



PROJECT FACT SHEET



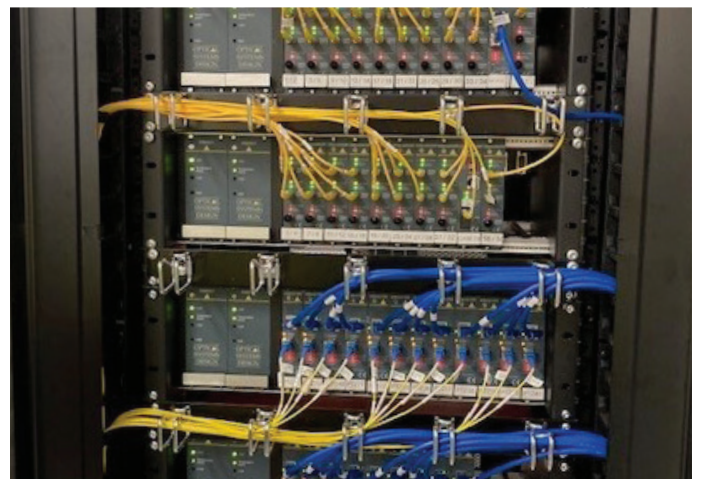
GRAHAM FARMER FREEWAY FIBRE OPTIC UPGRADE

CLIENT: SERVICE STREAM

The Graham Farmer Freeway is a 6.4km long inner city freeway with 1.6km of eastbound and westbound tunnel to offer drivers a time-saving option to bypass the CBD. A 24-hour team monitors the tunnel via 64 surveillance cameras from the Traffic Operations Centre near the tunnel. The existing cabling infrastructure was being replaced with a new fibre-optic backbone network connecting the Traffic Operations Centre to each camera.

Nilsen was awarded a contract as part of a competitive tender process to replace the backbone network from the Traffic Operations Centre to the 64 cameras in the Graham Farmer Freeway Tunnel with the following requirements:

- Replace existing cable infrastructure for all CCTV cameras across the tunnel using fibre-optic cabling
- Supply and install nodes along the service corridor
- Supply and install 50 breakout boxes
- Supply and install a custom-built breaker box to power the cameras
- Supply and install a new communications cabinet in the operations centre, including media converters and network switching components
- Supply and install a new communications cabinet mid-tunnel to serve as a backbone fibre distribution point



The significant commercial challenges stemmed from the small window of opportunity to work on the project. According to Main Roads, the tunnel services approximately 120,000 vehicles per day. With such heavy usage, closing it for service significantly impacts the public.

Therefore, the tunnel is closed for service on a Friday night for ten hours every two months, only allowing a 6 hour working window with an hour for Pre-start meetings and an hour to demobilise and leave site ensuring that the area has been left clean. To achieve the project within this constraint, we prioritised planning and preparing to ensure a smooth shift every time:

- Determine the maximum amount of work able to be delivered and the number of people that can safely be there to execute the most we can in one night.
- Assembling a team of competent staff to carry out the works and meeting prior to the shift to ensure everyone was aware of the planned tasks. We worked with an average of 14 staff members each shift, split across the tunnel over eastbound and westbound.

- Staying with focussed tasks to completion before starting a new one.
- Install cabling to the node before disconnecting the camera to minimise downtime.
- Testing and troubleshooting were conducted throughout the shift to ensure that each camera was operational before the end of the shift. The client required that each camera be operational to start the next day.
- Organising access equipment and having spare equipment available onsite to use in the case of a fault. This was applied to resources to be installed as well as an additional elevated work platform (EWP) ready and available outside the tunnel.

Through this project, Nilsen formed a close relationship with Service Stream, the organisation that operates the tunnel on behalf of Main Roads, and with Main Roads. We have been contracted to complete additional projects beyond this data cabling project and further projects with Main Roads in various locations.

