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# SABOA BUS

VEHICLE OF COMMUNICATION OF THE SOUTHERN AFRICAN BUS OPERATORS ASSOCIATION



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# DoT calls for industry support in move to universal access

THE Department of Transport and the road transport industry are often at loggerheads, with items of contention on the table at the moment including the proposed reduction in road speeds, the possibility of banishing trucks from roads during peak hours, and the prospect of requiring a practical driving test in conjunction with driving licence renewal. Important issues which would trigger enormous improvements – such as roadworthy testing of older vehicles, to have been introduced more than four years ago, and harnessing AARTO to crack down on poor driving behaviour – appear to have been allowed to slip through the cracks.

However, the Department is hoping for unity – and support from the bus industry – in its drive towards universal access: buses and coaches that all passengers can access readily and easily. Amanda Gibberd, the director of universal access and design in public transport in the Department's public transport network development unit, is not anticipating entirely smooth sailing, but says it's helpful for everyone to understand the framework the DoT is working in. "Transport is a real catalyst for change," she says.

An important point that Gibberd makes is that universal access is not an issue confined to a small sector of the population. Target groups covered by legislation are people affected by disabilities (including sight and hearing), but also elderly people (over the age of 55), children (aged between four and 14), people travelling with children, and pregnant women. Universal access is not a minority issue affecting a small group of people with disabilities: if the access needs of all these people are considered, it's about 65% of the population. The fact that most people travel with luggage, or parcels, means that they also have access requirements.

Gibberd acknowledges that the Department has barely moved off the start line in its universal access initiative (the 13 mainstream

municipalities were to have offered universally accessible public transport by 2014, with the balance of the country's 260 municipalities to follow suit by 2020), but says it is a journey – and it's a journey that will benefit the entire country rather than a minority. It's also a journey that "needs a big push from many different sectors in order to get it to happen".

Access also lies at the heart of the Molaba Hawk Coaches story, with a belligerent and passenger-hungry taxi association blocking the operator's access to the routes and commuters to which it is entitled (page 7). Like many issues in the bus industry, it's a protracted battle with little prospect of relief in sight. There also appears to be little will to tackle the taxi intimidation, which took root in 2004 and is violent and rampant. Molaba Hawk Coaches has reported cases with tedious regularity since 2006. A 2010 court order forbidding taxis from interfering with its operations has had no effect. But even as the intimidation continues unabated, the operator continues to seek help in finding peaceful resolution rather than taking matters into its own hands.

Remember to register for the 2017 Conference & Exhibition, which takes place on 24 and 25 May at the CSIR International Convention Centre. The first morning has been allocated to registration and exhibition viewing, with economist Mike Schussler delivering the keynote presentation – an overview of the South African economy and expectations for the year – in the afternoon. Professor Jackie Walters will conclude the first afternoon with the Association's annual report and an industry overview. With a host of pertinent and interesting topics on the agenda, it's an event that's not to be missed.

**Cindy Haler, Editor**



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## Neobus New Road N10 DD to debut in Greyhound fleet

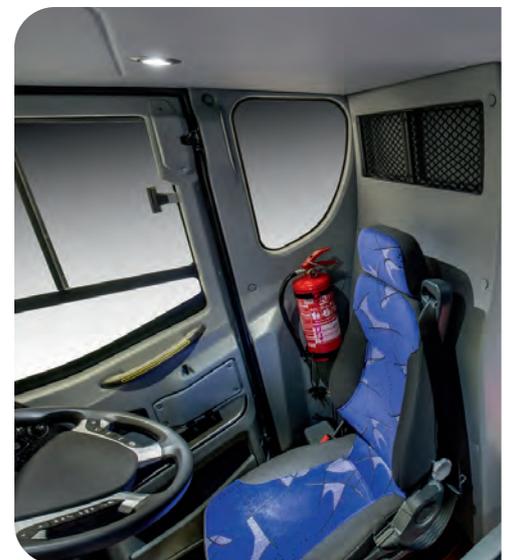
Greyhound is poised to launch a new DreamLiner offering, pairing Neobus's New Road double decker body and MAN's RR4 26.480 Euro V chassis in a luxury coach offering that sets a new standard in comfort and safety

Luxury coach builder Neobus has unveiled its first double decker, with Greyhound set to take delivery of eight New Road N10 DD units by mid-year from local Neobus representative Neo Africa Bus & Coach.

