



CLEM JONES TUNNEL

PROJECT UPDATE

APRIL 2009



Tunnel workers celebrate the breakthrough of the first tunnel boring machine, named Florence, at Kangaroo Point in December 2008.



New toll tag for Brisbane motorists in 2009

With progress on the CLEM7 continuing well ahead of schedule motorists can look forward to the launch of a new 'FLOW tag' in 2009.

TUNNEL EXCAVATION 85% COMPLETE

The two massive tunnel boring machines digging the Clem Jones Tunnel (CLEM7) have now completed 85% of their journey.

Both machines reached another major milestone breaking through into an excavated section of tunnel at Kangaroo Point.

Commencing at Bowen Hills on the north side of the Brisbane River, the 4,000-tonne tunnelling machines have each completed more than 3km of tunnel.

The 6.8km CLEM7 will enable Brisbane motorists to avoid up to 23 sets of traffic lights as they travel below Fortitude Valley, the Story Bridge, Kangaroo Point and Woolloongabba.



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TRAVEL BENEFITS

Brisbane currently has just 32 general traffic lanes across the Brisbane River. During peak times, these crossings operate at about 95 per cent capacity. Part of the Lord Mayor’s TransApex plan, CLEM7 will add an additional four lanes and form part of a much needed ring-road for Brisbane that will connect existing motorways and major arterial roads to significantly reduce traffic in the Brisbane CBD.

The 6.8km CLEM7 provides a critical river crossing that will link Brisbane’s growing northern and southern suburbs, with direct connections at Bowen Hills, Kangaroo Point and Woolloongabba.

- Motorists using the CLEM7 will enjoy faster, safer and more reliable travel as they avoid up to 23 sets of traffic lights
- Reduced stop-start traffic on congested roads will lower fuel costs and reduce wear and tear on vehicles
- Businesses delivering goods to customers, tradesman trying to get to their next job and taxi drivers will benefit from improved travel times, reduced operating costs and predictable travel
- The additional river crossing and much needed bypass of the Brisbane CBD will reduce travel times by up to 30%
- Local communities will benefit from new and upgraded bike and pedestrian paths, and improved local road connections.

Electronic tolling

CLEM7 will have a state-of-the-art tolling system that will enable motorists to travel the 6.8km journey without having to stop or slow down to pay the toll.

When motorists use the tunnel their trip will be identified via an electronic tag fitted inside their vehicle or by taking a photograph of their licence plate number.

CLEM7 AND CONNECTING ROADS



BRISBANE MOTORISTS TO GO WITH THE FLOW IN 2009

With progress on Brisbane's CLEM7 continuing well ahead of schedule the owner and operator of the tunnel, RiverCity Motorway Group, has announced that it will launch a new 'FLOW tag' in 2009.

FLOW tolling will offer a range of tag and video accounts that can be used on the CLEM7 and Hale Street Link, as well as all other free-flow toll roads in Australia including the Gateway and Logan Motorways.

People who already have a tag will be able to use their tag on CLEM7 because we have ensured our tolling system is fully compatible with existing free-flow toll systems.

The name 'FLOW' has been selected to reflect the fact that using the CLEM7 and paying your tolls will be fast, easy, safe and reliable.

The unveiling of a second electronic tag for Brisbane motorists follows an announcement by Brisbane City Council that a consortium led by Leighton Contractors will provide the tolling hardware and operations for the new Hale Street Link bridge when it opens in 2010.

RiverCity Motorway will have the pivotal role of providing marketing, customer service and tolling operations. Roadside equipment and the back office systems will be provided by Leighton Contractors and Kapsch TrafficCom AB.

FLOW will offer a genuine alternative for Brisbane motorists. Our products will make it easier and faster for motorists to use any of Brisbane's free-flow toll roads.

We will also be offering motorists some very attractive incentives to set-up a FLOW tag or video account when we get closer to opening the CLEM7.

The 'FLOW tag' will cater for cars, light commercial vehicles and heavy commercial vehicles. Motorbikes will not need a tag to use the CLEM7 and instead will be invoiced through tolling technology that can recognise their rear licence plates.

Regular and occasional users of any of Brisbane's toll roads will be able to establish a tag or video account with FLOW later this year online, by telephone or at FLOW's customer service centre in Cannon Hill.



The northern interchange at Bowen Hills will provide connections to Lutwyche Road, the Inner City Bypass and the future Airport Link tunnel.

BRISBANE'S GREAT WALL COMPLETE

The project team has now completed all 38,000 concrete segments that will line the walls of the CLEM7.

Commencing work in August 2007, the factory has been operating 24 hours per day, 7 days a week producing an average of 100 tunnel lining segments per day.

Each segment is 40cm thick, about 4.5m long, 2m wide and weighs approximately 8.5 tonne.

Nine of the precast concrete segments fit together to form a complete section of tunnel lining.

Both of the project's 4000-tonne tunnel boring machines have been installing up to 90 concrete tunnel lining segments per day.

