

Interchanges

The Department of Main Roads has established SAFELink Alliance to deliver the Ipswich Motorway Upgrade from Wacol to Darra. Construction is underway and is due for completion in December 2010.

What is an interchange?

Interchanges are a system of interconnecting roadways at the junction of two or more roads combining ramps and grade separations. They provide the greatest efficiency, safety and capacity for handling large volumes of traffic.

There are two categories of interchanges:

- » system interchanges
- » service interchanges.

System interchanges

A system interchange is a connection between two major roads such as a motorway or highway. The interchange provides free traffic flow between both major roads.

Service interchanges

A service interchange is a link between a major and minor road. Service interchanges provide access for local traffic to a motorway or highway from residential, commercial and industrial areas with lower traffic volumes.



System interchange: the current Centenary Highway Interchange at Darra.



Service interchange: Progress Road Interchange at Wacol.



Ipswich Motorway Upgrade Wacol to Darra

A new Centenary Highway Interchange

The existing Centenary Highway roundabout will be replaced with a multi-level system interchange that will provide free flowing, designated lanes between the Ipswich Motorway and Centenary Highway.

The new Centenary Highway Interchange will include 13 bridges, including six over the Ipswich Motorway, which will provide uninterrupted and safer traffic flow between the Centenary Highway and Ipswich Motorway.

This will help reduce congestion on these major roads, therefore increasing reliability and providing better travel time and improved safety for motorists.

Planning considerations

The design and planning of the new Centenary Highway Interchange was influenced by a number of factors:

- » road classification
- » volume, character and composition of traffic
- » operating speed of both major roads



Multi-level system interchange: an artist's impression of the new Centenary Highway Interchange

- » surrounding land use
- » physical constraints
- » environmental constraints
- » available funding
- » cost.

Designers and planners gave careful consideration to all of these factors in order to develop the best solution for the Centenary Highway Interchange.



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**Please remember that safety around roadworks is a two-way street.
We ask that you drive carefully and responsibly during these construction works.**

Reducing our carbon emissions – saving energy

The Department of Main Roads has established SAFELink Alliance to deliver the Ipswich Motorway Upgrade from Wacol to Darra. Construction is underway and is due for completion in December 2010.

Sustainability is a key value for SAFELink Alliance, with a dedicated sustainability coordinator to lead the team in thinking about sustainable work practices.

One fundamental objective of sustainability is to reduce carbon emissions on the upgrade project.

By educating staff and contractors on the impacts of carbon on climate change, the team will work within the project and their day-to-day lives to make a positive difference.

Saving energy

Initiatives in place on the Wacol to Darra project to help save energy include:

In the office

- » partnership with Greenfleet to offset emissions generated by project vehicle fleet
- » solar hot water heating for kitchen water
- » insulation throughout the office buildings
- » lights and air conditioners are turned off whenever possible.

During construction

- » a carbon footprint will be created for the project, calculating emissions through measuring fuel use, electricity use and other sources of energy use. A baseline for understanding the project's impacts will be developed. The project team will review alternative ways to save energy throughout the project
- » the procurement team pursue and acquire the best items based on their energy performance.



The design

- » energy efficient light bulbs will be used to light the new bike paths
- » a sustainable design that promoted natural ventilation in place of air conditioners was used for the clubhouse on PJ McIlwain Place, the new sports fields built by the project team.

What is carbon footprinting?

Carbon footprinting relates to energy use, specifically the overall amount of carbon dioxide and other greenhouse gas emissions associated with a product or activity.

What is sustainability?

The best known definition of sustainability or sustainable development is the definition by the World Commission on Environment and Development. This suggests that sustainability is defined as “forms of progress that meet the needs of the present without compromising the ability of future generations to meet their needs.”

Ipswich Motorway Upgrade Wacol to Darra

Drivers can help too!

Did you know that poor driving techniques can increase fuel consumption by 10-15%?

Here are some tips to help reduce greenhouse gas emissions and save you money:

- » check your tyre pressure as under-inflated tyres increase fuel consumption
- » undertake regular vehicle maintenance
- » avoid wasting fuel, don't idle as this uses excess fuel
- » only use air conditioning when it's really necessary
- » choose the right gear for the conditions
- » don't speed
- » don't rev the engine unnecessarily
- » minimise drag by keeping the windows closed, if possible. Remove heavy items from the boot and take off the roof racks when not in use
- » plan your trip ahead. Try to avoid the peak periods. Consider leaving for work earlier or starting later
- » use your car less. If you can, take public transport more often, or arrange car pooling to work or school
- » ride a bike to work.



Using public transport where possible can help to reduce greenhouse gas emissions.

Greenfleet

Greenfleet exists to make a difference, not a profit.

Greenfleet is the first not-for-profit forestry offset organisation to become an Approved Abatement Provider under the Federal Government's Greenhouse Friendly™ initiative. Investment in Greenfleet projects generating approved Greenhouse Friendly™ offsets will make a real difference in the fight against climate change.

Did you know?

Traffic congestion is a serious concern. When vehicles enter a congested traffic stream, operation costs and trip travel times increase. This can potentially double greenhouse emissions.

Our aim is to reduce traffic congestion and improve traffic flow.

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Building bridges

The Department of Main Roads has established SAFELink Alliance to deliver the Ipswich Motorway Upgrade from Wacol to Darra. Construction is underway and is due for completion in December 2010.

The Ipswich Motorway Upgrade between Wacol to Darra includes the construction of 26 bridges. Some will be built at multi-levels to allow traffic to flow freely at the Centenary Highway Interchange, improving the safety and travel experience of motorists. Other bridges will provide crossings over rail lines and creeks.

Bridge sites

Bridges are specifically designed to suit unique site conditions. The project includes five different bridge sites:

- » 13 bridges at the Centenary Highway Interchange (including six over the Ipswich Motorway)

- » four bridges over Sandy Creek
- » three bridges over Bullockhead Creek
- » four bridges over the Bullockhead Creek Tributary
- » two bridges over the Ipswich rail line.



Our bridges have been designed to accommodate future traffic flow.

Ipswich Motorway Upgrade Wacol to Darra

Bridge design

All bridges are designed to integrate well with the local surrounds, existing infrastructure and to meet technical standards for safety and design.

Design features include:

- » wider, stronger bridges to accommodate future traffic flow
- » an estimated 100 year life span for bridges
- » a 100 year base flood plan.

Bridge building

A large amount of material will be used including:

- » 90 tonne girders (beams), each up to 35 metres long
- » 650 piles driven up to 20 metres into the ground
- » 54,000m³ of concrete
- » 4000 tonnes of steel reinforcement.

Main Roads is committed to minimising the impact on the local community and commuters by putting certain measures in place during bridge construction.

Measures include:

- » using traffic diversions to maintain traffic flow and speeds where possible
- » staging bridge construction so that bridges can be used to assist traffic diversions
- » transporting large prefabricated materials (such as 35 metre girders) at night.



Wider bridges will accommodate future traffic flow.



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