

Industry

Bus

Challenge

Integrate metro and bus networks

Solution

Trapeze Intelligent Transport System (ITS)

Overview



Results

- ✓ Real-time passenger information
- ✓ Integrated bus information systems
- ✓ Integration with Riyadh metro using SIRI

Background

The Riyadh Development Agency (RDA) is investing billions in developing a state-of-the-art public transport system for the Saudi Arabian capital. From virtually no public transport, other than taxi services, the RDA will deliver an integrated metro and bus network for Riyadh's seven million residents.



The Riyadh Bus Project

The Riyadh Bus Project is a brand-new bus network which is being built from the ground up and includes bus feeder routes to metro stations and dedicated Bus Rapid Transit (BRT) lanes. Trapeze supported RDA to provide an Intelligent Transport Systems (ITS) solution to integrate Automatic Vehicle Location (AVL) and Real-Time Passenger Information (RTPI) for buses into the overall management system. Trapeze also delivered interfaces for multiple stakeholders to provide integrated data management and system control for Riyadh's expanding bus fleet.

After the project contract was awarded, Trapeze undertook a system testing phase before initial operational testing commenced in 2021. Operational testing involved a rollout of over 800 buses and 1,500 RTPI displays, with four depots constructed.

The RTPI displays feature full matrix, white LED screens as well as 32" and 55" TFT displays for BRT stations. The LED displays are optimised for use in the harsh Riyadh environment as they must withstand high temperatures and dust levels. The RTPI displays, as well as the SIRI connected system, are continuously updated using the Trapeze history-based prediction algorithm.

Bus priority at traffic lights is also provided via a network interface to a centralised traffic management system. The system will be supported 24/7 locally, and from the Trapeze International Monitoring Centre.

Solution

The Trapeze ITS solution, LIO, is at the heart of the bus operation, providing real-time management and passenger information solutions. LIO integrates the bus systems (CCTV, passenger counting, and infotainment solutions) with backend systems and collects operational statistics to enable detailed analysis and continuous improvement.



System Highlights

- High availability control centre with redundant DRC
- Multi-operator support for future expansion
- Control for over 1,500 real-time information displays - LEDs and TFTs
- Integration with Riyadh Metro using SIRI
- Over 100 workstations across the Operational Control Centre, training, and DR
- CCTV at stations, integrated into AVL workstation bullet points

Vehicle Highlights

- Intelligent Data Router (IDR) in all vehicles
- Driver's console with colour touch screen
- Integration with CCTV, AFC, APC, Infotainment
- Implementation of VDV 301 interface to APC
- Transparent routing for peripheral equipment
- VoIP for voice communications over 3G/4G

Results:

- Real-time passenger information
- Integrated bus information systems
- Integration with Riyadh metro using SIRI

“The Riyadh bus network is integrated with the Riyadh Metro to give the best public transport mode that covers the main streets, highways and sub-streets.”

TRAPEZE GROUP

Trapeze Group works with public transport agencies and their communities to develop and deliver smarter, more effective public transport solutions. For more than 25 years we have been Here for the Journey, evolving with our customers around the world to helping them move people from point A to Z, and everywhere in between.

info@trapezgroup.com.au

Australia	+617 3129 2092
Africa	+27 11 025 9970
India	+91 98104 07444
UAE	+971 4 252 6640

Canada	+01 905 629 8727
UK	+44 0 8445 616 771
Singapore	+65 6340 1022
Malaysia	+60 172198850