

Smart Freeways

Frequently asked questions

Why is Smart Freeways being introduced?

- Improve journey times by up to 10 minutes from Roe Highway to the city
- Improve road safety
- Move vehicles more efficiently
- Help drivers merge easily onto the freeway
- Provide improved traveller information
- Cost effective compared to other solutions

What does Smart Freeways for Kwinana Freeway involve?

Smart Freeways aims to address the bottleneck at the Canning Highway on-ramp merge and subsequent breakdown in traffic flow as far south as Roe Highway. The project involves:

- **All Lane Running:** creation of an additional lane by converting the emergency lane for use by general traffic 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:** are used to improve traffic flow by adjusting the speed limits based on traffic volumes and conditions
- **Emergency stopping bays:** will be provided at regular intervals for vehicles to use in case of breakdown or incident
- **Comprehensive CCTV coverage:** will be linked to our central Traffic Operations Centre in order for our traffic operators to see what is happening on-street at all times
- **Driver information:** will be improved with more electronic message signs informing motorists of traffic conditions ahead in real-time
- **Coordinated Ramp Traffic Signals:** will be installed at on-ramps to help balance the flow of traffic onto the freeway and improve merging at Farrington Road, South Street, Leach Highway and Cranford Avenue

When will Smart Freeways be built?

Construction work will begin late 2018 with Perth's first Smart Freeway delivered by early 2020.

Without an Emergency Lane, what happens if my vehicle breaks down on the freeway?

Emergency stopping bays (provided approximately every 500m-700m) provide a safer refuge away from traffic and will be equipped with roadside assistance phones and monitored by CCTV cameras linked to our central Traffic Operations Centre.

A new Lane Use Management System will allow traffic operators to quickly close a lane and divert traffic around a vehicle that has broken down on the freeway (effectively recreating an emergency lane), similar to the system used in the Northbridge Tunnel. Overhead signs on gantries along the freeway will inform motorists of traffic conditions ahead. The position of the gantries will ensure that motorists have enough time to see the signals and make a lane change if necessary. Traffic operators will also be able to reduce speed limits during incidents to improve safety for motorists and personnel attending incidents.

In addition, an Incident Response Vehicle would be dispatched immediately to attend the incident. This is no different to when a vehicle breakdown occurs in the Northbridge Tunnel or if a vehicle breaks down on the far right hand lane of our freeways currently.

Where will the emergency lane be used as a general traffic lane?

Main Roads will convert the emergency stopping lane (known as All Lane Running) on the Kwinana Freeway northbound between the Canning Highway and the Narrows Bridge, approximately 5 kilometres in total. Emergency stopping bays will be built at regular intervals along this section as part of the project.

This will be active 24 hours, 7 days a week once the project is complete.

Why has this section of the Kwinana Freeway been chosen?

Kwinana Freeway northbound is the key corridor that connects southern suburbs with northern centres including the CBD, with few alternatives available to road users. It is a heavily used route that experiences significant congestion in peak periods.

The problem starts at the constrained Canning Highway on-ramp where four lanes must merge into three, and is further compounded by the high volumes of traffic coming onto the freeway from Canning Highway. This bottleneck leads to a build-up of traffic as far south as Leach Highway, causing stop-start conditions and heavy congestion for most of the morning peak period.

Why not just widen the freeway to increase capacity?

Managing congestion requires a range of build and non-build measures - there is no silver bullet solution. Widening existing roads isn't always an option due to space availability. In the case of Kwinana Freeway northbound, the road reserve is restricted by the Swan River and protected environmental reserve to the left and rail corridor to the right.

Road agencies have traditionally responded to increasing traffic volumes by building more roads or widening existing ones. However, as land availability, high costs of construction and impacts on environment become growing concerns for our communities, road agencies are turning to alternative solutions that aim to get the most out of existing infrastructure.

What are Coordinated Ramp Signals?

Coordinated Ramp Signals (CRS) manage access onto the freeway, using traffic signals on the on-ramps to balance the flow of entering traffic and help traffic to enter the freeway safely and easily. CRS are only activated during peak periods or during congested conditions on the freeway.

How can ramp signals make a difference to congestion?

Ramp signals receive traffic data on current freeway conditions in real time from sensors that are placed under the road surface at both the on-ramps and on the freeway. Working in coordination with other ramp signals, their purpose is to keep the freeway moving and work to avoid the conditions where stop-start traffic forms. By doing this, they help drivers merge more easily and keep more vehicles moving more efficiently along the freeway.

How long will I wait on the ramp?

The ramp signals will allow one car per lane to enter the freeway approximately every few seconds depending on the flow of traffic on the freeway. The maximum waiting time on a ramp will depend on the traffic conditions and when you join the rolling queue.

The aim is to wait a little at the ramp and then experience better flow on the freeway rather than stopping and starting.

When will the ramp signals operate?

Ramp signals will only operate when they are needed during peak times to manage traffic on the freeway. Otherwise, the on-ramp will operate as a normal entry point to the Freeway. The innovative technology behind the signals will switch the signals on and off as required, based on real-time traffic data collected by sensors under the road surface.

Which ramps will have coordinated ramp signals?

Ramp signals will be placed at five on-ramps:

- Farrington Road
- South Street
- Leach Highway (two on-ramps)
- Cranford Avenue