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Transport
on the move

Incorporating Freight Intra-Africa



Seven months to make a plan

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transport committee

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CAPE MEDIA

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3rd Issue 2011
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Transport on the move



Contents

10 Ed's Note

12 Gauteng master plan

The new commission appointed to tackle Gauteng's transport plans has its work cut out

22 Pitfalls, strain and lawlessness

Countless obstacles beset the logistics manager's path, yet the South African logistics sector is becoming increasingly professional

32 Research required

A much more in-depth analysis is needed for proper transport planning to be feasible at all

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road ahead

3rd Issue 2011
www.roadaheadonline.co.za

Transport on the move



Contents

38 The ABC of oil

A primer on the science behind oil gives insight into how this indispensable substance functions

46 Trucks: Lease or buy?

The variables affecting the decision to lease trucks or buy them outright have changed – so, too, should the thinking of the fleet manager

50 Durban–Johannesburg rail developments

A great deal has been written and said about what will happen in the rail sector, but sober interpretation is required for clarity



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Transport on the move

Ed's Note

Between the thought and the act

The prominent yellow-suited figure of statistician-general Pali Lehohla recently has been spotted at many public speaking engagements, where he has indefatigably repeated the message that without context and interpretation, information is just so much noise.

The relevance of this point to transport and logistics becomes horribly clear when one considers the Gauteng Freeway Improvement Project.

When did the perception of this project shift from its status as a major feat of world-class engineering prowess to a nightmare from the depths of hell?

As soon as it became clear that the means employed to realise the project (a loan leveraged by a tolling scheme) was out of sync with the end (providing Gauteng with an efficient, modern highway system) – because the proposed tolls are so exorbitant that they threaten to kill off road transport outright.

Not even those who never take to the roads will be unaffected – for short of some influx of wealth from sources as yet unrevealed, consumers will be left severely out of pocket once the unavoidable transport-related price increases occasioned by stratospheric freight charges are passed on to them.

In short, the broader social impact of the highway improvement scheme seems to have been blithely bracketed off by the engineers and planners who dreamt it up. Unbelievable, but it happens every day.

With luck and a deep breath, let us hope this myopia does not sabotage the ambitious plans afoot to link Johannesburg and



Durban with more effective rail freight and transport solutions. As outcomes-based education so tragically showed, the brightest ideals have to be tempered with realism.

Let us also wish the steering committee appointed to devise Gauteng's 25-year Integrated Transport Master Plan the best of luck in securing the resources it will require.

Greg Penfold

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Challenging task ahead

Gauteng committee has only seven months to produce a five-year plan



The new Gauteng steering committee has been given seven months to come up with a five-year integrated transport plan for the 'economic hub' of South Africa, to be followed by a long-term plan.

The announcement by the Gauteng Department of Roads and Transport, that it has appointed a 12-member steering committee to assist the department in investigating and developing a 25-year Integrated Transport Master Plan (ITMP25) for Gauteng, marks the start of a new phase in getting South Africa moving, as it is part of and is guided by the government's overall 2005–2050 National Transport Master Plan (Natmap).

The Gauteng steering committee, comprising transport planning experts, academics and specialists, has to come up with a five-year short-term plan by 31 January 2012, while the long-term plan must be implemented by 31 March 2013. In doing so, it will have to take cognisance of what is being planned on a national level, such as the rapid rail links mooted between Johannesburg and Durban, between Johannesburg and Cape Town and the general freight rail link through Swaziland that Transnet Freight Rail is now looking at in order for it to move more coal and other ore on its existing lines to Durban and Richards Bay.

Gauteng Transport MEC Ismail Vadi introduced members of the steering committee to the press as other major projects such as the R25-billion Gautrain and the R22-billion Gauteng Freeway Improvement Project (GFIP) were being completed.

To come up with a short-term plan within seven months is not going to be easy, but with Jack van der Merwe – the project leader and now chief executive officer of the Gautrain – as chairperson, the committee has a very competent leader; while the committee members, who include Nazir Alli, the CEO of the South African National Roads Agency Limited, Dries van der Walt from the Passenger Rail Agency of South Africa (Prasa), and Professor Jackie Walters of the University of Johannesburg (and special adviser to the South African Bus Operators Association), are well qualified to make contributions to both a short- and long-term plan.

The purpose of the committee is, to quote Vadi, “to regulate, plan and develop an efficient and integrated transport system that serves the public's interest by enhancing mobility and delivering safe, secure and environmentally responsible road-based public and private transport, and air and rail services.”

The long-term plan must assist all spheres of government to deliver a world-class, sustainable transport system supporting the province's economic, social, cultural, environmental and developmental goals.

The committee is to be guided by the vision to develop a long-term ITMP that promotes Gauteng as the economic powerhouse of southern Africa; inspires sustainable long-term economic growth; and promotes skills development and the creation of employment.

The team must report back on a quarterly basis on the progress of the project and may invite representatives of any other

interested party that it deems necessary to form part of a Consultative Forum, which should discuss the quarterly reports submitted and make recommendations to the committee for enhancing its work. According to Vadi, they will join the committee in their individual capacities and will not be representing the companies for which they work.

An initial R15 million has been allocated in the current financial year.

Major guidelines provided to the committee for the plan include the need for it to be socially inclusive and developed to promote the "Gauteng Global City Region". It must give priority to public transport and the movement of freight, based on current and future freight and logistics nodes and corridors, and indicate what mode or modes of public transport were preferable for a specific corridor. In doing so, it has to adhere to the principle of competition for routes (not competition on routes) and use financial support for transport and subsidisation as a lever and catalyst for the development of the desired urban form. Last but not least, it must support national and provincial government programmes and be aligned to the government's priorities.

This was made clear by Transport Minister Sibusiso Ndebele, who told investors in Cape Town in June this year that Natmap remained key to any long-term planning.

"It (Natmap) seeks to make recommendations and give guidance on infrastructure investments on the space economy, informed by population, economic and social growth projections as well as institutional, financial and environmental considerations," he said. "It is informed by the plans of other sectors that are transport demand generators – for example agriculture, minerals and energy."

The Natmap was initiated by Cabinet in 2005 to develop and establish a multimodal transportation system to meet South Africa's transport needs up to 2050. It was drawn up through the Department of Transport (DoT) by consulting engineering company, SSI Engineering, and environmental consultants Africon and Ingérop South Africa. So far, it has cost R64m.

The rollout has consisted of four phases, with the first having been an analysis of the status quo of the transport infrastructure as it was in 2005, and the rest being concerned with proposals, feasibility studies, fund-raising activities and, finally, implementation of approved projects on a national as well as provincial basis.

Natmap identifies Gauteng as the economic hub of South Africa, and recent initiatives such as the Gautrain, the GFIP, the open-road tolling and the bus rapid transit systems planned for Johannesburg and Pretoria form an integral part of such an integrated transport system.

Natmap's objectives are to have more than 85% of any city's population living within a kilometre or closer to an Integrated Rapid Public Transport Network (IRPTN) feeder or corridor by 2020, "transforming the way South Africans interact and do business with one another. These transport service networks are the way of the future and the only viable option that ensures sustainable, equitable and uncongested mobility in our cities and districts." (*Bua Briefs* 8 of 2011, Government Communication and Information System)

According to Natmap, the IRPTNs in larger cities, as well as adapted versions for smaller cities and rural districts, will be able to provide a mobility solution that will be attractive to public transport users and current car users. The DoT's goal for the metropolitan cities is to achieve a mode shift of 20% of car-work trips to public transport networks by 2020.

But, it is easier said than done.

In 2007, after the analysis phase and looking at what needed to be done, the consultants almost immediately suggested a massive upgrade of the country's "outdated" and "obsolete" national narrow-gauge railway system to optimise the country's freight and passenger network and make it the core of the entire national



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transportation system. The route taken by the government to make the railway system the core of the national transportation system is therefore full of challenges from both a passenger and freight movement perspective.

According to the consultants, it will take years of addressing backlogs in fixed infrastructure, the acquisition of new rolling stock, network integration and branch-line activations by Transnet.

In Cape Town in June, Public Enterprises Minister Malusi Gigaba told investors that infrastructure development had become an urgent priority for South Africa, owing to a backlog that had emerged following a period of severe underinvestment in the railways.

The fact that underinvestment over the past 25 years has seriously affected the performance of Metrorail was readily conceded by Lucky Montana, CEO of Prasa, at the same event.

He said the feasibility study for the rolling stock replacement programme was almost complete. The findings would be given to Ndebele for consideration, before being tabled before Cabinet in July 2011. The procurement process was expected to commence by March 2012.

South Africa now plans rail investment of R97bn into new stock for Metrorail and long-distance rail services over the next 18 years.

Private sector participation was viewed as core to Prasa's vision for recapitalising and expanding metro and long-distance rail services.

Apart from having recommended the appointment of one rail regulator to look after South Africa's rail infrastructure, the Natmap consultants have recommended the rollout of a new standard-gauge railway system that would be in line with South Africa's commitment to the Southern African Development Community and the East African Community to facilitate interregional rail traffic through building new standard-gauge rail roads only.

Last year in May, a R750-million Natmap was presented to Parliament by the plan's project manager Lanfranc Situma, which included linking Johannesburg to Durban and Polokwane via rapid rail networks.

In June this year, government officials told potential investors that the high-speed rail development programme between Johannesburg and Durban would require an estimated investment of between R80bn and R100bn. (Other reports suggested it could cost \$30bn, or R213bn, and that the government was in talks with the China Railway Group about building it.)

Ndebele and the consultants discussed plans to link Pretoria to Moloto and Musina and Johannesburg to Cape Town via rail corridors, which would "unlock economic potential in these areas and create jobs".

Looking at the road infrastructure and freight movements on a national and provincial basis, the consultants have been pushing for the establishment of a freight logistics policy aimed at halting and reversing the flow of freight from road to rail, for which a national freight logistics database is required.

With Gauteng being the powerhouse of South Africa, and South Africa the gateway to sub-Saharan Africa, the Gauteng steering committee will have to look at both passenger and freight issues – not only from a provincial and national, but also from a sub-continental point view. Whether it can come up with a proper five-year plan in the short time allotted, is the million-dollar question.

Steering committee members

Committee members (brief)

Committee members have extensive transport, economic and financial expertise. They include:

- Jack van der Merwe, the chairperson of the committee and CEO of Gautrain;
- Bridget Ssamula from the University of Pretoria;
- Jackie Walters from the University of Johannesburg;
- Nazir Alli, CEO of Sanral;
- Yolisa Mashilwane, the Cross-Border Roads Transport Agency's executive for facilitation and industry development;
- Jane Barrett, policy research officer at the South African Transport and Allied Workers' Union;
- Noxolo Maninjwa, deputy director-general of the Gauteng Department of Roads and Transport;
- Dries van der Walt, executive at Prasa;
- Amanda Nair, CEO of Blue IQ Investment Holdings;
- Jeffrey Mashele, deputy director-general of the Gauteng Department of Finance;
- Vuyo Mahlati from the University of Pretoria; and
- John Sampson, an independent transport engineer.

Consultative forum

The Committee must establish the Consultative Forum, comprising:

- Departmental senior managers and representatives from metropolitan, district and local councils in Gauteng;
- Airports Company South Africa;
- South African Civil Aviation Authority;
- Gauteng Blue IQ;
- Council for Scientific and Industrial Research;
- Bus, taxi and metered-taxi organisations;
- South Africa Association of Consulting Engineers;
- South African Federation of Civil Engineering Contractors;
- Labour unions and business organisations;
- Automobile Association of South Africa;
- Commuter organisations;
- National Department of Transport;
- Gauteng City-Region Observatory;
- Prasa;
- Transnet; and
- Gauteng Planning Commission.

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Building on the existing

Multimodal logistics solutions key to driving regional competitiveness

Africa is potentially well-positioned to play an important role in the recovering global economy, particularly as the shift in economic potential moves from the developed to developing world. Yet, to fully capitalise on the opportunities facing the continent, sub-Saharan African transport corridors must be developed and upgraded.

This is according to Abrie de Swardt, marketing director of a global logistics and supply chain management leader, IMPERIAL Logistics. “Socio-economic development, significantly enabled by logistics and supply chain management efficiencies, is stimulated by extensive, modern and properly maintained infrastructure,” he added.

Within southern Africa, logistics service providers (LSPs) operate within a challenging context due to inadequate rail capacity, bad road quality and extensive skills shortages. South Africa, a leading economy within the region, maintains high total cost of logistics, compounded by growing demand for transportation, as well as high and volatile fuel costs.

Regional supply chain optimisation

De Swardt said, “Solutions that optimise southern Africa’s end-to-end supply chain must be identified, critically be supported by cost-effective and efficiency-driven infrastructure.” For southern Africa, solutions that effectively balance road, rail and air are critical.

Of the 12 pillars that shape the World Economic Forum Global Competitiveness Report, infrastructure, macro-economic environment, goods market efficiency, labour market efficiency, technological readiness, business sophistication and innovation all have a bearing within logistics.

“Logistics performance is impacted by efficiencies in customs clearance processes, ease of arranging competitively priced shipments, competence and quality of logistics services and, critically, the quality of trade and transport-related infrastructure,” explained De Swardt.

Move to multimodal

“Economic growth depends on consistently greater movement of goods,” he noted, with a view that collaborative investment – both financially and in terms of resources – must focus on ensuring maintenance and operational improvement of the region’s transportation network infrastructure.

“LSPs can offer particular value to the public sector in terms of driving operational improvement,” De Swardt maintained, emphasising that greater use of multimodal logistics solutions would contribute significantly to heightened regional competitiveness. This approach to freight transport leverages a combination of transportation modes. The primary benefit is a

reduction in total landed costs. Through reduced cargo handling, security is improved and damages and losses reduced. “To successfully leverage multimodal solutions, companies within the region must align objectives to alleviate pressure on the road system, bringing back to rail heavy duty commodities such as coal, iron ore and manganese, and containers best suited for rail transport,” he said.

