FROM CARNAGE TO CALM

by Artwell Dlamini

Despite the efforts of Arrive Alive campaigners, it seems the carnage on SA's roads is likely to continue unabated and headlines such as "14 die in four bus accidents, 70 injured" will keep making the news.

The advent of intelligent transportation systems (ITS), however, provides a dim ray of hope. Arising from the confluence of transport and traffic engineering, as well as information technology and telecommunications, these systems have the potential to see tired and frustrated commuters home, quicker and more safely.

SA firm TCI-Thoreb is one of a growing number of SA companies to advocate the use of ITS to better manage SA's congested commuter networks. And locally, transport operators, planners, urban designers and traffic engineers are beginning to accept that such systems need to be factored into their planning.

The goals of ITS include managing traffic flows and incidents and supplying motorists with real time information on the condition of the roads they are using. This is done using electronic systems, such as variable message signs like that used on Chapman's Peak Drive, closed circuit television, inductive loops and electronic vehicle identification. All are linked to a central communication backbone.

The information collected is processed at a network management centre where decision-making takes place on a 24-hour basis.

Other applications include adaptive speed control, which restricts a vehicle to a set speed limit and senses distance between vehicles, and free-flow electronic tolling.

Situated at the Innovation Hub in Pretoria, TCI-Thoreb was formed in 2002 as a black empowerment joint venture between SA's TCI Holdings and AB Thoreb of Sweden.

Though the core technology is licensed from the Swedish firm, the local partner develops many of its own applications which are tailored to suit local conditions and complement the core product. For this reason the company is situated at the Innovation Hub, where it has access to skills from the CSIR and the University of Pretoria.

"Swedish transport companies don't need to consider vandalism and non-payment of fares," says CEO Mthembeni Mkhize. "Our cities are difficult to navigate using public transport. We need a solution that works for SA and you cannot just buy a system like this – we have to develop our own intellectual property."

TCI's integrated transport package incorporates an application to monitor driver behaviour and another that counts passengers. This ensures every traveller is accounted for and helps prevent fare dodging.

The development work is done by TCI-Thoreb's team of engineers and systems integrators.

In the winelands of the Western Cape, the Boland district municipality has incorporated TCI-Thoreb's technology into its fire-fighting vehicles – vital assets in a region prone to raging fires during hot, dry summers.

The system allows the fire chief to assess instantly the amount of water in the tanks as well as the water and pump pressure. A satellite tracking device ascertains the position of all the fire-fighting vehicles at any time. The data-logging module and the global positioning system record details such as the time spent at an incident, the exact address of an incident and the actual costs. This information is used for billing.

"The system is way ahead of other competitors," says Jan Steyn, commercial manager for Marce Fire Fighting Technology, the company that customises the fire trucks on behalf of the municipality.

But fighting fires is just one application in TCI's portfolio. Another market, potentially more lucrative, lies in the public transport sector.

