Advanced Public Transport Management System (APTMS)
Johannesburg Road Agency

Overview

143 buses

8 routes

108 stops

Industry
Bus

Challenge
Implement new public transport management system

Solution
Trapeze Intelligent Transport System (ITS)

Results

✓ Automatic vehicle location and control

✓ Dynamic passenger information

✓ Traffic signal preemption

Background

The Advanced Public Transport Management System in Johannesburg is currently being installed and extended. It is for this reason, that the figures below are constantly increasing.

At the moment, the Johannesburg Road Agency has more than 143 "Rea Vaya" buses. With that, the company is currently serving 108 stops on 8 routes. The network is steadily expanding, meaning that the number of stops will rise dramatically in the coming months.

The Solution

For the new "Rea Vaya" Express Bus Service of the Johannesburg Road Agency, Trapeze set up an Advanced Public Transport Management System, combined with passenger information. The project in South Africa's biggest city was started in the spring of 2009.

Three stages were planned, named 1A, 1B and 1C. Stage 1A was successfully completed in December 2010, involving a total of 8 routes and 143 buses. The infrastructure for the additional stages is currently under construction. The LIO control system also integrates third-party passenger information signs and improves passenger safety by virtue of video monitoring. If necessary, the system provides traffic signal pre-emption functionality, which enables the buses to travel on time in the heavy Johannesburg traffic.
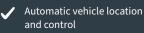
The functionalities

- LIO automatic vehicle location and control system

- IBISplus on-board computers

- GPS-based location

- Voice and data communication via GSM/GPRS

- Passenger information: Communication with third party signs at the stops via NTCIP

- Data supply via LIO-Data

- Traffic signal pre-emption (TSP)

- Transfer of video data (CCTV cameras)

- Uploading software and data into the vehicles via wireless LAN (WLAN)

The system at a glance

Control centre
Currently 1 dispatcher workplace (more are planned), 1 info station, 1 data supply and/or statistics workplace

Radio system
GSM/GPRS

Vehicles
143 buses

Depots
Currently one depot

Third-party components
Stop signs, controlled via NTCIP; video transmission

Software interfaces
Planning program DIVA

Results:

• Automatic vehicle location and control

• Dynamic passenger information

• Multi-agency operation capabilities

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"We are proud to announce that in Johannesburg we have successfully installed the first ever Advanced Public Transport Management System on the African continent. The APTMS offers passengers of the new 'Rea Vaya' Express Bus Service a new level of comfort and reliable travel information."
"

Ronald Salis, Project Manager, Questek Transit Technologies

Trapeze ™
Here for the journey