



Smart Freeways

We delivered Perth’s first Smart Freeway in 2020, designed to reduce congestion, improve safety and make better use of existing infrastructure.

Part of the Transforming Perth’s Freeways strategic program, the Smart Freeway – Kwinana Northbound project is the largest Intelligent Transport Systems (ITS) project we’ve undertaken.

More than 800 ITS devices were installed on Kwinana Freeway northbound to create the Smart Freeway section. The devices support smart technologies used to adjust speed limits to get more traffic through during busy periods, open and close traffic lanes in the event of an incident, and control the flow of traffic on the ramps.

A Smart Freeway was the best solution for the constrained section between Canning Highway and Narrows Bridge where the railway and Swan River prevented traditional widening. The project gives greater journey reliability, improves travel times, enhances safety and reduces construction costs.

The Smart Freeway includes a range of impressive measures.

- **All-Lane running:** creation of an additional lane by transitioning the emergency stopping lane for use between Canning Highway and the Narrows Bridge.
- **Lane use management system:** safely enabling all-lane running by implementing a ‘smart system’ to close and reopen traffic lanes, adjust speed limits and provide emergency access during incidents, similar to the system used in the Northbridge tunnel.
- **Variable speed limits:** used to improve traffic flow by adjusting the speed limits based on traffic volumes and conditions.

- **Emergency stopping bays:** provided at regular intervals, 600 metres on average, for vehicles to use in the event of a breakdown or incident.
- **Automatic incident detection systems:** installed between Canning Highway and the Narrows Bridge, to alert the Road Network Operations Centre to incidents or breakdowns, supported by CCTV cameras that allow further visual investigation.
- **Coordinated ramp signals:** installed at on-ramps to help the flow of traffic onto the freeway and improve merging at Farrington Road, South Street, Leach Highway and Cranford Avenue.
- **Comprehensive CCTV coverage:** linked to our Road Network Operations Centre.
- **Driver information:** better facilitated through freeway electronic message signs informing motorists in real-time of traffic conditions ahead.

To operate these new technologies a training program was created with input from leading experts around the world. More than 50 staff were trained, undertaking theory tests and practical examinations using a sophisticated Smart Freeways emulator.

To smoothly transition to operations, the project team undertook a series of desktop and on-site familiarisation trials with emergency services, vehicle recovery companies, maintenance providers and others. In this controlled environment teams experienced the new road configuration and technologies, updating team operating practices prior to project opening. For more information search smart freeways.