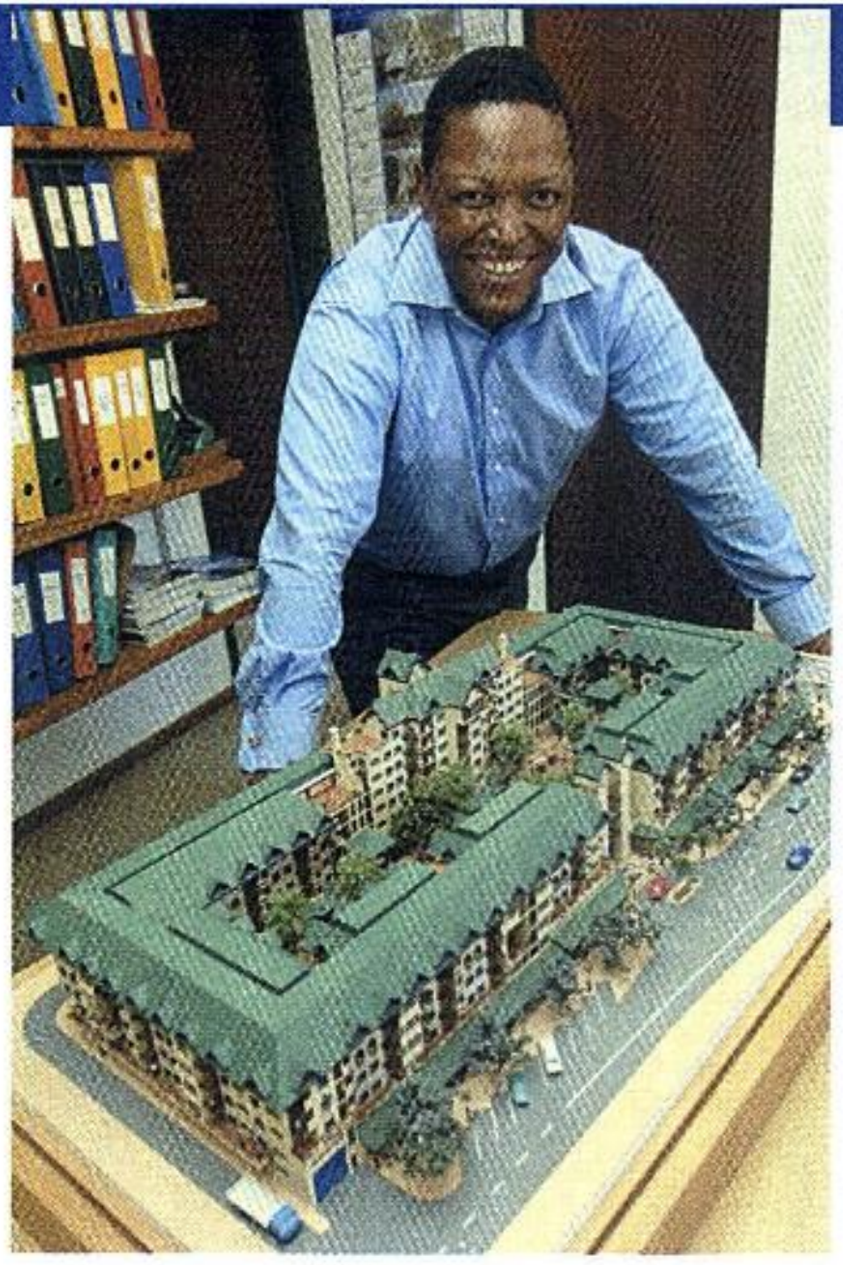
Last year the company was named as a subcontractor to Bombardier Transportation, one of the suppliers to the Bombela Consortium, which won the contract to develop the Gautrain.

TCI will provide the access control and station facilities that are part of the urban planning and architectural

design of the project. It will also be responsible for ticketing.

This undertaking is huge by SA standards and, when asked about TCI's readiness to accept the challenge, Mkhize points to the company's track record in the industry. "As a project house for Spoornet, involved in the revamping of its long-distance trains, we already have a number of teams in place with the relevant experience, ready and raring to go."

But Mkhize cautions that commuters should not expect relief in the near future. SA's millions of commuters can expect to travel on the same inefficient trains, buses and taxis for some time yet. The reason, he says, is that in the short term, government seems unlikely to boost spending on ITS, which is widely used in developed countries.



Mthembeni Mkhize A vision to relieve road carnage

The transport department spends about R5bn/year on national public transport infrastructure, but does not invest much in ITS infrastructure.

One constraint has been SA's lack of common standards for these technologies. Mkhize serves on the board of the SA Society for Intelligent Transport Systems. "Before we can do anything we need a common communication backbone; we need an implementation framework on a national level to co-ordinate and integrate what is being done by the metros and some of the provincial departments of transport. We are working towards these objectives." ■