Southern Africa ‘corridor talk’

De Swardt named the Maputo Corridor, Trans Kalahari and Walvis Bay as some of the transport arteries growing the region’s strategic importance, and cites Maputo and Namport as ports showing significant potential as economic drivers. Traffic volume of the Trans Kalahari Corridor alone has tripled in three years, largely due to goods coming in and then going to Angola.

“Multimodal solutions will increasingly incorporate the likes of Namibia’s infrastructure, which is currently seeing major investment in the likes of Namport,” he said. The port is an alternate to the often congested Cape Town and Durban ports.

“Infrastructure is the springboard for growth and development. Business, governments and regional bodies must work together to ensure that the return on investment delivers sustainable benefits to the regional economy. The contribution of logistics to economic growth is optimally leveraged to this end,” added De Swardt.

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Paramount Trailers, one of South Africa's leading manufacturers and refurbishers of commercial trailers for local and international markets, is investing an excess of R100 million in a new manufacturing plant expected to be completed in 2013.

The company, which was established in 1997, says this will boost an already strong operation currently comprising of six production facilities based in the South of Johannesburg. Warren Marques, Managing Director of Paramount Trailers says that while the economic downturn has finally shown signs of improving, innovation and speed to market remain key for any company wanting to succeed in the commercial trailer manufacturing sector. "South Africa is the spring board into Africa. It is a viable market and boasts immense potential as well as a completely new revenue stream."

Paramount Trailers has recognised the importance of investing in a new and improved production facility to take advantage of the growth opportunities available in the South Africa and SADC region. "The downturn in the logistics market resulted in many carriers delaying their transportation purchases as they fought to ensure healthy balance sheets. These solid carriers are now experiencing an improvement in the market and are thus starting to place orders, while maintenance requirements also need to be met," he says.

Despite this positive turn, Warren says manufacturers need to remain cognisant of the role the economy still plays in the success of any manufacturing business. He says that some of the primary concerns facing the local transportation business include the fuel pricing; labour legislation; the value of the South African currency and the road infrastructure across the continent.



PARAMOUNT TRAILERS



As new markets become more accessible and industries grow, Warren says the company is seeing the birth of new trailer models such as sugar cane and feed bulker trailers. "Paramount Trailers is constantly innovating and updating its trailer designs. In keeping with leading industry trends, we strive to design trailers that are lighter, yet retain the overall strength and reliability Paramount Trailers has offered for 14 years. We have recently started manufacturing aluminium trailers, which delivers an increased load capacity and a higher return on investment for clients."

He says that by offering a wide range of commercial trailers, designed and customised to unique logistical requirements, Paramount Trailers is able to provide clients with unmatched flexibility. "The manufacturing experience of our highly skilled team is unsurpassed and enables us to operate at peak efficiency levels. Our priority is to reduce production time to ensure improved delivery times to customers. Our employees have received the necessary training that enables us to meet our production schedule while achieving our necessary safety, quality and efficiency goals."

"We might not be the biggest, but what sets us apart is our quality products, personalised service and long standing track record within the industry."

For more information please contact:

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Get ahead in a changing marketplace

Eaton Corporation: Innovating to assist manufacturers

Eaton Corporation, a global leader in truck and automotive driveline and powertrain systems, has been making significant waves as of late in the commercial vehicle market with new product innovations that provide clear benefits for fleet owners and operators.

Celebrating its 100th anniversary this year, Eaton has strong roots in the market for commercial vehicles. In fact, it first began in the United States in 1911 as a gear and axle company before expanding to serve customers in over 150 countries. Today, Eaton's Vehicle Group is a global leader in the development of advanced automotive and truck technologies.

As companies put a greater focus on energy efficiency and sustainability, Eaton is working worldwide to develop and build solutions that assist manufacturers meet these changing demands. In the heavy- and medium-duty commercial vehicle markets, it is leading the way with cutting-edge innovation and technology in the area of hybrid electric and hybrid hydraulic power systems. These hybrid solutions, which reduce fuel consumption and emissions while improving a vehicle's overall performance, and reducing operational costs, are the result of over 20 years of pioneering research and development by Eaton.

The company offers the world's most complete line-up of hybrid power systems for commercial vehicle applications, and its systems are available through many global and regional truck brands including DAF, Freightliner, Ford, International, Iveco, Kenworth, Mercedes-Benz and Peterbilt.

But, Eaton's continuous innovation to aid truck manufacturers improve the efficiency and performance of their vehicles goes far beyond its work on hybrid technology. In fact, the core of Eaton's commercial vehicle business is focused on the development and manufacture of fuel efficient manual and automated transmissions and clutches for light, medium and heavy-duty trucks. The company is a global leader in this domain, serving most major truck and bus makers. The technology behind these products ensures vehicles operate more efficiently and perform better.

As explained by Nanda Kumar, president: Vehicle Group Europe, Middle East and Africa, this is something that is especially relevant in southern Africa: "Conditions in the region present a number of challenges to fleet owners and operators. Vehicles are often driven in challenging road conditions, and cost of ownership and ease and speed of repair are real issues.

"At Eaton, we are a pioneer in the introduction of heavy-duty transmissions and clutches that stand up to the severe demands of trucks around the world, covering applications as diverse as long-distance cargo hauling, construction, heavy haul, logging, mining, oil field, agriculture and off-road specialty vehicles.

Eaton's heavy-duty transmission product line offers more than a hundred different models, ranging from nine to 18 speeds in constant mesh, synchronised and automated versions.

Eaton's Fuller® clutch products have a global reach and are designed and tested so they provide the best protection with vibration dampening, and offer the lowest total ownership cost. The company has developed a new clutch-driven disc technology, which isolates engine torsionals at idle speed, to reduce or eliminate neutral idle gear rattle in the drivetrain and improve driver comfort.

Eaton's portfolio of solutions for the commercial vehicle market is rounded out by advanced fluid conveyance, gear and engine valve technologies as well as traction-modifying devices. All Eaton parts are certified to meet or exceed original equipment manufacturer (OEM) specifications, and are made with quality materials for longer life.

Today, Eaton is on the cutting edge of designing and developing innovative products that meet the needs of its commercial customers in countries around the world. The company has a strong focus on the South African market and believes that it offers significant growth potential. Its product and service solutions in the region position it as a reliable partner for OEMs looking to get ahead in a changing marketplace.

Eaton Corporation is a diversified power management company with sales of \$11.9 billion in 2009. Celebrating its 100th anniversary in 2011, Eaton is a global technology leader in electrical components and systems for power quality, distribution and control; hydraulics components, systems and services for industrial and mobile equipment; aerospace fuel, hydraulics and pneumatic systems for commercial and military use; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety. It has approximately 70 000 employees and sells products to customers in more than 150 countries.

For more information, visit www.eaton.com.



Leave a greener footprint.

For 100 years, Eaton has been supplying the trucking industry with products designed to improve vehicle performance, power and fuel consumption, and reduce maintenance. Eaton works with fleet owners and OE manufacturers to produce the highest-quality drivetrain and safety systems available to address the industry's most pressing needs. Today, we create innovations in hybrid-power and low-emission vehicles as a leading provider of diesel-electric hybrid power systems for truck and bus applications on three continents. Whether you need reliable, high-performance products or components to help reduce your fuel consumption and emissions, look for Eaton in your truck.



Pitfalls, strain and lawlessness

Yet, South African logistics operators are continuously becoming more competitive

South Africa's large logistics service providers in the road sector have come a long way in the last two decades in becoming world-class operators.

As was the case internationally, road played a crucial role in supporting economic growth in South Africa after deregulation in the absence of reliable door-to-door rail or intermodal solutions.

Current well-known challenges of a deteriorating road network, significant maintenance costs, congestion, accidents and emissions cannot be addressed by optimising road networks and road infrastructure in isolation.

South Africa's long-term freight flow forecast indicates the current modal balance between road and rail will not serve the country's freight flow needs in the medium term, warned Dr Jan Havenga, director of the Centre for Supply Chain Management in the Department of Logistics at the University of Stellenbosch.

He said that internationally, domestic and international intermodal solutions have been successfully implemented in particularly the United States and Europe.

Yet, even in those regions the optimal development of such solutions is receiving significant political, macro- and micro-economic and academic attention, as it has been proven that an optimal balance between road and rail is the only way to meet freight transport demand in a sustainable manner.

"If South Africa wants to reach the goals set out in the national policy documents since the advent of democracy, a similar holistic attention to the country's freight flow needs is non-negotiable," Dr Havenga maintained.

Pitfalls

Reflecting on the pitfalls regarding road transport, in creating a globally more competitive fleet in South Africa, he said the state of rural roads, quality control, the ring-fencing of fuel levies to pay for road maintenance, and user-pay charges for road usage definitely fall in that category.

Strain on national and provincial routes

Currently, road transport is responsible for about 88% of all South Africa's domestic needs, and that puts much strain on the country's national and provincial routes.

Asked how that affects the efficiency of road transport, Dr Havenga said road has a 65% tonne/kilometre market share, with 80% of tonnes shipped and 88% spent on freight transport by cargo owners.

The discrepancy in monetary and volume market share is attributable to rail's dominance in world-class, low-value bulk freight export systems.

South Africa invested more in roads than in rail over the past three decades, not enabling the transfer of the ability from export iron ore and coal to other standardised, dense, long-distance flows where it would have been possible.

"This, together with our inability to adapt the railway to the ideal configuration (concentrating on exploiting core line densities) in the

late 1980s and early 1990s when freight transport was deregulated, caused a 'skewing' of freight modal distribution," said Dr Havenga.

"The only solution will be to invest in the correct road and rail assets that will create intermodal facilities and interoperability between modes. That will allow road and rail to work together more effectively, shifting rail-friendly freight currently on road to rail and vice versa."

Paul Nordengen, past president of the South African Road Federation, said South Africa's economy relies on mobility every day. And it is the road network that carries the productivity that makes up the country's gross domestic product.

What makes it more complex and critical is that South Africa's industrial heartland is in Gauteng, 600 kilometres from the largest port Durban.

But Nordengen has warned that a poor road safety record amounts to serious losses and drags on the South African economy and the environment.

Road deaths alone are estimated to cost R18 billion; and if one adds up damage, injuries plus all the other incidentals accruing from 900 000 collisions per year, then easily over R50bn gets wiped off the GDP figure every year, he said. (Source: *FleetWatch*, February 2011)

Professor Jackie Walters, in the Department of Transport and Supply Chain Management at the University of Johannesburg, told *Road Ahead* that the quality of South African roads is an inhibiting factor when assessing the country's global competitiveness: "The national road networks are in good or very good condition, but the provincial roads cannot sustain maintenance, especially during the rainy season.

"The (South African) National Roads Agency (Limited) has started taking over provincial roads, and already has 16 500 kilometres under its auspices," he added.

Nordengen said there has been an increase in road freight activity in South Africa of less than 32% from 2000 to 2011.

"All the 'chat' around reviving the rail network will only serve to make South Africa more uncompetitive and lose more jobs.

"Rail cannot offer flexibility or 'just-in-time' deliveries," he noted.

In an article titled "Road transport efficiency", featured in the September 2009 edition of *FleetWatch*, Max Braun pointed out that logistics surveys revealed 1.37 billion tonnes of freight are hauled by road, compared to 205 million tonnes on rail. Surely, this is reason enough to focus on optimised road maintenance.

Nordengen said one has to look at transport efficiency; and here, the lack of training and the distinct absence of road transport professionals lead to under-loaded, overloaded and empty trucks on South African roads every day.

Add port congestion to road congestion and long offloading times, and the inefficiencies of South African road transport merely increase.

"When talking global competitiveness, it is frightening to know that the cost of logistics – as a percentage of gross domestic product in South Africa – is almost double that of the United States and 50% more than Japan and Brazil," said Nordengen.



“Add the current strength of the rand, and exports suffer severely.” (Source: *FleetWatch*, February 2011)

He added that road condition and accidents are co-travellers.

Energy consumption, emissions and green supply chains are vitally important issues, but South Africans must get the death rate down and road safety enforced.

Road safety, congestion, cost of logistics and road conditions are all among the items that Nordengen listed as impacting on the quality of life of all South Africans. Crime is another – it feeds off lax road law enforcement.

The flagrant flouting of regulations regarding speed, load and a host of safety issues are all indicative of society as a whole. Ask Gauteng residents what irks them most, and they will answer: traffic congestion and crime!

Overloading is one way of competing with high logistical costs if enforcement is absent.

Tourists are attracted by good roads that are well-policed. If there is one perception our tourists will carry as an enduring memory, it is how the road network supported an enjoyable visit to South Africa, Nordengen told *FleetWatch* (February 2011).

While the government has a duty to its own citizens to provide good quality roads, attracting tourists must surely be an important strategic goal – if anything, simply for the cash flow it generates.

And many tourists do not come to tour South African cities, but to travel – often by road – to game parks and scenic wonders.

The road makes the difference, noted Nordengen. (Source: *FleetWatch*, February 2011)

General remarks on the SA auto industry

The former chief executive officer of the McCarthy Group, Brand Pretorius (pictured), said at a recent conference organised by the Automotive Industry Development Centre that the South African auto industry will play an increasingly important role in uplifting South Africans: It contributes 6.2% of the GDP, is the number-one industry in local manufacturing, employs almost 340 000 people and is the biggest source of foreign investment.