Although the South African market tends to inherit bus and coach models only after they have been launched and operated internationally – often several years down the line – South Africa provided the impetus for Neobus's first double decker development. Development for right hand drive took place from

the outset, instead of the normal process of subsequent adaptation from left hand drive.

Neo Africa Bus & Coach MD Alberto Pugnalin says that Neobus had been considering adding a double decker offering to its portfolio – and Greyhound's keen response when Neo Africa presented computer-generated images of the proposed vehicle spurred development work. Pugnalin says that MAN Truck & Bus's contribution, both technically and commercially, was crucial from the beginning to the conclusion of this project.



It is significant that the development was designed for the South African market, considering local specifications and the standards set by SABS / NRCS.

The vehicle was developed to conform to Greyhound's specifications. It is truly a born in South Africa coach, not even obtainable in left hand drive yet.

Neo Africa clearing and forwarding agent Transglobal Cargo will also play an integral role in ensuring the smooth delivery of the buses.

Neobus designed its N10 with an emphasis on keeping component costs in check, while producing a better, stronger vehicle. Operation in southern Africa was a crucial point underpinning design of the single deck precursor to the double deck offering. Ensuring ready availability of replacements was another key design criterion. Neo Africa holds a range of stock items for repairs and maintenance and has established local partners in place for support on various components (such as air-conditioning and audio-visual systems).



## SUPPLIERS

A sophisticated, robust multiplex system, especially designed for Africa conditions lies at the heart of the N10, giving the driver fingertip control of a host of features.

Interior and exterior lighting is LED, while the ultra super soft Neobus seats with memory foam are reported to be the widest and most comfortable available. They include integrated, retractable safety-belts, foot rests, individual sound, USB charging points, magazine nets, arm rests as well as integral cupholders. Seats are partly upholstered with water proof cloth, ensuring that spills are not absorbed and do not stain.

The perfect inter-saloon climate is accomplished by a variety of components such as: excellent insulation, unobstructed parcel shelf air flow, anti-fog side window system, roof extractor fans, Spheros CC430W air conditioning, convection heating with heat pumps and driver demister with A/C.

Toilets have come under scrutiny too: the cleverly designed toilet cubicle features soft touch material, automatic soap and chemical dispenser, with optional extra electric hand dryer.

Destination board and reverse camera are included as standard.

Luggage compartment doors feature double-cladding to absorb any impact if luggage shifts, eliminating damage to luggage doors. The compartment also features an in-built luggage cradle. In addition, the luggage compartment has double seals, on both door and aperture, keeping dust and water from the compartment.

Units feature a stainless steel

Neobus, in its innovative trajectory, has always been at the forefront of solutions for the transportation of people.

In 2010, it launched the Mega BRT (Bus Rapid Transit), the world's largest bus, a highly innovative project that changed the way to transport people with better quality and speed, becoming leader in the segment.

In 2013, Neobus launched a new road line, the New Road N10, a totally new concept of road vehicle, showing the strength of this innovative brand, allied to high technology, futuristic design and excellent performance meeting the most demanding national and international standards, including R66 version 2.

Recently, Neobus complemented the line of its road product portfolio by consolidating the brand with the launch of New Road N10 DD, a high-tech product with an extremely refined and elegant design, offering the best of the best for the transport of passengers over long distances.

The biggest challenge for Neobus engineering was to develop this vehicle according to the R66 standard, which gave greater strength and resistance to the vehicle. The New Road N10 DD features excellent performance, extremely efficient aerodynamics which has improved the overall performance rating of the vehicle. The main focus of this project was the comfort of the passengers, an amazing panoramic view and excellent handling and ergonomics for the driver, and also designed to meet the current accessibility requirements. The New Road N10 DD is a vehicle that is easy to maintain and low in operating costs, with the best cost-benefit of the market for the carrier.

kitchen with sink, fridge, coffee boiler, and microwave as an optional extra.

Seating on the double decker is for 60, plus driver, co-driver and hostess. Neo Africa now has a complete range to offer the South African market – with the N10 in single and double

deck versions – and is positioned to offer operators in the luxury segment vehicles that provide the quality levels their customers demand. Neobus was not striving for a better vehicle when it conceived the N10 – it wanted the best vehicle on the market, setting a new standard. ■



# Taxi association clips Hawk's wings

*Instead of running a flourishing transport business, Molaba Hawk Tours' director Lucas Molaba is scrambling, running just one of the eight routes to which he is entitled. It's a dire situation which has dragged on for years, with no prospect of relief*

A FLEET of semi-luxury buses plus route permits and rank facilities should add up to a thriving passenger transport business. Add a belligerent and passenger-hungry taxi association to the mix, though, and the result is a fleet running at a fraction of its capacity and a business that is barely able to eke out a living.

