

# Inner Northern Busway - Queen St to Upper Roma St



<b>Location</b>	Brisbane City, Queensland
<b>Client</b>	Queensland Transport
<b>Contract</b>	Alliance
<b>Total Cost</b>	Inner Northern Busway \$333m
<b>Supplementary</b>	Caxton Roma Pedestrian Link \$10.5m
<b>Project Cost</b>	KGS Cycle Centre \$5.9m KGS Redevelopment Interface works \$4.9m
<b>Duration</b>	March 2005 - May 2008 (8 months ahead of schedule)



## Inner Northern Busway provides vital links.

The scope of works included two key phases. These were:

1. The development of a 'Reference Scheme' (or alignment) for a dedicated permanent Busway link between the Queen Street Bus Station and the current end point of the Inner Northern Busway at the junction of Countess Street and Roma Street, with a connection to Upper Roma Street. Obtaining stakeholder agreement for this scheme was also included.
2. The design and construction of the full 'Reference Scheme', specifically between the Queen Street Bus Station (QSBS) and Upper Roma Street, including:
  - Project length 1.2km
  - A 500m tunnel linking QSBS and Roma Street
  - An underground Busway Station under King George Square (KGS) with approximately 130m of platform length in each direction
  - Bus turnarounds at both ends of the KGS Bus Station
  - A pedestrian concourse leading into the KGS Bus Station linking inbound and outbound platforms
  - The provision for ticketed entry into concourses through turnstiles



- A new four-span busway bridge over Parklands Boulevard/QR link road
- Tunnel and underground station lighting, ventilation and fire life safety systems
- A smoke duct with a total exhaust capacity of 300,000 L/s, one of the highest capacities for any tunnel in Australia. This was the first transit facility to incorporate this capacity of smoke exhaust
- New Roma Street Busway Station at the Transit Centre integrated with Roma Street Rail Station
- Surface works in Roma Street to enable bus access/egress into and travel through the new tunnel and reinstatement and renewal of the eastern end of the Roma Street Forum
- Extension of the Queen Street Mall into Albert Street
- All other urban design and landscaping treatments to a standard equivalent to, or exceeding the Brisbane City Council 'Signature' standard
- Historical displays of items found during busway excavation incorporated at the King George Square Busway Station.

This project is the central link in a network of busways across Brisbane.

### Innovative Ideas

- Natural ventilation adopted wherever practical. The Ann Street concourse at King George Square Busway Station is 100% naturally ventilated, which will result in significant energy and carbon savings
- Floating heating and cooling set points used to allow air-conditioning to react and adapt to very hot or cold days
- Extensive use of natural lighting achieved at key points of the busway
- Collection of rainwater from the 350m<sup>2</sup> Ann Street Concourse roof — to be stored in two 16,000 litre tanks and used for flushing toilets
- A business support programme for businesses adjacent to the construction site on Albert Street to alleviate construction impacts.

### Problem Solving Areas

- As much as 98% of construction waste materials were either recycled or re-used, leaving only 2% to be disposed of as landfill: including the remodelling and re-use of the Countess Street Rail Bridge into a new busway bridge
- Greenhouse gases generated by construction vehicles, plant and equipment were fully off-set by planting trees via the Greenfleet programme. The project offices were fully powered by energy generated from renewable sources



- Scheme development, which allowed part of the busway to be constructed on the QR corridor by remodelling rail tracks and platforms at Queensland's primary rail passenger hub, thus freeing up the existing street network during and post construction.

#### Additional Scope

During the course of the design and construction of the INB, three supplementary component projects were added to the final delivered scope. These components were included to minimise future impacts on the completed busway and its operation.

#### Caxton Roma Pedestrian Link (CRPL)

Funded by the Major Sporting Facilities Authorities, the CRPL provides a land bridge to improve pedestrian access on event days between Suncorp Stadium, Caxton Street precinct, Brisbane Transit Centre and the city. The link reduces the need for full road closures after major stadium events and lane closures after smaller events.

#### KGS Cycle Centre

The KGS Cycle Centre project was jointly funded by the Brisbane City Council and Queensland Transport and incorporated as part of the King George Square Busway Station. The centre provides a secure facility catering for 427 bicycle spaces and provides male, female and PWD amenities and change facilities.

#### KGS Redevelopment Interface Works

Incorporating a section of the Brisbane City Council's proposed redevelopment of King George Square design competition winning solution into the busway works, which involved demolition of a further 1,600m<sup>2</sup> of the surface of the Square and construction of grand ramp structure leading down to the Adelaide Street footpath over the busway concourse. The external design of the two busway entries off Adelaide Street was also redesigned to fully integrate with the BCC's final design.

#### Value Added Ideas

- Installation of pipeline on behalf of Brisbane Water for Brisbane City Council's future recycled water main, and the provision to use this water when it is available
- A new Sustainable Travel Centre at the King George Square Busway Station, which will provide information and assistance to help people make sustainable travel choices.

#### Awards

Winner – 2007 Leighton Excellence Award in the Community Relations Excellence Category

Finalist – 2007 Leighton Excellence Award in the Project Excellence Category

Winner – 2008 National Civil Contractors Federation Earth Award for Excellence in Civil Construction in Category 5 (Projects over \$75m)

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Winner – 2008 Public Relations Institute of Australia Golden Target Award (Queensland) in the Community Relations Category

Commended – 2008 Public Relations Institute of Australia Golden Target Award (National) in the Community Relations Category

Finalist – 2008 Banksia Environmental Award in the Climate Category

Honourable Mention – 2008 Alliancing Association of Australasia Excellence Award in the Alliance Team of Excellence Category

Finalist – 2009 Australian Construction Achievement Award