He noted: “Yesterday’s achievements won’t ensure tomorrow’s success – it’s an ever changing and tough world out there.” (Source: *www.news24.com*, May 2011)

Pretorius stressed that the industry must have the courage to tackle the never-ending challenge of global competitiveness.

“We must act decisively and continue to focus on lower costs, greater flexibility and higher levels of productivity. These are the prerequisites for long-term sustainability,” he said. (Source: *www.news24.com*, May 2011)

“This rate of growth will require an infrastructure that can cope with the increased business, and this means that energy



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supply, ports, terminals, road and rail networks all require urgent attention, although the R10.3-billion investment in roads this year is appreciated,” Pretorius told *www.news24.com*.

“We also need a regulatory environment conducive to growth in both domestic sales and exports. This is where we have benefited from the Motor Industry Development Programme since 1995, and now have the Automotive Production (and) Development Programme that will come into effect in 2013 and run until 2019.

“Unfortunately, we already have some negatives,” he added. “One is rigid labour legislation and another is the limited incentives, in relative terms, to component manufacturers. We must also arrest rising labour costs, which are running at a higher rate than inflation, while frequent strikes are also a major negative.

“Not only are labour costs high, but we also need to make a disproportionate investment in the development of our human capital. It is vital that we encourage apprenticeships to build a stock of hands-on technical skills – the current feeder system is inadequate,” Pretorius told *www.news24.com*.

Diesel imports, and a lack of strict law enforcement

Prof. Walters, in reflecting on the quality of “road vehicles”, said the South African road freight vehicles such as Volvo, Scania and Mercedes-Benz are all imported.

The only category in which the country’s road vehicles are not of the same quality compared to their international counterparts, is South African diesel, which is of a poorer quality. Subsequently, the country does not import the latest diesel technology.

Vic Oliver, a national road transport consultant, told *Road Ahead* that there are many transport operators in South Africa that are professionally managed and globally competitive.

“South Africa has excellent Road Traffic Act regulations to control and regulate the trucks and buses that operate on our roads but, sadly, we lack strict law enforcement, so many of the illegal and poor operators continue to stay in business,” he said.

“The control and regulation of maximum driving hours is one element of our Road Traffic Act that urgently needs to be addressed.

“In long-distance road transport operations, we are witnessing too many heavy vehicle and bus accidents that resulted from drivers who have driven beyond their physical capability and fallen asleep at the wheel,” Oliver added.

“When the correct vehicle is selected for the application and operated professionally, our vehicle productivity is good and globally competitive.”

Fanie Heyns

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Avoiding driver failure

Driver training prevents losses



Andebe realises that there are many millions of rands lost annually due to damages caused by driver failure. The company is absolutely geared to train drivers in a style that will yield real-world benefits.

Not only does this training teach the drivers best practices, problem avoidance and problem-solving skills, but Andebe further endeavours to raise the employees' understanding of their functioning and responsibility in the company. In the hotly contested market segment, it is vital for fleets to keep losses down as profit margins remain tight.

Andebe has compiled a hotlist of the most common driver failures, trains drivers to be aware of these, and formulates effective strategies to combat these errors.

Whether you are a veteran driver, or simply starting to pursue a career as a driver, you must always prevent oversights that can damage your equipment or your professional driving record. The following mistakes frequently occur:

Truck stop accidents

At a truck stop, you are regularly competing for space with other vehicles of the same size as yours. Be extra aware when manoeuvring around truck stops, particularly when making turns: your trailer is more likely to hit someone else's trailer because there are more of them to hit.

If you are not looking for a place to sleep for the night, you simply need to make a quick pit stop, for example, pull into the fuel pump area (even if you do not need fuel). You can park for five or 10 minutes to run in and out of the professional drivers' area to hit the restroom, grab a cup of coffee, then get back on the road.

Stalling while climbing hill

This may not be considered a common truck driving mistake, but it does occur. When going up a hill, you must be sure to give your truck plenty of acceleration to power up the hill, particularly if you are loaded. A truck that stalls out is potentially dangerous to vehicles behind it. Select the correct gear in good time.

Damage to a dock

Inexperienced drivers spend plenty of time worrying about reversing their trucks. However, do not forget that once you are within inches of the dock, you not only have to slow down, but be aware of any low clearance dock situations or anything that may come between the back of your trailer and the dock itself. If you are not sure that everything is clear: stop your truck, set the brake, and get out and look (G.O.A.L.). If not sure ask someone to marshall you in.

Forklift loading mishaps

Depending on the loads you carry, you should never touch a forklift. Operating a forklift involves plenty of very specific safety concerns that only apply to forklifts.

If you are ever expected to use a forklift to move your load, ensure you have permission from your company and the customer to do so. Your company should provide you with training in advance.

Mountain descents

Sooner or later, you will find yourself at the summit of a mountain, ready to head back down to sea level. This is no big deal in a passenger vehicle, but not so in a truck – particularly one that is fully loaded. So be ready: gear down before you begin your descent, and turn on your engine compression brake.

Most importantly, move to the far left lane and tell yourself that "it's okay to be one of the slowest drivers on the downhill".

This last point is important: someone will always be travelling faster than you – your fellow professional drivers, not passenger cars. If another truck is about to overtake you at a seemingly unsafe speed for a mountain descent, let them. Your job is to stay safe.

Hauling overweight loads and load securement

While being overweight can certainly be a safety issue, it is also a big revenue generator. If a shipper wants you to carry a load that is overweight, remember that your company will be subjected to the fines – not the customer.

Always ensure your freight is properly secured. Flatbedders know this best, as a major part of their job is securing freight. Assume that you are coming up to a weigh station: always weigh out your load if you suspect that you are overweight, and then update your logbook.

Bad or worn tyres

Although you are thorough at giving all the tyres on your truck a good pre-trip inspection before moving down the road, you can still miss an imperfection and have a blowout. This goes to show that you need to really look over all the tyres properly. In

addition, ensure you check trailer lights (running lights, brake lights, signal indicators) after you hook up.

Not enough sleep

Pace yourself: you are not going to impress anyone if you wind up killing yourself or someone else by dozing off at the wheel due to exhaustion. Like the old saying goes, “Slow and steady wins the race.”

If you need sleep, then sleep. Most truck accidents are caused by drivers falling asleep behind the wheel. Do not allow this to be you – remember your limits.

Getting lost

Always analyse your routes and be sure of where you are heading. Are there any problem areas? Does it take you down any potentially difficult roads? These are questions you should ask yourself before you end up unexpectedly on a one-lane highway looking at a bridge overweight, with no easy way to turn around.

Being a “know-it-all”

Be open to advice and criticism. When one of the older drivers tells you that what you are doing is wrong, then it probably is. Most of the older truckers have been there and done that. They only want to help you succeed, so do not blow off any advice they give. Though, if they do give you advice that is one hundred percent wrong, then show some respect and thank them.

Getting distracted

Do not play with your cellphone while driving. No one should have to tell you that texting and driving is a bad idea. Keep your eyes on the road, and not on that little screen.

Always remember the basics of driving. It is really easy to get behind the wheel and after about six months start thinking you know it all. Keep these tips in mind, and you should be on your way to becoming an expert truck driver in no time!

These are merely a couple of the common mistakes drivers make. By alerting drivers to these and helping them to think rationally and understand the complex dynamics of the workplace in which they function, they can combat mistakes and thus prevent losses effectively.

Andebe has trained many drivers successfully over the years, and the company is proud to say that efficiencies were up and losses down after its drivers completed its industry graded practical training programmes. Andebe has the fuel in its tank to train your drivers to new levels of success.

The question is: Are you ready to stop the failures? If you are, then Andebe has a tailor-made training solution for your fleet.

For more information on Andebe training, visit www.andebe.co.za.



Going beyond challenges

Goba works to a smooth finish



In January 2008, the Goba Uhuru Joint Venture (JV) was appointed by the Johannesburg Development Agency for the engineering services for the implementation of the Bus Rapid Transit (BRT) system for Sections 4, 6, 7 and 8, which form part of phase 1 of the Rea Vaya BRT project.

These sections of the BRT totalled about 25 kilometres, and had a construction value of about R875 million.

Due to the fast-track nature of the project, the following deadlines had to be met:

Phase 1A – Confederations Cup 2009

Phase 1B – Fifa Soccer World Cup 2010

Phase 1C – Beyond 2010

A number of alternatives were considered for each section, which was followed by a comprehensive public participation process. This process was prolonged, resulting in deadlines being shifted to 2010 and even beyond.

The implementation of sections six and eight, which are planned for 2012, is presently well under way and already in the detailed design stage.

Subsequent to the World Cup, the go-ahead for the tender and construction phases of section four was given. In the interim, the Bophelong JV has been appointed as the contractor for the construction of section four of the BRT along Empire Road. The construction commenced on 5 October 2010 and is envisaged to be completed in June this year.

With construction commencing in October 2010, during the rainy season and prior to the December break, there was a lack of visible progress due to these unfavourable circumstances.

The road reserve is not always wide enough to accommodate the BRT lanes and the normal traffic lanes, and this is complicated

at certain locations by the introduction of a BRT station. Land acquisition needs to be finalised before the contractor is appointed; and with certain sections, this was not done and caused delays in the construction of the BRT busway.

Empire Road, Oxford Avenue and Rivonia Road have been in existence for a long time and have various new and old services traversing and crossing below the road. Some of the older services could possibly even be more than 40 years old. These services, which included the relocation thereof, have further resulted in delays in terms of progress.

Furthermore, the above-mentioned roads have a number of old large trees along the route, and part of the conditions of the public participation process was to obtain permission to remove these trees. Most of the trees are alien or non-indigenous – when removed, they will be replaced with new indigenous trees.

Another setback was the existing services that were indicated schematically on drawings from various service departments, which resulted in problems for the accurate costing and determination of the scope of work for the relocation of the services. The final location and identification of the services could only be established through physical trenching by hand before final drawings and costing could be confirmed.

The above challenges and delays have resulted in the delay of the actual roadworks programme. Certain service providers such as Telkom and City Power further required new plans for the relocation of their services. This resulted in additional plans being drawn up within their own departments, which included the calling of tenders and the appointment of contractors for the relocation of existing services. This process, which is beyond the control of Goba, has further delayed the project.

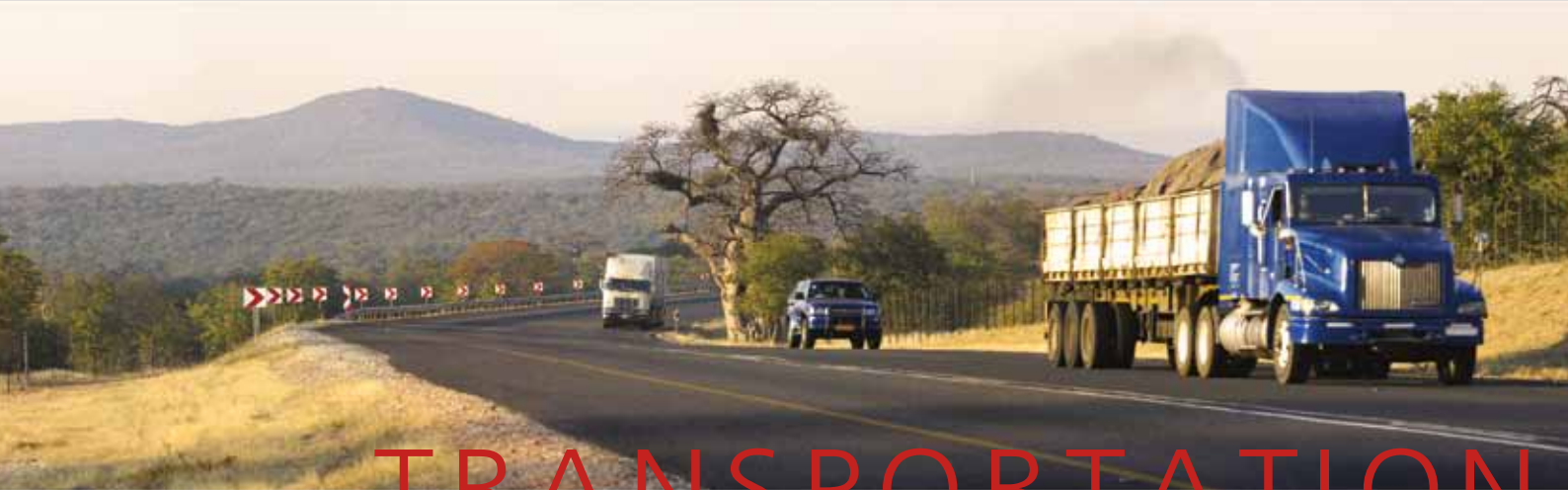
Goba is putting in every effort to manage the processes as efficiently as possible, and it will endeavour to complete the project with minimum time delays and/or additional costs to the project.



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TRANSPORTATION

Goba's Transportation Division provides a fully comprehensive range of transportation services and on an ongoing basis fulfils appointments for all three tiers of Government (National, Provincial/Regional and Local), parastatals, as well as a large number of private sector clients.

Throughout its thirty-five year history, the objective of the Goba Transportation Division has been to provide clients with work and advice of the highest quality that adds value to their projects. This has resulted in this Division being acknowledged by clients and competitors alike as being one of, if not the best, sources for obtaining Transportation Engineering advice and expertise.

Our team of specialists possesses the full breadth and depth of expertise to advise and partner with our clients throughout a project's lifecycle from pre-feasibility through to implementation, commissioning and operation. The core service units within the division include:

- Integrated Transport Planning
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- Public Transport Services
- Infrastructure Services
- Airports
- Rail Services
- Freight and Logistics
- Construction Monitoring and Supervision
- Project Management

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Road safety begins with YOU!