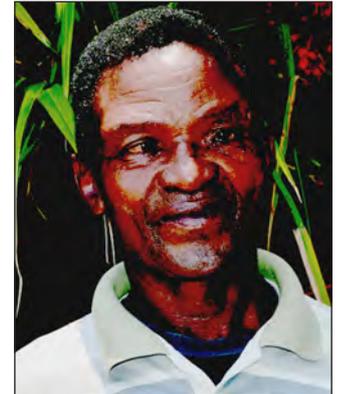
Molaba Hawk Coaches director Lucas Molaba and his operations manager Donald Mokoena have been business associates since the 1970s. In the early 1980s, Hawk Coaches commenced operations, with a 25-seater bus. Now Molaba Hawk Coaches has built a fleet of eight semiluxury vehicles (MAN, MCV, VDL), most of which were bought in 2012. The vehicles are maintained in superb condition and display up-to-date licence and

roadworthy discs.

The fleet runs daily from Soweto to Giyane and Malamulele in Limpopo, via Bramley and Tembisa. Mokoena says that passengers are "the community": traders bringing fruit and products such as atchar from fertile Limpopo to sell in Gauteng, or vendors buying household goods to sell at home in Limpopo. The buses' capacious luggage space is a boon to traders ferrying bulky items, such as pots and bedding.

Mokoena is also proud of the customer line that Hawk provides, which distinguishes the operator from its competition. If a passenger forgets something on the bus, a call to the customer care line will trigger a search that generally reunites owners with their belongings.

Workers usually save in order to travel home fortnightly, while month-end, weekends, school and public holidays are



**Molaba Hawk Coaches operations manager Donald Mokoena**

By Cindy Haler

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always busy periods. Most trips start in the mornings, but there is Friday afternoon loading too.

Molaba has invested in spacious depot facilities in Zuurboekom, near to Soweto for easy access to route starting points.

Although Hawk Coaches has 32 employees on its books and does its utmost to provide for them, employment is on a temporary basis, given the unpredictable nature of its business – a situation which is aggravated by the relentless intimidation exerted by the taxi association. The fact that Hawk is unable to promise permanent employment also makes it difficult to retain good drivers.

With the operator unable to run the number of trips needed to sustain its business – it operates two trips daily, instead of eight – the coach operation is supported by Molaba's other company, Molaba Transport, which runs two trucks which enjoy steady business in the steel and construction sectors.

Despite being entitled to load passengers at Baragwanath, Chiawelo, Bramley and at Tembisa's Oakmore Station, Hawk does not operate from these points. In fact, Hawk's only loading point is at Orlando Station, where the presence of a large police station ensures some sort of order. Although Hawk would like nothing better than to operate according to its permitted routes, it has been thwarted by a taxi association which – in flagrant disregard of a court order issued in 2010 – poaches its passengers and prevents buses from undertaking their journeys.

Molaba Hawk Coaches has paid for rank facilities at Baragwanath for more than a decade – but is unable to use the site. It also pays rent every month for an office there – and has done since 2012 – which it has yet to occupy.

The intimidation, which took root way back in 2004, is violent and rampant. Taxis surround the buses, pinning them in, then passengers are herded to the taxis instead and bus drivers' cash takings stolen. The taxi association appears to be in cahoots with bus operators who do not possess permits but, on paying the association, are promised passengers (and without the burden of paying for permits, these operators undercut Hawk's prices dramatically). Two drivers and an assistant have been killed and passengers have been assaulted. In one incident, 14 cartridge casings were recovered.

Despite reporting the issue countless times – and Mokoena's list of case numbers stretches from 2006, with 10 cases filed in Limpopo and eight in Gauteng – Mokoena says "nobody helps". The taxi association appears to act with impunity, with no fear of consequences or sanction.

National and provincial departments of transport are well aware of the problem, notes Mokoena. Gauteng transport MEC Ismail Vadi has been apprised of the situation, as has premier David Makhura. Santaco has been approached. Hawk's latest plea for help was directed to the secretary-general of the ANC.

Hawk is still waiting for a promised task team to tackle the problem to materialise.

The operator has applied for permission to load its passengers at Park Station, which provides safe and orderly facilities, but has been denied. Mokoena questions the fairness of a system which provides loading berths for foreign operators (including those from Malawi and Zimbabwe, for instance) but excludes local operators. He also questions the validity of the reason for the refusal – 'no space' – as applications lodged subsequently by other operators have been successful.

