



Photo: Questek Transit Technologies

Improved Public Transport In Johannesburg

The whole world was watching South Africa for the final round of the 19th FIFA World Cup 2010, held there from 11 June to 11 July 2010. In order to move the many soccer fans quickly, safely and comfortably to and from the stadiums, the city launched an urban public transport project called „Rea Vaya“ („We Are Moving“). Johannesburg, South Africa's largest city, is situated in the province of Gauteng. Though it is the smallest of South Africa's nine provinces in terms of surface area, it has the highest population density and the greatest gross domestic product. Gauteng was one of the core venues for the World Cup, with three stadiums (one in Pretoria and two in Johannesburg). This was the biggest sporting event that had ever been organised on the African continent. South Africa was proud of hosting it, and invested considerable sums in infrastructure projects, such as new stadiums, hotels, airport expansions, and urban public transport networks.

In Johannesburg, the „Rea Vaya“ project was launched in early 2009, the goal being to build the most extensive BRT system on the African continent. It operates using a computerised Automatic Vehicle Location and Control (AVLC) system supplied by Trapeze ITS of Neuhausen, Switzerland. Dedicated bus lanes are provided in the centre of the roads used by longer distance articulated urban buses with room on board for up to 100 passengers. Since the buses always have priority over other traffic, the BRT system offers a similar level of efficiency as a rail network, but at appreciably lower capital investment costs. In addition to the core BRT routes there are feeder services operated using 70-passenger rigid chassis vehicles, and special bus routes are provided through the centre of Johannesburg.

In April 2009 the Johannesburg Roads Agency entrusted Questek Transit Technologies of South Africa and Trapeze ITS with supplying and installing an Advanced Public Transport Management system for the BRT network. This computerised AVLC system,



Photo: ITDP/Aimee Gauthier

Hoeft & Wessel Ticketing Systems For Spain

On 1 September 2010 Hoeft & Wessel and Ikusi announced that Zaragoza, the fifth largest city in Spain, and Murcia, the seventh largest, had ordered e-ticketing systems for their new tramway networks. Tranvías de Zaragoza (TRAZA), the first phase of whose first line is scheduled for inauguration in 2011, is to receive at the end of 2010 50 ticket vending machines (TVM) for use at tram stops, and 22 for installation on trams, together with comprehensive office systems. By the end of 2010 TRANVIMUR of Murcia will receive 51 machines for installation at stops on the extension to the short „experimental“ Line 1 (inaugurated on 2 May 2007, see TU 6/07, p. 15).

Hoeft & Wessel is a German-based IT and engineering group, and with its Almex brand it is one of Europe's largest suppliers of ticketing systems. For Spain Almex formed a strategic alliance with the Spanish company Ikusi, one of the leading companies in the design, implementation and management of electronic systems, including those for railways and other forms of public transport. **The new TVMs are designed for easy access by all passengers including the handicapped (they feature a special socket for wheelchair users, Braille, interphone systems, and LED flags), and are similar to those earlier delivered to DB (pictured).**

Hoeft & Wessel

Photo: Questek Transit Technologies



the first of its kind in South Africa, focuses on three areas - vehicle dispatch, passenger information and fleet management. Thanks to improved dispatching procedures, journey times are reduced and operating safety is enhanced. After completion of the first construction stage in 2009, the BRT bus fleet operated on 25 km of routes in and around Johannesburg.

The first section of the BRT to be inaugurated, in August that year, was between Soweto and the city centre, and this route now has 23 stops. With shorter headways than normal in operation during the World Cup, the Johannesburg Department of Transport moved about 70,000 passengers daily along this route. In early May 2010, just in time for the event, two new BRT routes were added with a combined length of about 65 km. These routes also served the stadiums and training locations. Moreover, the Department of Transport installed a control centre to ensure efficient and resource-saving operation control, allowing the status of operations to be monitored and real-time responses to be made in the event of incidents.

The BRT system also features Park + Ride facilities and pedestrian footbridges accessing the bus stops. Another highly significant aspect of the BRT system is real-time, comprehensive and consistent passenger information. CCTV cameras and other installations enhance safety. The transport facilities that existed previously hardly offered passengers any protection at all against assault.

The keys to the success of „Rea Vaya“ are an integrated timetable, an integrated ticketing system, and integrated fare management. As a result passengers only need a single ticket to use a wide variety of urban public transport carriers. **The upper left-hand photo shows passengers boarding a Scania Marcopolo-bodied bus. The upper right-hand photo shows the Ghandi Square Bus Terminus in the Johannesburg Central Bu-**

siness District. The lower photo shows a ticket validating machine at a BRT bus stop.

When the World Cup kicked off, the „Rea Vaya“ BRT network comprised 97 bus stops, five bus terminals, four depots, and 41 brand new articulated and 102 rigid chassis Scania buses. Development continues after the World Cup is over, since no fewer than 98 % of the 11.3 million inhabitants of Gauteng province live in urban areas, and improved public transport will help reduce road congestion. By 2013 the BRT system is expected to have a route length of 122 km, with a capacity of 430,000 passengers per day. Cape Town, Pretoria, Durban and Bloemfontein are also considering BRT systems.

It is assumed that in Gauteng 85 % of all those who travel by public urban transport change buses and use the vehicles of various transport companies on each trip that they make. Because of missed connections, incoherent timetables and indifferent information systems, serious delays are frequent when undertaking such journeys. Moreover, the transport companies all have their own ticketing systems, and this makes travel expensive, with a separate ticket being required for each stage of the journey. So expensive that in South Africa as a whole it is estimated that up to 70 % of those undertaking commuting journeys by public transport (over 29 million people) spend up to 40 % of their household income on tickets.

In order to avoid undesirable competition, both the taxi and the bus operators have a share in the new transport system in Johannesburg in the form of franchises, and are paid on the basis of the distance their vehicles travel. This system will lay the foundations for a sustainable transformation process, which will change the image of public urban transport throughout Gauteng province.

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