3M guides motorists on road safety



Vehicles that are marked visibly are safer. This is a fact recognised by specific legislation, which requires high-conspicuity markings to be used on a range of vehicles.

Many fleet managers realise that reflective markings on vehicles help prevent accidents and save lives, reduce vehicle downtime and repairs, protect staff on the road and in the depot, and present a more professional image to customers.

Retro-reflective markings act as “passive” lighting. They reflect light back to the driver, highlighting the dimensions of the approaching vehicle, without requiring a power source. In addition, these increase the conspicuity of the vehicle, even when parked, and reduce the chance of collision.

The legislation defines the standard for reflective material that can be used, and where it must be placed on the vehicle. 3M can advise on regulations, and provide vehicle markings that provide excellent performance both in terms of reflectivity and durability in all weather conditions.

Government legislation

Regulation 192A – Side and rear retro-reflective material to be fitted (contour or strip marking).

The following vehicles must be fitted with side and rear contour markings on the vehicle. The rear contour marking may not be fitted more than 600 millimetres from the lower part of the body of such vehicles:

Goods vehicle

With a gross vehicle mass exceeding 3 500 kilogrammes, or longer than seven metres, as of 1 July 2004 shall be fitted with contour markings on the side and the rear of such vehicle.

Trailer or caravan

First registered after 1 July 2004.

Bus

Registered from 1 July 2004.

Excluding any bus operating in terms of an operating licence issued in accordance with the provision of the National Land Transport Transition Act (NLTTA).

Midi bus or bus

Operating in terms of an operating licence issued in accordance with the provisions of the NLTTA.

Registered from 4 September 2006.

Minibus

Operating in terms of an operating licence issued in accordance with the provisions of the NLTTA.

First registered on or after 4 September 2006.

Motor home

First registered from 1 July 2007.

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Research required

Lack of analysis and inadequate research obstruct policy

Southern African freight transport policy-makers face severe challenges in addressing current problems and in defining future priorities. The need to develop holistic, integrated, quantified and costed strategic plans is hampered by the lack of analysis of the transport demands of industry, and the limitations imposed by inadequate research.

All the South African transport policy studies over the past 30 years have been largely inconclusive, with highly generalised recommendations due to unavailability or restriction of operational and economic information.

The institutional structure of the freight transport modes and the ineffective regulation of both parastatals and the private sector road transport operations result in a continual stream of projects that produce broad prescriptions, and no implementable actions.

The situation is further aggravated by the lack of researchers with relevant qualifications as well as broad practical experience in road, rail and port operations and the realities of commercial logistics.

After the change of government in 1994, there was large-scale retrenchment of skilled and experienced technical and managerial staff from the public sector and, to a lesser extent, in the private sector. Many of the retrenched senior staff took their “package” and invested it or bought property. In many instances, the senior experts joined consulting firms and provided their services to the same departments for which they had worked – at inflated salaries.

The impacts of the purge of capabilities are becoming increasingly obvious within government departments where officials were ‘deployed’ into senior positions to replace the previous incumbents, irrespective of whether they had any experience in the specific field of knowledge or activities of the department. Many had no track record of organisational, technical or managerial competence.

In many cases, these employees have now climbed to the head of government agencies and departments, resulting in elite policy-makers without the benefit of the normal developmental experience of a lifetime of mentoring, but convinced that rank and status are sufficient evidence of ability to succeed and to direct.

The reducing availability of skills is one of the most disturbing phenomena in South Africa, and one that will have long-term implications for the future good of the country. It is one of the unfortunate and possibly irreversible results of the affirmative and empowerment strategies that have been used in an attempt to engineer ‘equality’ in government and industry. The process

has resulted in the deployment of numbers of dubiously competent managerial staff with imposing titles such as director or chief director.

In the civil service, the presence and example of senior management of this calibre results in plans that lack cohesion and without a base of technical knowledge or focused and quantified research.

The lack of key performance indicators, managerial pressure and performance monitoring also results in staff inertia. This has contributed to the deplorable track record of the government departments in the fields of education, agriculture, transport, home affairs, health, etc. and the dismal management of municipalities, parastatals and quangos.

In some areas, the retention of a tertiary level of experienced technical staff, as in the private sector and some parastatals, has masked the impacts of the dubious managerial structures. As these staff members retire or leave, the situation will worsen, as the numbers of competent and experienced replacements are reducing steadily; the present education system does not supply sufficient competent graduates to fill the skill and experience gaps.

In the promotion of “gender equality”, many departments have been staffed with articulate, lady “directors” with degrees, but minimal technical or managerial knowledge or experience of the business of agriculture, transport, health, trade, etc. that they are to ‘direct’. In this case, the situation is often worse, as they have no one from whom they can learn, but are still allowed to exercise their ‘right to command’. This lack of technical and managerial competence is particularly evident in relation to research and project management.

The lack of competent decision-making and managerial control means that a large proportion of government research, policy formulation, and the provision of infrastructure is being mismanaged, and many projects of all forms do not result in quality outcomes.

A recent Sunday newspaper advertisement covered 26 vacancies for officials, a total of R21 million per year – with the top jobs going at over R1m per annum.

It is significant that the particular discipline has the most lamentable record of inadequate research and resulting inability to understand the fundamentals of the farming business, or contribute to sensible development strategies for the sector.

Depressing as this present situation may be, the real danger is that unless some action is taken, the effects will continue to be experienced into the foreseeable future.

The entire hierarchy of staff who report to the present management are receiving minimal competent development in the disciplines, skills, knowledge and experience of the real world, nor are they learning anything about best practice of

government in relation to their field of work. This does not augur well for the future economic performance and governance of the country.

The situation is partially compensated by the use of professional consultants; but for research and scientific projects, it is unfortunately true that the usefulness of research outcomes is directly related to the definition of the problem, the scope of the investigation, the skill and experience of the researchers, the impartiality of the research, incisive evaluation of its relevance and completeness, and whether it provides sufficient practicable guidelines for implementation of the recommendations.

The present environment where departmental staff define the objective, appoint their preferred consultants, suggest the desired outcome and then meddle with the research process cannot yield objective results.

In order to appear to be involved in the project process, it has become normal for department managers to create complex committee structures and impose many time- and budget-wasting project impediments. The numbers of meetings, lunches, presentations, nominations of unsuitable appointees, interventions, and irrelevant peripheral conditions demanded, cause many projects to simply slither into inconclusive stagnation. The resulting reports are often incomplete and therefore useless.

In many cases, the failure to properly define the Terms of Reference (or to try to manipulate them after awarding the contract) results in cost overruns – or, rather, performance under-runs – as the budget is frittered away by irrelevancies. In many cases where investigation of parastatals or government departments is involved, research is hampered by the immediate closing of ranks, obstruction and secrecy, to protect the status quo.

The growing situation in South Africa – where most of the commercial, managerial and technical skills are found in the private sector, but utility provision, policy formulation and supply of infrastructure are in the public sector – is having a negative impact on the economy. The quality and quantity of scientific research has reduced in most disciplines over the past 10 years. The lack of government support for professional, quantifiable research is resulting in decision-making without facts.

A further disturbing trend is the awarding of projects that are primarily designed to suit the aspirations of departments, parastatals and quangos, without showing any evidence of appreciation for the fact that commercial and industrial decisions are taken in the private sector. This trend is evident in relation to issues such as agricultural reform, industrial training, water management, transport legislation, high-speed trains, pipelines, investment attraction, port and freight rail developments, transport policy, energy planning, border delays, housing projects and soccer stadiums.

The overemphasis on provision of infrastructure is the result of a lack of competent operational and economic research to identify current inefficiencies and establish quantified needs.

Lack of holistic analysis of the costs and benefits to be obtained from each investment results in the creation of more infrastructure to serve fundamentally inefficient transport systems, without addressing the managerial, institutional and operational problems that are the cause of the inefficiency.

All too often, when research results reveal deficiencies or contradict the need for proposed expenditure, the results are suppressed or ignored, and sometimes the messenger is marginalised.

A visible result of the above-mentioned problems is the chasm between the needs of the real economy and the bandstanding announcements of government mega-projects that will, if implemented, cost the country multi-billions of rands, without addressing the real priorities and problems in almost all sectors.

On the one hand, business owners and managers pursue the goals of survival, profit and growth; and on the other, the lack of quantified research leads to political rhetoric, denial of problems, and unrealistic perceptions of priorities.

In most cases, the proposed source and availability of the funds to implement the announced developments are not calculated or revealed, as it is assumed that there will always be enough money to spend and that the nebulous stated benefits will materialise. This process has so far given us a legacy of airports, ports, refineries, stadiums and rail developments that contribute little to solving the major issues facing the South African economy. The downside has been the restriction on investment in manufacturing, freight rail, port modernisation, dam construction, and passenger transport and border facilities.

There are growing numbers of freight transport infrastructure and operational developments in neighbouring countries motivated and driven by the private sector and supported by state-aided foreign investors, with deliberate intentions to circumvent South Africa.


The present approach to the future of freight transportation in South Africa is fragmented, restricted, subjective and often implausible – and, if not urgently addressed, there is every likelihood of continuation of the current ‘delivery failures’.

Once the neighbours have alternative transport options, South African export industries will face the challenge of more competitive logistics as well as undercutting by Eastern imported goods in the region – the only markets where we have a currently favourable balance of trade.

The present national economic trajectory of deindustrialisation, limitations to agriculture, reducing mining development and the parlous state of the parastatal utilities, water and energy bode ill for the future unless some urgent objective research is done to quantify the future national planning process – and this is particularly evident in transport.

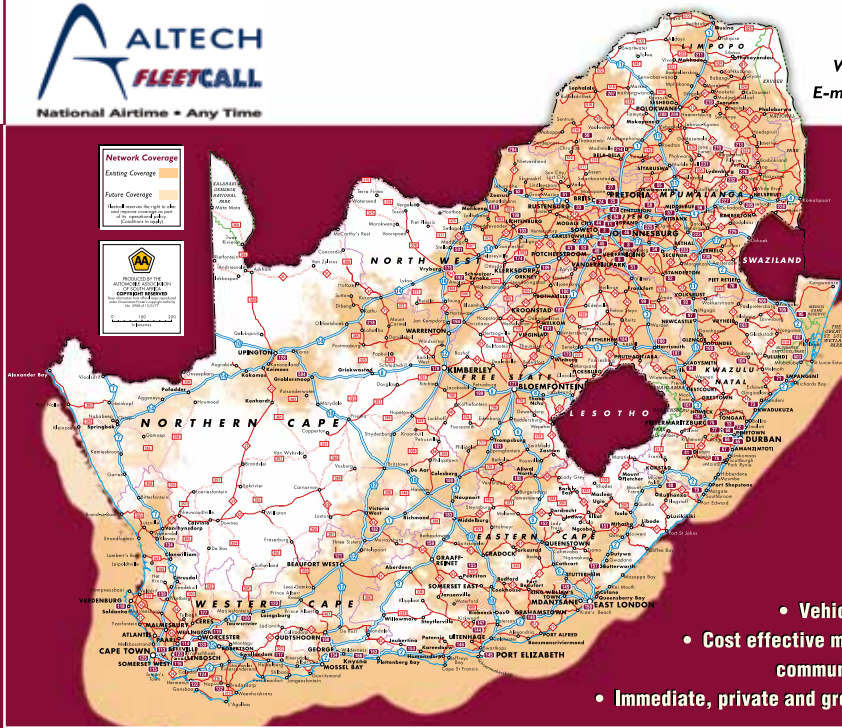
Nick Porée
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Fleet transport in Africa improves Communication critical over long distances



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Site	Site Name	Site	Site Name
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2	Altech	128	Deben
3	Altech	129	Edenburg
4	Altech	130	Edenburg
5	Altech	131	Edenburg
6	Altech	132	Edenburg
7	Altech	133	Edenburg
8	Altech	134	Edenburg
9	Altech	135	Edenburg
10	Altech	136	Edenburg
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100	Altech	226	Edenburg

- 24/7 Call Centre
- National coverage
- Vehicle & vessel tracking
- Cost effective mobile voice and data communication (PSTN/PABX)
- Immediate, private and group call connectivity

Supply chains are becoming an increasingly important factor around the globe. With a large number of South African products being exported across the ocean and the continent, logistics companies play a vital role in ensuring that these goods reach their final destination. While high levels of competition continue to drive the efficiency of operations within South Africa's borders, very few of the country's transport and logistics providers have succeeded in the context of Africa. This is, in part, due to a lack of reliable communications infrastructure, which restricts visibility of assets and real-time control. Even though cellphone technology has improved the continent's ability to communicate, it is still unable to provide the levels of guaranteed real-time communication required. As such, fleet operators need to explore other technologies available and find alternate means of accessing their own virtual private networks.

The past decade has seen a number of revolutionary developments in the information and communications technology (ICT) space. With many of these solutions having very strong business propositions, their implementation has transformed many industries, introducing new economies of scale in many instances. "This is something we've seen in the freight and logistics

sector, with radio frequency identification (RFID), advanced track and trace solutions, electronic proof of delivery (ePOD) solutions and various warehouse management programmes all driving far greater efficiency both from a cost and delivery perspective," says Zubair Munshi, managing director of Altech Fleetcall. "As such, they have improved both productivity and customer care, and set new industry benchmarks."

While most of these technologies are maturing at a very rapid pace, the sophisticated technology at hand is only ever as good as the infrastructure on offer, especially when it comes to communication. "Although cellphone, GSM, GPS and GPRS technology allow for far more than checking-in with the driver en route, in order to monitor vehicles in a fleet and collect key data (including details relating to areas such as health and safety, and fuel efficiency) one has to have infrastructure in place that supports this technology," says Munshi. "This has significant consequences for logistics and fleet operations wishing to extend their routes up into Africa, as well as in our local context."