The taxi intimidation took hold in 2004. In 2010, Hawk obtained a court order forbidding taxis from interfering with its operations – to no avail. Mokoena has compiled a list of the licence plates of taxis involved in harassment and has photographs too. He also has a list of the registration numbers of the illegal buses. The lack of action is certainly not for lack of evidence.

Law enforcement has proven ineffectual in Hawk's battle. Some taxi drivers appear immune to arrest, while those who are arrested are invariably on the loose during the same day. Dockets vanish. Despite the countless case numbers, no action has materialised. Various lawyers have been enlisted to Hawk's cause, to no avail.

The sole point at which Hawk can operate is Orlando Station, which Mokoena attributes to its location alongside the police station. However, when harassment does flare up at this site, the police tend to be fairly slow to respond.

Despite the length of time over which the saga has dragged on, Mokoena is adamant that the bus operator will not take matters into its own hands. "We ask to be helped because we cannot take the law into our own hands and we believe in peace," says one letter.

Mokoena hopes that SABOA will play a role in finding a solution to the problem, and is adamant that Molaba Hawk Coaches cannot give up until it is able to derive the benefit of the routes and facilities to which it is entitled. ■



# Universal access a universal concern

*Providing universal access in public transport is a far cry from catering to a minute portion of the population that uses wheelchairs: it's an issue – in terms of Department of Transport criteria – that pertains to around 65% of the country's population*

BUSES and coaches that all passengers can access readily and easily is a legacy of the 2010 World Cup – something that benefits everybody. Public transport that's 100% accessible has been pinpointed by extensive research as crucial in the lives of people with disabilities, elderly people, children, as well as those who accompany them, and pregnant women.

"Transport is a real catalyst for change," says Amanda Gibberd, the director of universal access and design in public transport in the Department of Transport's public transport network development unit. "If you make buildings such as health facilities or schools accessible but people can't get there, they're still not accessible," says Gibberd. It's a problem that has persisted since the beginning of democracy in SA, which has not been tackled – spurring the Department of Transport to address universal access issue as municipalities implement integrated public transport networks.

Gibberd's unit focuses with the dozen municipalities identified in the DoT's 2007 Public Transport Strategy, with George included as the thirteenth on the strength of its research into the issue and subsequent rollout of an entirely accessible integrated public transport network (IPTN). The thinking is to devise a solution that works for the 13 municipalities and then tackle the rest of the country, rather than trying to solve the problem in one go.

The goal, however, is to provide universal access throughout SA's 260 municipal regions – and Gibberd is



**Amanda Gibberd, the director of universal access and design in public transport in the Department of Transport's public transport network development unit: if fleet upgrades are required it would be sensible to accomplish environmental and access objectives in one fell swoop**

adamant that the DoT will provide support to municipalities outside of the initial 13, in light of the need for accessible transport for people in remote areas.

Gibberd says that the key objection she encounters is the notion that universal access is a minority issue, of concern to a minuscule (wheelchair-user) sector of the population. An objection thrown up regularly is, "There are so few people with disabilities, why are we bothering?"

However, Gibberd asserts that if you don't see people with disabilities, it's because your environment is so hostile that they can't get out. It's certainly not a case of catering for a minute portion of the population with limited travel needs.

The DoT throws the universal access net far wider: target groups covered by legislation are not just people affected by disabilities (including sight and hearing), but elderly people (over the age of 55), children (aged between four and 14), people travelling with children, and pregnant women.

Although 65 is regarded as pensionable age, Gibberd argues that people's level of functional ability decreases more rapidly around the age of 50, which makes accessible buses and public spaces increasingly important after the age of 55. The stress of long, arduous daily journeys also exacts a health toll on commuters, accelerating the need for facilitating

**By Cindy Haler**

universal access. In addition, in South Africa there is a stark contrast between people with access to good or poor health care – and average life expectancy for South Africans is 47.

“If you look at the access needs of all these people, it’s about 65% of the population,” says Gibberd. “Universal access is not a minority issue affecting a small group of people with disabilities. If we’re realistic about our travel needs when using public transport, that’s the group: it’s the majority.

“This is without factoring in the point that most people travel with luggage, bringing similar transport requirements and safety issues affecting women. While everyone has safety concerns on public transport it tends to be women who are the victims of violence and abuse, although more research is needed for public transport. We’re trying to change public transport for the majority. It hasn’t been designed for the majority, it hasn’t been run for the majority. We’re trying to shift that.

