

## CASE STUDY

### Wi-Fi Solution Keeping Buses Connected

#### THE PROBLEM:

Karachi Green Line Bus Rapid Transit (BRT) System is a public mass transportation service system initiated by the Government of Pakistan.

Its purpose is to alleviate the traffic congestion problems in the country's largest city, and to improve quality of life for daily commuters.

With safety and security uppermost in mind, SIDCL (Sindh Infrastructure Development Co. Ltd.) and the Government of Pakistan have been working on enhancing and improving the services of the BRT.

Since 2021, SIDCL started working with Wavetec and Altai to implement Super Wi-Fi networks at every bus station and along the whole route for live video surveillance.

Some of the challenges they faced include:

- Preserving a stable RF with bus mobility moving high speed along the route
- Maintaining a low-latency and high-throughput wireless link along the route
- Limited sites for AP installation along the route, with bends and flyovers
- Different station layouts (split type, centre type and underground)

## THE SOLUTION:



Altai's A3-Ei high-capacity dual-band APs were installed on lamp posts along the route and in the stations. Every site was deployed with two sets of A3-Ei to cover each route direction.

The same principle was applied at each bus station for coverage enhancement. In order to meet the stringent seamless handover requirement for video transmission, Altai's unique Always Connected solution was proposed, using one VX200 dual band CPE per bus to ensure an uninterrupted video feed. AltaiGate 200 is used in the Operations Control Center as a WLAN controller for monitoring and managing all Altai devices.



A3-Ei



VX200



## RESULTS:

The first phase was completed in late 2021. This involved a dedicated track of 20.7km and 23 stations being served by 80 buses.

Altai's APs have been installed on poles at and between stations where the stations are separated between 0.5 – 1.0km. The wireless network is required to support six 4~5MP cameras simultaneously on every bus.