While cellphone technology in particular has allowed for data collection by vehicle tracking devices and enabled drivers to communicate in real time, numerous external factors still have considerable impact on the ability to communicate directly with one's fleet. "Network strength and signal availability for example, can prevent an operator from getting in touch with a driver at a

critical moment,” says Munshi. “Relying on cellphone technology alone therefore cannot guarantee that communication will always be able to take place, especially in remote areas. This is a challenge that extends across the continent – starting in South Africa, where users still experience numerous instances of dropped calls and a lack of network availability.”

In order to guarantee the real-time communication required by fleet operations, owners need to somehow tap into a virtual private network, within the national grid where they operate.

This is one of the benefits of radio trunking – which is readily available in South Africa. “Because trunking involves the automatic and dynamic allocation of a small number of radio channels to a large number of users, it’s a technique that makes communication with one’s fleet not only easier, but a lot more effective and cost-efficient.”

Munshi adds that, unlike traditional radio communication systems where different users operate on separate radio frequencies or channels, radio trunking controls and guides users to a free channel, “This eliminates the problem of users exceeding the number of channels provided. In this way, it enables a dispatcher to be in instant contact with vehicles (or a specific vehicle) in a fleet. Its design, which caters for multiple calls of short duration,

is therefore ideal for fleet management purposes across Africa.” In the case of Altech’s Fleetcall, which has network infrastructure that extends throughout South Africa, the system can additionally “trunk” multiple radio frequencies, eliminating the long queues waiting for single frequencies.

Radio trunking also eliminates many of the hidden costs often associated with cellphone technology – from implementing hands-free sets in the cab to cellphone abuse by individuals.

“A system like Fleetcall can also be very effectively integrated with a sister tracking product like Altech Netstar’s Vigil Pro for example, improving efficiencies in the fleet management equation.” This means that feedback about driver behaviour can be directly communicated in real time, translating into greater fuel efficiency and improved occupational safety, among others.

With real-time communication a non-negotiable for fleet operations, management needs to make use of tried and trusted technologies that guarantee visibility and control of their vehicles.

“The radio trunking technology already available in South Africa provides suppliers with this required alternative,” says Munshi. “By tapping into this system, they will also be able to enjoy benefits beyond mere communication – boosting overall efficiency, reducing costs and, most importantly, increasing their operation’s profitability.”

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I remember the first time I came across training simulators: it was over a braai with a pilot buddy of mine. He told me in a matter-of-fact manner that he had recently landed a 747 for the first time on the world's most difficult runway – somewhere in Asia, I cannot recall exactly where – without even blinking. Now, this pragmatic cool, calm and collected attitude is normal for pilots, but he then went on to tell me: "I've done it plenty of times in the sim (simulator) anyway, no sweat."

No sweat, indeed. Training for emergencies and unforeseen difficulties is second nature for airlines. And they have the safety record to show for it; it is no accident that flying is the world's safest mode of travel. If only we could train our truck drivers to the same level.

Well, the good news is that we can – with the help of 5DT (Fifth Dimension Technologies), a Pretoria-based simulator company that has been building simulators for 17 years, for the air force and large mining companies.

Emergency training

5DT has recently started paying more attention to the road freight market. "We emerged at the top of the pile in the mining market. Our simulators are used by the biggest resource companies in the world on five continents. They have enjoyed increased safety and decreased maintenance as a result," said Mario Schehle, chief operating officer at 5DT. "So, we started looking for new opportunities, and road freight just jumped right out at us. We really don't know why we didn't join the dots sooner.

"Imagine putting every single one of your drivers in a truck, at night, down Van Reenen's Pass in the fog, and forcing them into a jack knife. Imagine doing this 20 or 30 times until they can pull out of it every time without panicking or wasting valuable seconds wondering what to do. That is the power of a simulator," he adds.

Driver assessment

Dealing with emergencies is not the only application; just as important is driver assessment. Steven Marshall, marketing and sales manager of 5DT, explains: "What happens when you need to recruit 10 or 30 or 100 new drivers a year? Chances are that you will have hundreds of applicants, all with licences and experience. How do you know who the really good drivers are? Drivers that won't ruin your trucks, abuse the brakes, grind the gears and who will be cool in rush-hour traffic?"



5DT's mining simulators are a staple in the resources industry – they are now being deployed into road freight

"The simple answer is that you don't. Not unless you use a simulator. The simulator can accurately measure every aspect of a driver's skills, from brake usage and gearing to lane changes and awareness. It's a powerful tool to screen new recruits so that only the best of the best make it into your trucks."

Economical driving and truck maintenance

Simulators can accurately assess a driver's driving style and the impact it has on fuel economy and maintenance, picking out bad habits that would be difficult to diagnose otherwise.

Drivers furthermore need to know how to diagnose failures ranging from low oil pressure to electrical problems. They need to know how to respond to these issues. They should be asking, "Can I drive to my destination, or should I pull over and call the breakdown team?"

Affordability

Is it affordable? Paul Olckers, chief executive officer of 5DT, says: "Well, ask yourself how much a fatal accident costs you. How much a truck in the workshop for months costs you. How much a 5% or 10% saving in diesel and maintenance will save you. It's a no-brainer."

Steven Marshall

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Oil



The ABC of oil

How to read a can of oil and understand how its contents work

When purchasing a can, drum or tankerful of oil, how can you be sure of what you are buying, where you can use it, and what quality you are getting for your money? On every can of lubricating oil, there is (or should be) a series of numbers and letters to describe what is inside. This article will look at what those numbers and letters tell you.

Oils have both physical and chemical properties. They consist of a “base stock”, which is refined crude oil blended with various chemicals that impart desired properties to the lubricant, enabling it to perform its job.

Let us look at the physical properties first.

The most important physical property of an oil is its viscosity.

Viscosity is defined as a fluid’s resistance to flow, under gravity, at a specified temperature. What that simply means, is how thick the oil is. Thick oils do not flow so easily and have high viscosities; thin oils are quite fluid and have low viscosities. Think how differently transmission fluids behave when poured, compared to gear oils.

The actual property of interest is called kinematic viscosity; its units are known as centistokes, and one centistoke is one millimetre squared per second.

It is important to remember that as temperature increases, the viscosity of an oil decreases.

The Society of Automotive Engineers (SAE) has a grading system that describes the viscosities of oils that are used in all automotive applications from motor scooters, family cars, 4X4s to buses, trucks and bulldozers.

There are two parallel systems: one for engine oils and one for gear oils.

The number and letters associated with the SAE system are shown top right.

Engine oils	0W	5W	10W	15W	20W	25W	20	30	40	50	60
Gear oils	70W	75W	80W	85W	90	140	250				

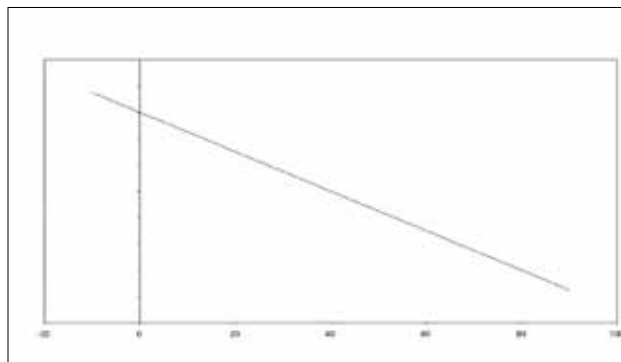
The reason for two systems is that gear oils have very different chemical properties to engine oils, as they have to perform different functions. You may get away with putting engine oil in a gearbox, but you certainly will not do your engine any good by putting in gear oil.

If it is a big number (more than 60), it is a gear oil; if it is a small number (less than 70), it is an engine oil. This is to avoid confusion.

It is important, however, to note that both series cover the same range of viscosities. An SAE 30 engine oil is as thick as an SAE 85W gear oil.

You will note that some of the grades include a “W” – these are the lower or thinner grades that function better at low temperatures, as all oils will be thicker when they are cold.

These grades can be blended with other non-W grades to form what are known as multigrade oils. Monograde oils have such designations as SAE 10W or SAE 90, whereas the multigrades have names such as 20W50 or 80W90.

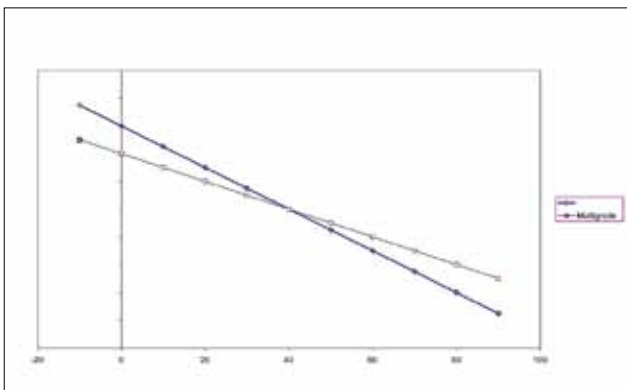


Remember: if you increase the temperature of an oil, you will decrease its viscosity. A temperature viscosity graph may look like the one on the previous page (bottom).

On a very cold winter's morning in Bethlehem, the temperature may be as low as -10 degrees Celsius; but at operating temperatures, the engine will have heated the oil to 90 °C. Ideally, you require a fairly thin oil that will flow at low temperatures, but which does not thin out too much as the engine reaches operating temperature.

Multigrade oils are formulated to perform under exactly these conditions, as they thin out less than monograde oils when they are heated.

The graph below is an exaggerated illustration of how the two types of oils behave:



The advantage of using a multigrade oil is that its viscosity is more stable over a greater range of temperatures. In effect, a 20W50 will behave as an SAE 20W when it is cold, and as an SAE 50 when it is hot – providing protection for your engine over a wide range of conditions. The “W”, in fact, stands for winter.

What about the chemicals that are added to the base stock in order for the oil to do its specific job? In other words, if I buy a can of oil, how good is it?

The most important thing to realise at this point is that if you buy oil from any reputable oil company, there is no such thing as a ‘bad oil’. You can certainly get cheap oil and you can pay up to R200 per litre if you really want to; you get what you pay for, but there are no ‘bad oils’.

So, how do you know how much bang you are getting for your buck?

Engine oils (and to a lesser extent, gear oils) are graded according to performance specifications. There are any number of international bodies that are equipped and certified to carry out testing to confirm whether a certain product meets internationally accepted performance criteria. The one with which most people are familiar is the American Petroleum Institute (API), although Europe has the European Automobile Manufacturers’ Association, and in Japan it is JAMO; even our own South African Bureau of Standards has specifications for lubricants.

In this article, we will only look at the API, which grew out of the United States military classification system. Systems such as the API came into being when engine manufacturers began communicating their needs to the oil companies.

When an engine oil is blended, many chemicals (additives) are added to the oil. These additives impart certain properties to the oils, enabling them to function in a desired manner. Below is a list of some typical additives and their functions:

ADDITIVE	FUNCTION
Anti-wear	Reduces friction, thereby reducing wear
Extreme pressure agent	Prevents scoring and seizure
Corrosion inhibitor	Prevents rusting, particularly during storage
Detergent	Keeps surfaces free of deposits
Dispersant	Keeps deposits in suspension
Friction modifier	Alters the frictional properties of the oil
Pour point depressant	Permits oil to flow at low temperatures
Seal swell agent	Prevents seals from leaking
Viscosity index improver	Ensures viscosity stability over a wide temperature range
Anti-foamant	Reduces foaming
Anti-oxidant	Retards oxidation of the oil
Metal deactivator	Inhibits the catalytic oxidation of the oil by some metals

The right combination of the right additives in the right amount is blended with a refined crude oil (base stock) in order for an oil to do its job. The API grades these oils on how well they can do that job.

Most API specifications are of the format Sx/Cy, where x and y are letters of the alphabet; the first half of the designation refers to petrol engines and the second half to diesel engines. The full range is shown in the next table:

Petrol engines	Diesel engines
SA	CA
SB	CB
SC	CC
SD	CD
SE	CE
SF	CF4
SG	CG4
SH	CH4
SJ	CI4
SL	CI4+
SM	CJ4
SN	

The “S” designates petrol engines, and stands for “spark”, as these are spark ignition engines; the “C” stands for “compression”, as diesel engines employ compression ignition. Basically, the further you go into the alphabet, the ‘better’ the oil is. What this



actually means is that an SM oil has passed a greater variety of and more stringent performance tests than an SG oil.

Most engine oils will generally meet both an S and a C classification, for example SL/CF4. The diesel specification is usually lower, as the combustion of diesel puts much higher demands on the lubricant; the combustion byproducts of diesel are much more aggressive than for petrol.

In order to grade engine lubricants, engine manufacturers have designed a series of tests to be carried out under scientifically controlled conditions. Most major engine manufacturers are involved; and, in order for an oil to achieve an API specification, all tests must be passed to the level stipulated by the manufacturers.

These performance tests do not look at overall performance, but specific characteristics of the oil under test. For example, the Caterpillar IG2 test is used to determine the ability of the oil to protect against ring sticking, wear and accumulation of deposits under high-speed turbocharged conditions. The Peugeot TU3 test is used to measure the ability of the oil to protect against valve train scuffing.

All tests are defined by the American Society for Testing and Materials (ASTM International), which works closely with the API and the SAE. The SAE defines the need for a new specification (in conjunction with oil companies and additive manufacturers), ASTM International develops the tests, and the API defines the new oil category. This is a very lengthy, complicated and consultative process, as all stakeholders need to be involved.

This explains why a simple oil analysis laboratory cannot determine if an oil meets a particular specification or not.

Chemical and physical tests cannot replace actual performance testing; the costs to an oil company trying to get a new product certified, run into millions of dollars.