“I think people think of the disability movement as something separate from them, something different. But that’s the point of universal access: we’re human beings on the same planet, it’s our common humanity.

“We don’t design things the way that they’d be easiest for us. If you’re a mother with children, you have access needs. As you get older – whether you have a disability or not – you will have access needs. The things we’re trying to do are not retribution or punishment for the rest of society: we’re trying to change the system so that we can all have an easier life.

“If you have to get up steps onto a bus, it’s difficult. If the bus driver is slowing down for a stop in bad traffic and you’re standing up to get off the bus, it’s so easy to fall: and the older you get, the more difficult it is.”

Whereas George municipality proactively sought universal access solutions, Gibberd says that many municipal officials fail to grasp the importance of the initiative. It’s also hard for a lot of built environment professionals, she adds, who do not give the issue the attention it deserves even though it forms part of their responsibilities. In SA, universal access is clearly identified as a human right, through the rights introduced by the disability movement.

Another issue Gibberd highlights is the vast distances commuters have to cover daily, because the workforce is accommodated on the fringes of urban hubs. “You need to put economic development opportunities nearer where people live – and you want to put more people where there are economic development opportunities. That’s the point of transit-oriented development.”

Huge travel distances equate to a great deal of travel time, which means that school children may be left unattended for hours after class as parents commute, which paves the way for social problems on a massive scale – yet another pressing reason for integrated transport systems.

IPTN development has to move beyond standard commuter services, continues Gibberd, recognising that people live far away from where they are employed (what is viewed as a commuter service in SA – covering routes of 50-plus km – would be unheard of in other countries). Gibberd is looking to establish a system of defining and categorising different transport solutions. The low entry, low floor buses that are ideal for universal access are suited to stop-start city services, but may not be the answer to transporting large numbers of travellers in unbroken journeys over long distances. Bus rapid transit (BRT) has its roots in Latin America, where it evolved to serve areas of dense development – but BRT is not the answer to serving huge distances between outlying areas and town centres.

It’s crucial to distinguish between city-based commuter services and services for extended commutes. The reason it matters, says Gibberd, is because of how buses are designed. Level access is ideal not just in terms of universal access but also for the speed at which passengers can board and disembark. However, with the majority of chassis brought into SA it’s difficult to obtain level access. Seating capacity is usually sacrificed, which – for a long distance operator – translates into loss of revenue. “DoT wants to ensure accessible buses for short distance, hop on, hop off commuter transport, as well as express services travelling between towns,” says Gibberd, adding that the Department is compiling a series of technical documents on standards that are needed for accessible public transport.

Bus stops will also come under scrutiny, as it would be pointless to have an accessible bus if the stop was inaccessible. Further consultation with the industry is on the cards in a bid to devise solutions. “What’s important though is that people realise that it’s within the context of the broader picture. You can’t solve the geographical problems of South Africa without looking at the wider picture. It’s impossible.”

City design in SA tends to mean that the people who are the poorest, elderly or who have disabilities are accommodated in unsuitable housing that is remote and isolated from facilities. Gibberd raises the example of Orange Farm, home to many people with disabilities – and nowhere near public transport. It’s immaterial how good transit-oriented development is, says Gibberd, if it’s inaccessible – because then barriers remain.

Sustainable cities which match housing and transport is ideal, but Gibberd is well aware that various entities have to align their efforts with the DoT, including housing, settlement and development. “How do you deal with the services that are already running – because people use them and operators operate them? You can’t start again, but you have to try to move development in another direction – and you need everybody pulling together.”

Asked whether she is confident of driving change, Gibberd says that all her unit can do is measure outcomes. “What I want to do is try to bring people together to see the bigger picture. I think if everyone understands what we’re trying to deal with, it becomes easier to come up with solutions and people can find their parts in trying to change the current situation.”

However, she is adamant that 50-plus km commutes are not acceptable and that – although it will take time before there are work opportunities near where people live and living opportunities near where people work – there must be an alternative.

The Department is intent on obtaining input for the process, as it’s pointless bringing in standards that do not meet the needs of travellers with disabilities. Following research into passenger needs, Gibberd intends working with operators and OEMs to determine “how we can make this happen” instead of arguing about what passengers do and do not need.

Gibberd is mindful of the link of the universal access initiative with a green agenda, because if fleet upgrades are required it would be sensible to accomplish environmental and access objectives in one fell swoop. This would probably also ensure the longevity of any solution settled upon.

