of minerals are conveyed to ports from where they are shipped away to earn us valuable foreign currency and more and more commuters are rediscovering the sheer convenience of safe travel without the hassle of traffic and parking problems.

As rail regains the prominence it deserves, we will see a marked reduction of congestion on our roads, savings in travel time, less damage to road surfaces, fewer road accidents and a significant reduction in air pollution – especially carbon dioxide emissions – paying handsome environmental dividends.

Today, with rapid rail making its spectacular entrance and adding yet another string to rail's impressive bow, the intriguing, nostalgic, exciting and often thrilling story of rail in South Africa lives on. Long may it continue!