Whether a product meets a specification or not is actually an act of faith, as it is not within the means (in terms of cost or facilities) of the man in the street to have it checked.

The gear oils are graded in a similar way by the API. These oils will have what is known as a GL rating, with “GL” standing for “gear lubricant”. The GL rating measures the level and effectiveness of the extreme pressure (EP) additive in the oil.

EP additives prevent scoring and scuffing of gears under high load applications.

The scale runs from GL1 to GL6 (although GL6 has been technically obsolete for many years), with GL1 having the lowest EP level and GL6 the highest. Oils typically found in automotive applications are GL4 and GL5. GL4 oils would normally be used in a manual gearbox application and GL5s in the differential.

The GL4 designation became obsolete in 2010.

As environmental legislation puts heavier and heavier demands on engine manufacturers, the engine manufacturers are putting heavier and heavier demands on the lubricants. Rather than put the muck in the atmosphere, let us put it in the oil; engine oils work very much harder than they did 10 years ago.

One group of oils that has not been discussed yet needs to be touched on briefly – synthetic lubricants.

Crude oil is removed from the ground, refined, and then additives are blended to produce the finished product. The refining process removes undesirable entities from the crude oil until a finished product is arrived at which will do the job.

This does not remove all the nasties, merely the ones we really cannot live with.

A synthetic oil is a base stock that has been designed, in a laboratory, with all the desired properties and none of the undesirables. This makes synthetic lubricants vastly superior to mineral ones, however, there is a cost involved. Synthetic oils are very good, but they are very expensive.

So, we have dealt with the physical and chemical properties of oils and their performance specification, but how does the stuff actually work?

Depending on which book, manual or learned journal you read, a lubricant can have as many as two dozen functions.

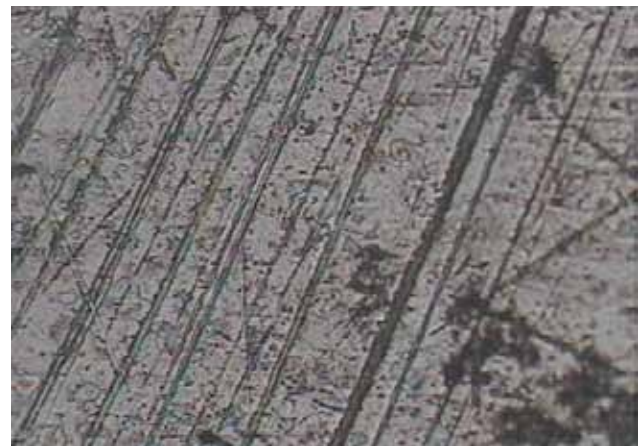
These can be reduced to four very fundamental ones, with anything subsequent, more or less, being a subdivision of one of these groups.

An oil must reduce friction, remove contaminants, cool and act as a structural material. An oil cools by absorbing heat and carrying it to the radiator. It keeps the engine clean by carrying contaminants to the filter for removal. It has viscosity and “body”, so can act as a structural material (think of oil as making a seal between the ring and the bore).

But how does oil reduce friction? That is the prime function of a lubricant.

Friction is a ubiquitous part of our daily lives, we spend large amounts of energy simply trying to overcome it – whether that be walking, driving to work or opening a door.

Although friction is often thought of as a negative mechanical characteristic (20% of a car’s energy is used to overcome it), without it you would not be able to walk nor would the brakes on your car work.



A roller element magnified 200 times

Friction is usually seen as a mechanical problem, and the force required to overcome it has long interested engineers. When man invented the wheel, it enabled him to move weights around far more easily than dragging them from point A to B. What he had done, in fact, was to replace sliding friction with rolling friction, which has a much lower value.

Surfaces that appear smooth and shiny to the naked eye will show peaks and furrows on closer inspection. This does not mean that the component has been poorly machined, but components manufactured to high tolerances still have rough surfaces at a microscopic level.

The rough bits that stick up from the surface are known as asperities. These peaks touch, and very high temperatures and pressures are achieved – this can cause momentary welding of the surfaces to take place. When the surfaces slide over each other, these welds are torn apart.

Whenever friction is overcome, the dislocation of surface material generates heat, which can be highly destructive.

Additionally, when there is solid friction, wear will take place.

Material is lost due to the cutting action of opposing asperities and the shearing of microscopic welds. In extreme cases, the combination of high frictional temperatures, welding and shearing can result in complete seizure.

The harmful effects of friction cannot be overemphasised. The job of a lubrication engineer is to control it; lubrication reduces friction by replacing solid friction with fluid friction.

When one body slides over another, the force of resistance is known as sliding friction. If a ball were to roll over a metal surface, the relative velocity of the points of contact is actually zero and this results in rolling friction. However, there will always be some deformation of the contacting surfaces, so some sliding friction is always involved.

Tests have shown that rolling friction is not influenced by the presence or absence of a lubricant, however, the deformation and the presence of sliding mean the oil is a very necessary component of a ball bearing.

The friction that exists between two bodies in relative motion can involve an appreciable energy loss that needs to be minimised. This is achieved by feeding a lubricant between those surfaces in order to replace solid friction with fluid friction.

Unfortunately, friction can never be eliminated, as there will be internal viscous drag (fluid friction) of the oil.

In ideal situations, the oil will cause the surfaces to separate completely; where this is not possible, the oil can still keep friction to manageable proportions.

Three parameters need to be considered when looking at the various lubrication regimes: the speed at which the surfaces are moving relative to each other; the load placed on those surfaces; and the viscosity of the oil. Ideally, there should be high speed, low load and high viscosity; under these conditions, the surfaces would always be separated. Unfortunately, we do not live in an ideal world.

In the case of a plain bearing and journal, there will always be a small amount of oil between the mating surfaces. However, at

start-up, the speed will be zero and the lubricant will not keep the surface completely apart – some of the asperities will touch.

This is known as boundary lubrication; in this situation, it is the additives in the oil that help to minimise friction.

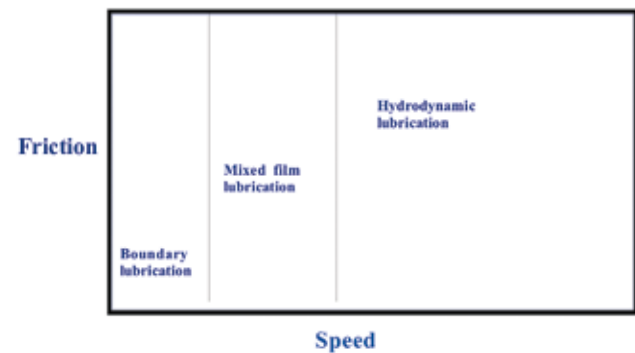
As the speed of the journal increases, pressure differentials cause oil to be sucked between the bearing and the journal – known as mixed film lubrication. At this point, the surfaces are not quite separated, but are supported by a full fluid film.

The speed becomes fast enough for the surfaces to become completely separated and the solid friction is replaced entirely by fluid friction; this is known as hydrodynamic lubrication.

Unlike solid friction, fluid friction is dependent on speed and will gradually increase.

Friction is actually at a minimum during the mixed film regime. The graph below illustrates this:

Friction versus speed for hydrodynamic lubrication



Finally, there is another regime that goes under the rather grand name of elastohydrodynamic lubrication.

We have considered mating surfaces that have the same geometry, in a similar way that spoons stack together. But what about a roller bearing where the mating surfaces are not of the same shape?

Pure rolling friction should not require lubrication, but the contacting surfaces deform elastically when placed under pressure or load. Oil is drawn into this contact but, because this takes place over a vanishingly small area, huge pressures are generated of the order of one and a half million kPa. At these pressures, the lubricant takes on the consistency of window putty (reversibly) and is capable of keeping the sliding friction to manageable proportions in this type of situation.

It is not easy to cram so much information into such a small space, but it is hoped this gives some background on which oils are available and how they work. Remember are the five “rights” of oil: use the right product, in the right place, at the right time, in the right quantity, and with the right attitude.

John Evans
Diagnostic manager
WearCheck

Looking at waste differently

The introduction of a revised waste classification and management system

The Department of Environmental Affairs (DEA) has developed and piloted a national system for the collection of data on waste generation and management in the country. The South African Waste Information System (SAWIS) is currently being refined through the DEA's development of a revised waste classification and management system, and would be formalised through the National Waste Information Regulations, which will be gazetted in 2011.

The main objective of waste data collection is to allow for adequate waste management planning and prioritisation by the DEA, and to enable the department to report on the success of national waste policy and waste management initiatives aimed at moving waste up the hierarchy from land filling to reuse, recycling, recovery or treatment.

The SAWIS comprises a central registry and data capture facility. All waste management facilities as well as hazardous waste generators (generating more than 20 kilogrammes per day) are required to register on the system. Reporting to the system would, however, be required from waste management facilities only i.e. reporting from the point of final management where waste is reused, recycled, recovered, treated or disposed, which could be the generator in the case of on-site waste management activity.

The responsibility of waste generators and transporters in terms of reporting would be to ensure the flow of information to the waste manager through a hazardous waste manifest system, formalised through National Waste Classification and Management Regulations to be gazetted at the end of 2010. The validity of waste data on types of hazardous waste in the manifest will be the responsibility of the waste generator.

The generators' specific Standard Industry Code (SIC-code) would be captured upon registration. Categorising waste generators in terms of the SIC-codes would enable the DEA to efficiently report for national statistics (Statistics South Africa), and is in line with industry sustainability reporting parameters.

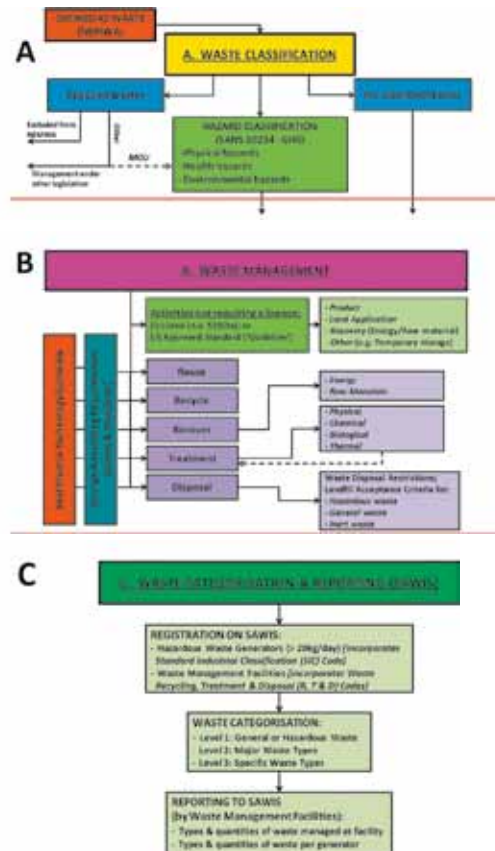
Part four of the categorisation system will indicate what the final fate of the waste is i.e. which management option or technique would be implemented to deal with the specific waste stream.

Three different types of codes have been developed to reflect broad categories of management options for both general and hazardous waste. The categorisation system will be enforced through the National Waste Information Regulations. It will be mandatory for waste managers to report on these categories to the system. Diversion of waste from landfill will be tracked by calculating recycling and treatment rates; and information will be gathered of the types of waste generated and treated per industry sector.

Currently, reporting to the SAWIS is required only up to Level 2 for waste types (i.e. Major Waste Types), and quantities generated are aggregated per municipal regions. Once the Waste Information Regulations have been gazetted, however, reporting will be required to include Level 3 wastes (Specific Waste Types), as well as the quantities from the specific generators of the waste (who would only be required to register on the SAWIS, not report). Waste managers will be required to report to the SAWIS, and will identify which management option/s is/are implemented at their facilities i.e. a waste management facility would register individual plants (e.g. landfill and/or treatment plant and/or incinerator, etc.) operating at the same site.

Provincial waste information systems would feed data into the national SAWIS. Where provincial systems exist, the generator would only register with the province, and waste managers would report to the province only. The province would be responsible for relaying information to the national system.

Framework for Waste Classification & Management System (WCMS)



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Another view

ITLS (Africa) is changing research perspectives



The Institute of Transport and Logistics Studies (Africa), or ITLS (Africa), was established in 2007 in response to an overwhelming need for independent, unbiased, relevant and up-to-date research in the fields of transport, logistics and supply chain management.

Industry and users started to recognise that world-class transport and supply chain research is imperative in a developing economy. The researchers in the Department of Transport and Supply Chain Management at the University of Johannesburg acknowledged the need for an inclusive and comprehensive research unit, and ITLS (Africa) was established.

The Institute is set up as a specific and separate research entity within the department to provide specialist high-level research services for both the private and public sectors, focusing on the most urgent research priorities in the country.

ITLS (Africa) has partnered with the Institute for Transport and Logistics Studies at the University of Sydney, as part of a commitment to maximise the research potential of both institutes and ensure a high level of collaboration and the “best of both worlds” in terms of cutting-edge research.

The Institute has, at its core, the skills, experience and network as well as a long and sound history of providing research excellence to both the public and private sectors, in topics ranging from policy and government strategy to various customised transport solutions in all modes of transport.

In order to maximise the impact of transport and supply chain research on the South African society and economy, ITLS (Africa) has adopted a vision “to conduct world-class research in support of new and innovative knowledge creation and information dissemination for the domestic and international transport and supply chain community”.

ITLS (Africa) is responsible for a range of research and related activities within the Department of Transport and Supply Chain Management. In addition to commissioned research, it conducts non-commissioned research, has its own publication, offers customised courses to sector role-players and co-ordinates lunchtime and other information sessions.