With the National Land Transport Act as its mechanism to introduce regulations on universal access in transport, Gibberd says it would be impossible to bring in regulations without comprehensive consultation beforehand. The procedure to be followed is identifying technical requirements, then testing these with the people who will be implementing the system, namely the municipalities. It will also be important to find common ground between vehicle manufacturers and the municipalities, who are responsible for infrastructure. As municipalities are rolling out IPTN plans, it would be pointless to tackle the problem without talking to the municipalities about what would help them to deliver public transport solutions.

It’s important to create awareness of the initiative, notes Gibberd, because people who are aware of the issues may come up with new ideas and offer solutions.

It’s a big project and Gibberd is aware that things are not going to fall into place overnight. She is hoping to have the standard started this year. Once research has been conducted, the unit will have to help people work out how to conform – there’s no big stick approach. But she is adamant that the right way to make it happen must be found, as the DoT has recognised the importance of making public transport safe and accessible.

At present, passengers with special access needs are required to approach DoT, which handles these approaches on a case-by-case basis. Gibberd says this entails talking to the operator, the municipality, taxi associations and bus operators to try to get people to come up with a solution for that particular person. She has witnessed the “huge amount of energy and effort” people invest in devising solutions for individuals – and is hoping to replicate this willingness to tackle problems on a far larger scale. “If you give people a problem that’s too big, they don’t know how to solve it and they give up. But if you talk about one person, people will offer the most amazing support.”

In the interim Gibberd believes that one of the biggest areas of improvement the industry could act on is compiling conditions of carriage and customer service charters that support people using public transport. Operators should commit to treating people in a certain way and not excluding them. If passengers can be boarded and transported safely, they should be – and operators should attest to this in a public statement.

Gibberd acknowledges that the Department has barely moved off the start line in its universal access initiative (the 13 mainstream municipalities were to have offered universally accessible public transport by 2014, with the balance of the country’s 260 municipalities to follow suit by 2020), but says it is a journey – and it’s a journey that will benefit the entire country rather than a minority. ■



**Public transport that’s 100% accessible has been pinpointed by extensive research as crucial in the lives of people with disabilities, elderly people, children, as well as those who accompany them, and pregnant women**

# You cannot turn a donkey into a racehorse

***A mid-mounted horizontal engine bus may offer the best fit to South African city bus design requirements***

BUS passengers expect to travel in comfort and safety. The first stage is to alight the bus – young and old alike – so why do they have to climb seven steps when it would be more comfortable with just one or two steps? Is the bus a converted truck chassis with ‘cart’ suspension: short, heavy steel springs often with ‘helper’ springs as part of the rear suspension; if it has to be a ‘conventional’ suspension the springs would be a lot longer, whether parabolic or multi-leaf. Air or torsion bar suspension will certainly offer a far superior ride.

Boarding the bus, will passengers have to avoid the engine compartment? This is the case in most forward engine buses, unless the floor height is raised so high (at least 1 500 mm) as to cover-over the engine. Noise, vibration, harshness (NVH) is also a big problem with a front mounted engine, long drivelines with one or two midship bearings is a formula for transmission vibration.

High floor height, from 1 050 to 1 500 mm is common in SA. However, the higher the floor height, the more unstable and unsafe the vehicle, unless special features have been introduced to control vehicle stability, usually such features are incorporated only into long distance coaches.

Rear engine buses usually offer much lower floor height and greater stability, with a superior entry/exit area with added safety. The passenger compartment is much quieter, with noise levels as much as 22% lower.

What are the disadvantages of a rear-engined bus? Engine cooling can be a real problem, particularly on slow moving/city vehicles with restricted airflow and poor circulation.

Weight distribution is another factor, with many rear engined buses (4x2) over the legal limit on the rear drive axle. Does it make sense that the legal weight limit on a single drive axle on a truck is 9 000 kg whereas a bus or coach is allowed 10 200 kg? How this came about is anyone’s guess – certainly not on technical grounds. SA is the only country in the world where there are different axle weights for trucks and buses.

**By Dai Davies, OBE**

A rear engine bus has a more compact/efficient driveline arrangement, but body departure angles and ground clearance is a crucial factor especially in semi- or off-highway operations. Sales figures in South Africa show that front engine buses are still popular, but nothing is for ever and it could be argued that their popularity will decline. Even the model T Ford did not last forever!

As customers (passengers) become more demanding, greater comfort and safety will be called for, and why not? Why should passengers sit on uncomfortable plastic seats?

