



Powering the West of England's revolutionary rapid transport network

Case study – Cloud Network

As part of a £230m project to transform public transport in the West of England, we supplied a network of smart bus stops to make journeys faster, safer and smarter.

The challenge

The West of England is upgrading its infrastructure on a massive scale to cut CO² emissions and keep congestion costs under control. Transport is responsible for 29 per cent of all emissions in the area – three per cent higher than the national average. And the cost of congestion for local councils is £300m a year.

To improve things, Bristol City Council, North Somerset Council and South Gloucestershire Council have come together to build 17km of new bus lanes, 6km of new road, and 92 new bus stops. At the heart of the project is a cross-city service called MetroBus Bristol.

With 5,700 houses being built in South Gloucestershire, traffic is expected to increase in the next 10 years. The faster and more frequent MetroBus will help rural commuters travel to Bristol.

While new segregated bus lanes have helped slash travelling time by up to 14 minutes, roadside technology also plays a crucial role. Every bus stop uses an iPoint terminal that sells tickets. So drivers spend more time on the road and less time counting change.

For the third route of the MetroBus, South Gloucestershire Council needed a digital communications network to connect 39 smart bus stops. As well as processing payments for tickets, the terminals had to display live travel information, provide reliable voice over IP (VoIP) for emergency calls, and support an IP CCTV camera.

Case study profile

Sector: Local government/ Public sector/
Public transport

Number of employees: 3,138

Challenge

Provide a reliable network powering smart signage, ticket machines and CCTV for a new express bus route.

Solution

Project managing the installation of Superfast Ethernet network, working closely with the customer and Openreach.

Products

Ethernet Connect Network

IP cameras

Managed services

The solution

To connect the MetroBus' smart bus stops we provided an Ethernet Connect Network, with six E-LANs per site. With dedicated optical fibre, this network has virtually no latency, making it ideal for time-sensitive applications like VoIP calls. Bandwidth can also be protected to further secure payment processing and video surveillance.

Perhaps most importantly for this project, the system is flexible, so the customer has the freedom to innovate. And can meet the immediate requirements of the job, adapting to varied terrain, including university sites, motorway access points and different ground controls. It can also be reconfigured to meet the customer's future needs, as the MetroBus expands.

Due to its scale, we assigned a full-time senior project manager to the job. They worked closely with South Gloucestershire Council, Openreach and local sub-contractors to coordinate efforts. This included all parties attending weekly calls and sharing plans, helping save time and money, as well as reducing disruption.

The Openreach team were responsible for delivering the civil works, cabling and provision of the public switched telephone network (PSTN) lines and fibres. By working closely with them, we made sure PSTN lines routed to the correct point so it could support Superfast Ethernet Access. And that all networking infrastructure was in place before ordering the overlay service.

With our extensive expertise of networking, we worked closely with South Gloucestershire Council to come up with creative solutions. This included developing a way to fit all the kit into the secure cabinets at each bus stop. To this end, we were given an access key, so the customer didn't have to spend as much time visiting fibre sites with us. In a number of cabinets, South Gloucestershire also provided an additional bracket in the cabinet in order to keep the size of the cabinet to a minimum.

“The fact that the network's been so reliable has really helped encourage people to have faith and confidence in any information they get at a bus stop.”

Verity Heal,
Senior Project Manager,
South Gloucestershire Council



The result

All three routes of the MetroBus are now up and running, carrying up to 20,000 passengers per day. The team only expect that figure to rise. When Cambridge opened their MetroBus scheme in 2011, passenger numbers were 46 per cent higher than predicted.

As well as easing road congestion, the service has improved access to opportunities in and around Bristol for rural residents. In fact, the project as a whole has created 82,500 new jobs, with 60,000 in areas in need of economic growth. So that every £1 spent on the project equates to £3.60 being fed back into the regional economy.

The digital network we provided for the third route plays a key role in this. It powers the iPoints, which help customers buy tickets and board buses faster. While up-to-date travel information on live screens helps keep them informed.

We'll be supporting the maintenance of this network until December 2022. The project organisers are also looking to expand the MetroBus service to other rural areas up to 2036. Suggested routes could reach as far as Bath and Weston-super-Mare. South Gloucestershire Council have already expressed an interest in us playing a role in this.

“People can get their tickets when they want to and see when the next bus is coming. And they can rely on that information to be there every day, at all hours of the day – which gives an excellent service to the customer.”

Verity Heal,
Senior Project Manager,
South Gloucestershire Council

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Offices Worldwide

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