To date, ITLS (Africa) has created customised courses for a number of key South African role-players, among which are the South African Post Office, the South African Police Service and a collaboration with Liege University in Belgium to provide logistics management courses to selected students through the

Transport Sector Education and Training Authority. Currently, a three-tiered course is being presented at Transnet Freight Rail (TFR) to introduce all levels of management to the various aspects of logistics management.

At the end of 2010, approximately 845 students had been trained on this programme, and the training course is currently being considered for extension by TFR. An additional programme for TFR is currently being developed with the Glasgow Caledonian University. This course will focus on addressing the training gaps in rail operations in the organisation.

ITLS (Africa) conducts internal research as well as commissioned research for private and public sector industry role-players. Internally, major studies have been conducted on the state of logistics outsourcing in the manufacturing sector, transport scenario planning for the next 20 years in conjunction with renowned scenario planner Chantell Ilbury, etc.

Other planned studies include the development of a databank and extension of the logistics outsourcing survey to other economic sectors. Commissioned research ranges from projects for users such as Eskom to providers such as Airports Company of South Africa, Air Traffic and Navigation Services and Airlines Association of South Africa; and to financiers such as the Development Bank of Southern Africa.

The Institute has partnered with the Transport Forum to offer regular information sessions to interested parties from industry. To date, eight such sessions have been offered, which cover topics ranging from bus rapid transport issues in South Africa to the sustainability of the aviation sector and international logistics trends to the new Consumer Protection Act. This partnership will continue far into the future, aiming at bringing relevant and topical information and discussions to the industry.

ITLS (Africa) has started its own publication, the *Journal of Transport and Supply Chain Management*, and is the first of its kind in South Africa. The journal, which is an electronic or e-journal, was first published in November 2007. Following its huge success, it is now published annually. The journal was accredited by the Department of Education in 2009 and can be viewed on www.journals.co.za/ej/ejour_jtscm.html.

ITLS (Africa)’s excellence, integrity, independence and dynamism in research is already changing the way transport, logistics and supply chain research is viewed in the country, and it will continue to break new ground for years to come.



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Trucks: lease or buy?

A change may
be in order

There is little doubt that the economy is improving – slowly, but it is going in the right direction after some hard times that have lasted far too long. However, if economists are right this time, what will you need to do to ensure your fleet is in a position to respond to a growing economy? Do you need to invest in equipment? Can you? If so, should you lease, or purchase new trucks and/or trailers?

If you still have trucks parked due to poor demand, you will more than likely soon need to put them back into service. Furthermore, you will need to be ramping up your maintenance operations if you service your own equipment, and you may shortly be in the market for new equipment.

All good problems to have; but that being the case, should you lease or purchase that equipment?

That decision depends on much more than the size of the monthly cheque you would have to write to either a lessor or lender.



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host of features. Attractive yet harder wearing fabric covers the comfortable seats and the cab has been spruced up in the looks department with a newly trimmed grille and larger star. For more information on the hardworking Atego, contact your Mercedes-Benz Commercial Vehicle dealer, telephone 0800 133 355 or visit www.mercedes-benz.co.za/trucks

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On the finance side of the ledger, it is important to consider the tax savings that depend on your company's tax rate, as well as the net present value of the money required – all matters much better left to your finance department or tax adviser rather than to fleet managers.

Fleet ownership

If you currently own your fleet and it is more than a few vehicles in size, you already have maintenance facilities available to you and you manage your own maintenance – either in your own shop with your own personnel – or have contracted with an outside firm to do your maintenance according to your specifications.

As a result, when you are in the market for new equipment to augment your fleet or replace older vehicles, you are more likely to choose a purchase over a lease.

Experienced fleet managers understand their own operations and the road equipment that will best serve their needs. Maintenance records provide them with evidence of the best vehicle specifications for their fleet's particular application. A purchase allows the fleet to not only fine-tune its specs, but to actually have multiple suppliers bid on their business.

Leasing

If you currently lease your fleet, you are not likely to be interested in building shop facilities and hiring a complete maintenance staff, even if it were possible to find qualified managers and technicians.

With a lease, there is no money down and you normally have no residual risk – effectively, all the risk is taken away. It is a way to insulate yourself from risk.

Companies that own equipment must consider asset utilisation risks.

For leased fleets, one common example of this type of risk is in under- or overestimating the kilometres they will run over a five-year lease for each truck in the fleet. To manage this risk and lower overall fleet operating costs, fleets should consider a lease that mitigates excess mileage charges while providing for rebates on underutilised units.

Since lessors normally have an eye toward the residual value, they may be somewhat reluctant to provide a vehicle with specs that are out of the ordinary.

The best of both worlds

While most fleet operations either buy or lease their equipment because of the advantages offered by the two modes of acquisition, they may find that a combination of the two may offer advantages. It makes no difference how a fleet acquires new assets; those assets must still be managed.

When you lease vehicles, it does not mean that you can give up managing those assets. The maintenance component of a lease is for normal maintenance, not for problems caused by abuse or accidents. Leasing companies are not going to pay for your inability to manage leased assets in a manner that precludes the need to do repairs.

Alternatively, there are situations that can make it advantageous for private fleets that generally lease to purchase some equipment and have it maintained at a dealership or a private maintenance vendor. For example, private fleets often have their trucks located at remote locations that may not have any of their lessor's service facilities nearby, but have a dealership or a trusted maintenance repair facility in the vicinity. In such a case, it may well be advantageous for the fleet to purchase equipment to serve its customers in that location.

Low-mileage operations also may find it better to purchase.

A fleet that operates a low-mileage fleet is better off owning its equipment. High-mileage operators are better off leasing.

Keeping the books

As one would expect, there is more than one kind of lease. In general, they can be divided into two categories: capital leases, which are essentially a way to purchase a vehicle with assets being carried on balance sheets; and operational leases, the kind almost always used by fleet operators, which offer a full array of lessor services including maintenance. Only the latter offers the opportunity to receive off-balance sheet treatment.

Bottom line? Do your homework. If you are going to acquire new equipment and normally lease, consider a purchase. If you generally purchase, consider a lease.

A change in your current mode of acquisition may be beneficial.

In either case, ensure you take full advantage of all the financial possibilities available to your fleet.

Mike Fitzmaurice

Insurance meets technology

i-truck takes a daring step in innovation

The first holistic transport solutions provider with innovative insurance products for the heavy commercial vehicle industry has arrived.

i-truck combined the expertise of market leaders from different sectors including risk management, information technology and the insurance industry to produce a product specifically designed for the transport industry. This one-stop shop approach allows clients to make use of one policy for all their risk management and insurance needs – a first of its kind.

Another key differentiator is the use of market-leading tracking devices coupled with a 24-hour call centre and incident management team at no cost to the client.

Taking ownership of the Pro Active Risk Control from its in-house 24/7 control centre assists both i-truck and its clients in risk management and driver behaviour control. i-truck has found that trying to control driver behaviour via reactive scoring is ineffective, as incidents have already occurred.

Real-time management of driver behaviour minimises potential loss situations drastically.

Reactive risk control is handled by their incident management team, who not only takes control of the situation, but is empowered by i-truck to make decisions in order to minimise potential loss and speed up the entire claims process. Being actively involved allows i-truck the opportunity to authorise claims within 48 hours.

So what is at the core of i-truck?

Safire is a public insurance company registered with the Financial Services Board, governed by the Short-term Insurance Act and regulated with the same level of stringency as all other insurance companies. The i-truck Reinsurance treaty is led by Munich Re and followed by Flagstone Re, both international reinsurance companies that have led the way for decades.

As a new entrant to the insurance market, i-truck has taken the lead with its innovative approach and already insures in excess of 8 000 trucks.

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Durban– Johannesburg rail developments

Interpreting the implications of policy statements on potential future Gauteng–Durban rail services

There have been a considerable number of public announcements about the potential and possible future development of rail freight and passenger services between Gauteng and Durban. Many of the statements do not offer sufficient information for the public to appreciate the implications of the various statements made.

There is urgent need to examine, analyse and evaluate many pertinent facts about the railway situation as a basis for debate and planning.

The intention of this article is to provide some comparative data between rail and road, and to examine the issues regarding rail and passenger services on this route.

Length of the freight routes

The length of the Natcor mainline rail route is approximately 730 kilometres of double-track electrified lines at three kilovolt DC. The length of the line between Union in Gauteng and Durban is 698km.

The road route length is 580km along the N3 Corridor, much of which is a four-lane tolled highway.

Freight demand per mode

The distance rail freight travels between Durban and Gauteng varies from eight to 10 million tonnes per year. Route capacity is about 45 million tonnes per year.

In addition, the route is used by Shosholozu Meyl passenger services (18 trains per week).

Road freight on the corridor was approximately 42 million tonnes in 2007, with possibly 28 million tonnes having travelled the entire length of the route. During the 2008–2010 period, these numbers reduced somewhat; however, it has begun increasing again.

The route is also heavily used by passenger traffic.

Average speeds

Trains run at average speeds of 40km per hour to 60km/h, with required stops scheduled to permit passing and to allow for headway between trains. The average overall time it takes a train to travel along the Natcor route is between 12 and 14 hours i.e. 50km/h.

Road freight vehicles are theoretically limited to travel at 80km/h, and the actual average travel speed for a loaded 56-tonne combination on the Durban to Gauteng route is approximately 60km/h.

Average loads

Freight trains are typically compiled into 50x40 tonne wagon trains with two to four locomotives as required for the gross train weight, and dependent on locomotive specifications. The gross train weight is about 4 000 tonnes, and payloads are therefore about 2 000 to 3 000 tonnes per train.

Road freight vehicles are limited to 56 tonnes gross combination mass, giving a maximum payload of about 38 tonnes. The average payload is typically about 28 tonnes, and about 15% of the vehicles travel without a load.

Considerations regarding standard gauge developments

There have been several announcements about the “need” to switch the rail gauge in South Africa from “Cape gauge” (1 067 millimetres) to “standard gauge” (1 435mm). The implications of such a move are the subject of much debate in official circles.

The assumed advantage of higher line-haul speed may have some benefits, if not negated by the other systemic delays.

The implications of reducing the geographic coverage as well as the flexibility of the rail services will, however, be almost universally negative in relation to the objective of providing a service that can be as flexible and competitive as road haulage.

Some of the major factors that bear consideration in the rail gauge debate include the following:

Rail freight

- Very little freight traffic has need for high transit speed, and therefore freight customers will not carry extra costs to achieve high line-haul speed.
- There is minimal inherent or automatic payload difference between gauges. Wagon payloads increase with width, and tare mass does likewise. Track carrying capacity is not dependent on width.
- Where speed from door to door is required, road freight will nearly always be more competitive. The exception is found in industries related to bulk commodities where the consignor has siding and handling facilities.
- Most delays on rail are systemic, due to shunting, marshalling and depot delays, etc. and not due to the travelling time over the route. These will not change due to faster line-haul speed (actual current line haulage time from Durban to Johannesburg is about 12 hours for rail and nine hours for road – with essential driver stops).
- Freight rail services do not end at a station; all the branches to which wagons must be delivered must be the same gauge. Until there are sufficient distribution branch lines to collect and deliver cargo, the tonnage will be restricted to terminals on the main line. All cargo would have to be delivered to the railhead by road vehicles. It is likely this will cause much traffic to switch mode to road. For example, the entire port systems of Durban, Cape Town, Richards Bay, etc. and many marshalling yard systems such as Sentrarand will have to be reconstructed (and this must be done without disrupting the current levels of essential import-export businesses).
- Laying wider gauge tracks onto existing formations is not possible in many sections of track due to track-bed width and



curve radius limitations so that there will be an extensive need for earthworks and realignment of tracks.

- Where existing tracks service stations en route, there will be major reconstruction problems to lift and realign the track tracks within the rail reserve.
- Once standard gauge is in place on main routes, all old locomotives become unusable and have to be replaced or rebuilt to the different gauge.
- With different gauges, there are two systems that are effectively disconnected. In the southern African context, this extends beyond our borders.
- The only remedy for the dual gauge problem is to build extensive transfer facilities, or three rail sections of line, if the costs can be justified.
- The cost justification for introducing a wider gauge will need to be examined stringently, as the total capital costs of renewing the entire rail system could raise rail freight rates to the point where nearly all freight moves to road transport.

There are continual reports of current problems with delayed capital expenditure, deferred maintenance, skills deficits, uncompetitive rates and unsatisfactory service of freight railways. The introduction of a further complication in the form of a gauge change seems likely to aggravate, not resolve, any of the problems.

With regard to mixing freight and high-speed passenger services on the Durban–Gauteng route, the following considerations are relevant:

- Slow-moving heavy freight trains are dangerous in combination with high-speed passenger trains.
- The difference in train speeds introduces the need for very long headways between passenger trains travelling at 150km/h to 200km/h and goods trains at 50km/h, thereby reducing the overall line capacity.
- Rail freight services will reduce in efficiency to the extent that they are held in passing loops to permit passing by passenger trains. Freight transit times may even increase.
- High-speed passenger lines require very intensive maintenance schedules and, if combined with heavy freight trains, the requirement would be even more stringent.
- High-speed passenger routes require very precise and gentle changes in alignment and grade changes, and are therefore very expensive to build in broken topography.
- The owners or operators of the high-speed line must generally charge the freight operator much higher track charges than the passenger operator based on the tonne/kilometre of track usage. This may further prejudice the viability of the freight service, in comparison with road transport.