Maintenance is another important factor. A would-be purchaser should insist that the sales person personally demonstrates access for routine maintenance functions – accessing the engine compartment, cooling system and radiator, for example. Often important features are virtually impossible to access.

Is the radiator in a position where it provides the ultimate cooling for the engine, or is it tucked away somewhere beneath the vehicle where its cooling function is compromised and where it acts as a ‘vacuum cleaner’ and sucks in all the dust and rubbish generated underneath the vehicle? I am a firm believer in a would-be customer insisting on a cooling test report on a particular model, to be repeated every six months for 24 months.

Has the chassis been extended fore or aft? Forward chassis extensions often interfere with steering geometry if the mounting of the steering box has been moved. There is no guarantee that the material used for the chassis extension(s) is the same technical specification as that of the main chassis frame. Often it is not.



**ERF's Super Trailblazer: only a matter of time before the mid-mounted 'horizontal engine' bus is reintroduced?**

It is imperative that the vehicle manufacturer makes a specific fuel consumption graph for the power unit to the customer. Failure to provide this technical information should result in the client ejecting the sales person from his office.

Other factors that affect fuel consumption are: axle/transmission ratios; tyres; axle alignment; driver behaviour; gross vehicle mass; terrain; routes and so on. Often overlooked, however, is vehicle aerodynamics and frontal area. Vehicles with a high passenger floor level often have a huge frontal area, resulting in severe wind resistance and high/ excessive consumption.

Ground clearance is very important, as many vehicles often operate in semi- and off-highway conditions. This is where the forward engine bus has the advantage over its rear engine counterpart. For city operation, this criterion does not normally apply.

In my opinion, it is only a matter of time before the mid-mounted 'horizontal engine' bus is reintroduced in South Africa – if not by an existing manufacturer, certainly by someone else. Many units of this type of vehicle – Volvo and ERF – still operate in South Africa, despite the fact that they are over 20 years old.

Among the merits and design features to consider when designing a city bus for South Africa: ideal weight distribution; low flat floor passenger compartment; easy passenger entry/exit; no engine intrusion into passenger area; low passenger compartment noise levels; ideal driver environment; bus comfort – suspension, whether conventional multi-leaf, taper-leaf, torsion bar or air suspension (avoid truck suspension); comfortable seating; wheelchair access; good ground clearance (minimum 330 mm); good entry and exit departure angles; passenger heating and ventilation; good passenger vision; the best

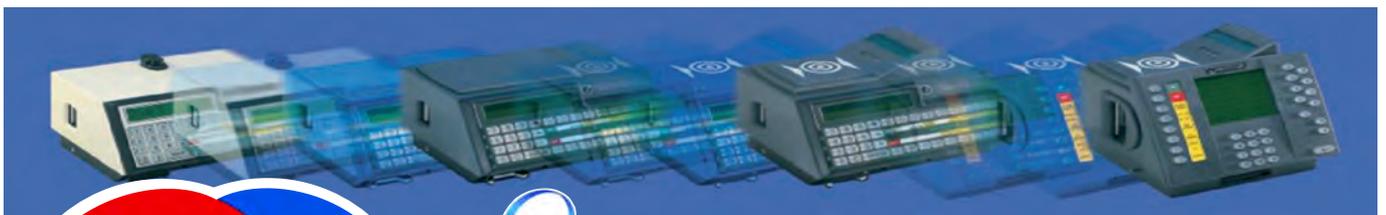
possible braking system, with three independent systems for ultimate safety; short transmission driveline (no midship bearing); efficient engine cooling with front-mounted radiator; ease of maintenance and servicing (lower cost); short, efficient exhaust system; efficient engine air cleaner system; manufacturer designed steering and linkage arrangement; adequate fuel capacity; choice of rear drive axle: the tendency is to adopt hypoid-bevel, rather than bevel or hub reduction axles; labour time schedules – how long does it take to remove and replace an engine, gearbox, clutch, differential unit, radiator, air cleaner element, and other serviceable components?

If your choice of a power unit is diesel, exhaust emissions are of prime importance, and the choice should certainly meet Euro V – as a minimum requirement for passenger vehicles.

Hybrid powertrains are now common in cars and the technology is fast creeping into passenger service vehicles, in the form of CNG, LPG, hydrogen and electric motors. Metrobus Johannesburg is operating CNG-powered buses.

The GKN (UK) 'gyrodrive' system is also an alternative to consider. This is a flywheel-based system, incorporating a carbon-fibre flywheel running at 36 000 rpm. The flywheel stores energy generated by the bus as it slows, which in turn powers an electric motor which helps to accelerate the bus, resulting in fuel savings of up to 25%. Alexander Dennis in the UK has signed an agreement with GKN for 250 vehicles over a 24 month period.