Passenger rail on the Gauteng–Durban corridor

Travel estimates on the Durban to Gauteng route in 2006 were as follows; and though they may have changed a little, will serve to illustrate the levels of possible usage of a fast train service:

	Total estimated daily passengers on full route	% Change to HS rail	Possible change to high-speed rail
Rail	1 000	50%	500
Air	4 854	25%	1 213
Bus	1 317	60%	790
Taxi	2 400	15%	360
Car	1 500	33%	500
Total	11 071		3 363

Source: AA Jorgensen – RailRoad Association (2007) (Author's estimate 2011)

The total passenger movements estimated above are for both directions, ensuring anticipated movements could be 1 600 to 2 000 per day in each direction. If this is escalated by 50% to project the numbers to 2020, when a rail system could be operational, the numbers will be about 6 000 per day (3 000 return journeys) or 1.1 million return passenger journeys per year.

In order to move the volumes, there will be a need for about five trains per day in each direction.

The existing 730-kilometre route has about 250km of flat terrain on the Highveld where speed may reach 300km/h; but due to a mountainous section along the escarpment of about 200km and then the rolling topography of KwaZulu-Natal for the remaining 200km, the average speed is likely to reduce to 160km/h (typical in Germany). A new route could conceivably shorten the distance to 650km, giving a journey time of about four hours. The journey from Paris to Marseille takes just over three hours for the 783-kilometre trip, at an average speed of 261km/h.

The options for creating a shorter route will be complicated by decisions whether to try to provide stations at some significant towns such as Heidelberg, Villiers, Harrismith, Ladysmith, Newcastle and Pietermaritzburg.

The cost of such a new line is unknown at this point but, based on the 80-kilometre Gautrain development and the engineering difficulties that will be posed by the terrain, the costs could easily be from R250bn to R400bn. If this is amortised over 40 years at 6%, the annual R10-billion capital cost will need to be recovered from about 1.1 million return passenger journeys at about R8 800 per ticket.

Operating costs are not known; but in the European Union, they typically amount to about R0.04–0.06 per gross train tonne/kilometre, which amounts to about R150 to R250 per passenger journey for a typical 750-seater train. Using the currently available information, the above cost estimate compares well with the second-class fare from Paris to Marseille (783km) of €935 (R9 537) in 2011.

The numbers of potential passengers will be affected by the fare price, and the price will no doubt determine the categories of passengers that may use the service. No attempt has been made to escalate the fare estimate for inflation up to 2020.

Nick Porée – SAFTI



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There's only one way to drive the well-being of the road freight and logistics industry. Through powerful partnerships.



HIV&AIDS, sexually transmitted diseases, and other debilitating illnesses all pose a threat to the stability of the road freight industry. To ensure a strong and healthy workforce, however, requires the joint efforts of all the key stakeholders. In recognition of this, Trucking Wellness was established in 1999 and for the last 20 years has played a vital role in keeping the wheels of the industry turning by providing healthcare and support services to the road freight industry.

Backed by powerful business, trade, healthcare, government and key unions, Trucking Wellness has to date provided 20 Roadside Wellness Centres strategically positioned along major national routes within South Africa. These are complemented by a fleet of well-equipped Mobile Wellness Centres that reach beyond the drivers into the workplace.

Trucking Wellness takes a holistic approach in its quest to ensure a healthy workforce. It encompasses far more than HIV&AIDS and provides a wide range of free health-related products and services, including:

- Treatment of sexually transmitted infections (STIs).
- Condom distribution, counselling, and HIV/AIDS awareness, education and testing.
- General health services – treatment of diabetes and tuberculosis (TB).
- Anti-retroviral (ARV) treatment.
- Food and nutritional supplements.
- Free ARV treatment to all drivers whose employers are registered with the National Bargaining Council for the Road Freight and Logistics Industry (NBCRFLI).

Trucking Wellness has been the industry solution to the Road Freight and Logistics Industry in South Africa and continues to expand its network through its partnerships with the following organisations -

Partners: CMRA, Engen, IOM, Imperial Logistics, SA National and Provincial Departments Of Health, N3TC, Mercedes-Benz, SABCOHA, Shell, UTI. **Implementing Partners:** CareWorks, Corridor Empowerment Project. **Employer Representative Bodies:** Road Freight Association. **Employee Representative Bodies:** Motor Transport Workers Union, Professional Transport Workers Union, South African Transport and Allied Workers Union, Transport and Allied Workers Union of South Africa.

Trucking Wellness - Driving the well-being of the industry.



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Driving the well-being of the industry.



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WE'RE EXPANDING INTO AFRICA

OUR MOBILE CLINICS ARE NOW AVAILABLE IN 6 MORE AFRICAN COUNTRIES TO SERVICE THE ROAD FREIGHT AND LOGISTICS INDUSTRY - WITH TRANSPORT DEPOTS.

HIV&AIDS, sexually transmitted diseases, and other debilitating illnesses all pose a threat to the stability of the road freight industry. To ensure a strong and healthy workforce requires the joint efforts of all the key stakeholders. In recognition of this, *Trucking Wellness* was established in 1999 and for the past 20 years has played a vital role in keeping the wheels of the industry turning by providing healthcare and support services to the road freight industry.

Backed by powerful business, trade, healthcare, government and key unions, *Trucking Wellness* has to date provided 21 Roadside Wellness Centres strategically positioned along major national routes within South Africa. These are complemented by a fleet of well-equipped Mobile Wellness Centres that reach beyond the drivers into the workplace.

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AMENDMENTS TO THE MAIN COLLECTIVE AGREEMENT: WAGE SCHEDULE



- 1. On the 21st of February 2011, the employer (Road Freight Employer's Association) and union parties (South African Transport and Allied Workers Union, Transport and Allied Workers Union, Motor Transport Workers Union and Professional Transport and Allied Workers Union of South Africa) to the Road Freight and Logistics Bargaining Council concluded an agreement on the wages and conditions of service.**

The wage schedule signed by all parties to Council was submitted to the Department of Labour on 5 April 2011. The Minister of Labour signed the wage schedule for promulgation on Friday, 13 May 2011 under Government Gazette No. 34294, Regulation No's 432 and 433. The effective date of the promulgation is 20 May 2011 valid until 28 February 2013.

2. Scope of Application

The provisions of the Agreement shall apply to:

- (a) Employees for whom minimum wages are prescribed and to the employers of such employees; and
- (b) Other categories of employees, for whom minimum wages are not prescribed but qualify for the across the board increases as per clause 7. Trade union subscriptions prescribed in clause 31 and expenses of the Council prescribed in clause 32 shall be applicable to employees referred to in this sub-clause.
- (c) Employees for whom minimum wages are not prescribed and do not qualify for the across the board increases as per clause 7 insofar as trade union subscriptions prescribed in clause 31 are concerned.

3. Wages

- (a) For the period until 29 February 2012, the minimum rate at which wages in respect of ordinary working hours shall be paid by an employer to each member of the under mentioned grades of his employees, shall be as follows:
 - (i) Weekly Wages:
General Freight and Logistics, Sugar Cane Sector, In-Field Operations, Furniture Removal and Cash-in-Transit (Please see figure 1).
 - (ii) In respect of grades 4 and 5 employees who received the 3% increase as a result of the increases in minimum wages on 28 February 2011, an offset to a maximum of 2% on the across the board increases shall apply.
- (b) For the period 1 March 2012 to 28 February 2013 the minimum weekly rate of which wages in respect of ordinary working hours shall be paid by an employer to his employees who are engaged in the under mentioned grades, shall be as depicted in figure 2.
- (c) Across the board increases for employees in other categories for the period ending 29 February 2012 and 28 February 2013 respectively, the following increases will be applicable to employees whose minimum wages are not prescribed but fall within the definition of the bargaining unit in terms of clause 49 of the Collective Agreement:

- (i) General Freight and Logistics, Sugar Cane Sector, In-Field Operations and Furniture Removal Operations (Please see figure 3).
- (ii) Cash-in-Transit (Please see figure 4).
- (iii) The increases in (i) and (ii) above are to be off-set against any company paid increases over the last 12 months. The off-set is only in respect of the first year of this Collective Agreement. In the event that an employee in the extended bargaining unit received an increase greater than reflected in (i) and (ii) above, the employer will not be entitled to recover such difference from such an employee.

4. Leave Pay Fund

- (a) From the date of promulgation of the Agreement, an employee will qualify for leave in accordance with his/her years of service with an individual company as set out in figure 5.
- (b) The calculation and payment of annual leave will no longer be linked to 252 shifts.

5. Holiday Pay Bonus Fund (13th Cheque)

- (a) Employees will, in future, receive a guaranteed 13th cheque to be paid in December of every year at 4,333 weeks of annual earnings, prorated in the first year of service.
- (b) The calculation and payment of the 13th cheque will no longer be linked to 252 shifts.

6. Expenses of the Council (Levies)

- (a) Employees in the bargaining unit to whom minimum wages are prescribed shall pay an amount equivalent to 0.4% of an employee's normal basic weekly wage as a levy to the Council. An employee's employer shall pay a like amount.
- (b) Other employees in the bargaining unit for whom minimum wages are not prescribed, but who qualify for the across the board increases as set out in paragraph 3 above, shall pay an amount equivalent to 0,075% per week of an employee's normal basic weekly wage as a levy to the Council. An employee's employer shall pay a like amount.
- (c) The payment of levies shall apply to every employee referred to in (a) above including part-time employees, relief employees and employees of a temporary employment service who work one or more days per week.

7. Wellness Fund

The Wellness Fund has been extended to include a basic medical insurance for a period of 2 years at no extra cost to employers and employees. More details will be distributed at a later stage.

The gazette referred to above may be downloaded from our website – www.nbcrfi.org.za – or a copy may be made available to you from your local Council office. Should you have any questions, please do not hesitate to contact your designated agent.

Fig. 1

Category Code	Class	Grade	Patterson Grade	New Minimum Wage per week	Across the board Increase
1	General worker	1	A Band		
42	General worker, repair shop		A Band		
3	Packer/loader, grade I		A Band	R747.76	9%
27	Security guard		A Band		
5	Motorcycle/motor tricycle driver	2	B1		
6	Light motor vehicle driver		B1		
2	Checker, grade I		B1		
22	Loader operator, grade II		B1	R845.24	9%
24	Mobile hoist operator, grade II		B1		
46	Packer/loader, grade II		B1		
7	Medium motor vehicle driver (articulated)	3	B2		
8	Medium motor vehicle driver (rigid)		B2		
44	Artisan assistant		B2		
19	Gantry crane operator, grade I		B1		
23	Mobile hoist operator, grade I		B2		
47	Checker, grade II		B2	R1041.77	9%
21	Loader operator, grade I		B1		
20	Gantry crane operator, grade II		B2		
26	Storeman (workshop)		B2		
15	Team leader		B2		
50	Vehicle Guard	3	B2	R1646.70	9%
10	Heavy motor vehicle driver (articulated)	4	B3		
11	Heavy motor vehicle driver (rigid)		B3		
12	Extra-heavy motor vehicle driver (articulated)		B3		9% (subject to (ii) below)
13	Extra-heavy motor vehicle driver (rigid)		B3	R1193.90	
18	Dispatch clerk		B3		
14	Ultra-heavy motor vehicle driver	5	B4		
45	Semi-skilled artisan		B4		
49	Storeman (warehouse)		B4	R1384.73	9% (subject to (ii) below)
51	Custodian	5	B4	R1921.15	9%
41	Security officer, III	6	B3	R1372.25	
40	Security officer, II		B3	R1646.70	9%
39	Security officer, I		B4	R1646.70	

Fig. 2

Category Code	Class	Grade	Patterson Grade	New Minimum Wage per week	Across the board Increase
1	General worker	1	A Band		
42	General worker, repair shop		A Band	R807.58	8.5%
3	Packer/loader, grade I		A Band		
27	Security guard		A Band		
5	Motorcycle/motor tricycle driver	2	B1		
6	Light motor vehicle driver		B1		
2	Checker, grade I		B1		
22	Loader operator, grade II		B1	R912.86	8.5%
24	Mobile hoist operator, grade II		B1		
46	Packer/loader, grade II		B1		
7	Medium motor vehicle driver (articulated)	3	B2		
8	Medium motor vehicle driver (rigid)		B2		
44	Artisan assistant		B2		
19	Gantry crane operator, grade I		B1		
23	Mobile hoist operator, grade I		B2		
47	Checker, grade II		B2	R1125.11	8.5%
21	Loader operator, grade I		B1		
20	Gantry crane operator, grade II		B2		
26	Storeman (workshop)		B2		
15	Team leader		B2		
50	Vehicle Guard	3	B2	R1786.67	8.5%
10	Heavy motor vehicle driver (articulated)	4	B3		
11	Heavy motor vehicle driver (rigid)		B3		
12	Extra-heavy motor vehicle driver (articulated)		B3		8.5%
13	Extra-heavy motor vehicle driver (rigid)		B3	R1289.41	
18	Dispatch clerk		B3		
14	Ultra-heavy motor vehicle driver	5	B4		
45	Semi-skilled artisan		B4		
49	Storeman (warehouse)		B4	R1495.50	8.5%
51	Custodian	5	B4	R2084.15	8.5%
41	Security officer, III	6	B3	R1488.99	
40	Security officer, II		B3	R1786.67	8.5%
39	Security officer, I		B4	R1786.67	

Fig. 3
Fig. 4

Bands	Period ending 29/02/2012	Period ending 28/02/2013
(i) Employees earning less than R6000.00 pm	100% of 7%	100% of 7%
(ii) Employees earning between R6001.00 and R8000.00 pm	87.5% of 7%	87.5% of 7%
(iii) Employees earning between R8001.00 and R10000.00 pm	80% of 7%	80% of 7%
(Other categories (Box Room Marshall, Radio Controller, Tactical Support Officer, Team Leader and Counting House [Tellers])	7%	7%

Fig. 5

Less than 5 years' completed continuous service	15 working days
5 year's completed continuous service but less than 10 years	17 working days
10 year's completed continuous service and longer	20 working days