Last, but by no means least, is the vehicle weight and frontal area. One of the most critical factors that compromises vehicle stability and safety is the frontal area, which can also result in excessive fuel consumption (depending on speed). Why build a multi-storey house when a single storey is required? ■




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SOUTHERN AFRICAN BUS OPERATORS ASSOCIATION  
VOICE OF THE BUS & COACH INDUSTRY

## 2017 CONFERENCE & EXHIBITION

THE SOUTH AFRICAN BUS & COACH EVENT ON  
PUBLIC TRANSPORT & EXHIBITIONS BY KEY INDUSTRY PLAYERS

24 & 25 MAY 2017

CSIR INTERNATIONAL CONVENTION CENTRE  
BRUMMERIA, PRETORIA

### CONFERENCING PROGRAMME

#### DAY 1 WEDNESDAY, 24 MAY 2017

10:00-13:00	Registration
13:00-13:45	Lunch
13:45-16:00	Plenary Session
16:30-17:15	Annual Report & Industry Overview
18:30	Gala Dinner

#### DAY 2 THURSDAY, 25 MAY 2016

07:30-08:30	Registration
08:30-10:00	Plenary Session
10:30-13:00	Parallel Sessions
13:00-14:00	Lunch
14:00-15:00	Plenary Session

### TOPICS TO BE ADDRESSED BY KEY INDUSTRY OFFICIALS

- The DoT's Turnaround Strategy for Public Transport
- Operational Readiness & Overview of the Points Demerit System
- B-BBEE Bus & Coach Sector Charter
- Initiatives to Improve Road Safety in SA – RTMS
- Overview of the NLTA Amendment Bill
- Review of the White Paper on National Transport Policy
- Initiatives for the Empowerment of SMME's
- Challenges & Opportunities for the Coach Industry
- Cross-Border Industry Proposed Policy Reforms & Developments
- Integrated Public Transport Network, Progress at Municipalities

## EXHIBITORS



For bookings or more information contact Cynthia on  
011 511 7641 / [cynthia@saboa.co.za](mailto:cynthia@saboa.co.za) or visit [www.saboa.co.za](http://www.saboa.co.za)

# REGISTRATION FORM

## SABOA ANNUAL GALA DINNER

24 MAY 2017 @ 18H30 TEL : 011 511 7641  
 CSIR INTERNATIONAL CONVENTION CENTRE FAX : 011 511 0007  
 BRUMMERIA, PRETORIA EMAIL : saboa@saboa.co.za

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 INCLUDES DINNER & ENTERTAINMENT

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4		
5		
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10		

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24 & 25 MAY 2017 TEL : 011 511 7641  
 CSIR INTERNATIONAL CONVENTION CENTRE FAX : 011 511 0007  
 BRUMMERIA, PRETORIA EMAIL : cynthia@saboa.co.za

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SABOA will not be held responsible for the non-processing of registrations where insufficient information/proof of payment has not been provided. Please note that the conference fee will not be refunded unless notification of cancellation is received at least 7 days prior to the conference.

A cancellation fee of 10% will be levied on all cancellations.

For further enquiries please contact Cynthia Sofika on (011) 511-7641

# AFRIWAY



## SAFE RELIABLE MOBILITY

Iveco Bus is your one-stop-bus-shop. The Afriway bus chassis is assembled from imported CKD kits and the body is manufactured in a single facility based in Rosslyn. This means that any technical issues relating to the bus is referred to a single source for rectification, eliminating excessive bus down-time.

The complete bus is engineered by Iveco and, as such, there is a "matched" interface between body and chassis resulting in improved quality, better engineering and lowest cost of ownership.

With its superior legal carrying capacity, the Afriway offers the lowest capital cost per revenue paying passenger and the best fuel consumption in the 18 000 kg GVM bus category. The engine is positioned in the chassis for better weight distribution and to prevent major damage to driveline components in the event of a front end accident. It also prevents undue stress on the front chassis members when operating on poor road conditions.

Superior engine cooling and bus performance have been achieved due to the engine's position relative to the body, under floor height and consequent airflow.

In addition to being economical, safe and ideal for both inner and inter-city passenger transport, the Iveco Afriway boasts the best passenger entrance width in its class, the lowest front interior heat generation and noise levels, the best flat floor saloon area and interior floor-to-roof heights in its class.

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