Activity	Progress to Date	Total at Completion
Tunnel Boring Machine #1	3.4km	4.3km
Tunnel Boring Machine #2	4.0km	4.3km
Roadheader Excavation	360,000m ³	360,000m ³
Cross Passages and Substation Passages Excavated	45 (75%)	60
Tunnel Lining Segment Manufacture	38,000	38,000
Bridges Complete	18	18
Surface Roads	103,000m ² (66%)	155,000m ²

Table 1 Construction progress as at 27 March 2009.





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MASSIVE TUNNEL MACHINES BREAKTHROUGH AT KANGAROO POINT

The two massive tunnel boring machines digging the CLEM7 reached another major milestone when they broke through at Kangaroo Point.

The first tunnel boring machine, named Florence, completed its journey to Kangaroo Point in December 2008. The second machine, named Matilda, arrived at Kangaroo Point in January 2009.

The journey from Bowen Hills to Kangaroo Point has taken both machines below the RNA Showgrounds, dozens of busy city streets, office blocks and apartments, the Brunswick Railway Station, Brunswick Street Mall, Kemp Place Fire Station and the Story Bridge.

Both machines also successfully tunnelled 60m below the Brisbane River.

In total, each tunnel boring machine will complete 4.3km of tunnel. Both machines remain on schedule to complete their journey to Woolloongabba by mid 2009.



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- 1 The project team has now completed all 38,000 concrete segments that will line the walls of the CLEM7.
- 2 Tunnel Foreman Bob Dalton holding a statue of St Barbara, the patron saint of underground workers.
- 3 The second machine, named Matilda, arrived at Kangaroo Point in January 2009.
- 4 Celebrating the journey from Bowen Hills to Kangaroo Point which has taken both machines below the RNA Showgrounds, dozens of busy city streets, office blocks and apartments, the Brunswick Railway Station, Brunswick Street Mall, Kemp Place Fire Station and the Story Bridge.



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10,000 PEOPLE HAVE WORKED 10 MILLION HOURS

The CLEM7 has been an employment and economic powerhouse for Brisbane with 10,000 people already completing more than 10 million manhours to deliver this vital project for Brisbane.

In February 2009, Michael McCarthy, a crane operator from Mulherin Rigging and Cranes, was the 10,000th person to complete the mandatory 3-hour project induction before he commenced work on the tunnel.

With a peak workforce of 1,600 people in November 2008 and thousands of other people supplying goods and services, the project has injected millions of dollars into the local economy.

The average monthly construction expenditure since August 2006 has been \$50 million.

The project team has made buying locally a high priority and has purchased a range of local materials and tools including gravel to line the tunnel, sand, mulch, hand tools and pumps. Many local companies are also supplying large pieces of machinery such as excavators and piling rigs.

The project is also providing a lasting legacy by developing the skills of many local workers. To date, almost 3,000 people have completed training programs such as rail safety, working at heights, working with small tools, and safe handling of tunnelling equipment.



- 1 Control systems being installed on the CLEM7.
- 2 The project reached a major milestone inducting its 10,000th worker in February 2009.
- 3 120 jet fans will be installed inside the tunnel.
- 4 192km of electrical cable will be installed inside the tunnel.



MORE PEOPLE TO POWER MECHANICAL AND ELECTRICAL FIT-OUT IN 2009

With construction focus moving from digging rock to installing jet fans a team of more than 350 people will be working on the mechanical and electrical fit-out of the CLEM7 in 2009.

To date, 80% of the final mechanical and electrical design has been completed and all major tunnel equipment has been ordered.

Inside the tunnel, cross passages are being excavated and fitted out, the smoke duct ceiling is being constructed and cable trays and water deluge pipework are being installed.



WHAT GOES ON INSIDE THE CLEM7?

There is still an enormous amount of work to be done after the tunnel boring machines finish their work. Some of the equipment that will be installed inside the CLEM7 includes:

- 192 km of cable
- 45 km of fire water mains
- 120 ceiling mounted jet fans
- 1,958 lights
- 165 emergency phones



BRISBANE BLOOMS CELEBRATED IN URBAN DESIGN OF CLEM7

The blooms of Poinciana and Jacaranda trees lining many of Brisbane's inner city streets have inspired the urban design of two ventilation stations being built for the CLEM7.

Both of these iconic trees have played an enormous role in shaping the character of Brisbane and are deeply embedded in our psyches.

When you drive around many of Brisbane's suburbs you will see streets lined with Poinciana and Jacaranda trees.

In summer time, the Poinciana trees bring those streets alive with dramatic shades of orange and red as they herald warm weather and Christmas.

In spring time, the Jacaranda trees bloom with soft shades of blue and lilac before their flowers fall to the ground and form a glorious carpet of colour on our pavements.

These are the wonderful natural assets within our city which we have celebrated in the designs of these two structures.

The ventilation stations are being built on the north and south sides of the Brisbane River, with one located near O'Connell Terrace in Bowen Hills and the other at the corner of Jurgens Street and Logan Road in Woolloongabba.

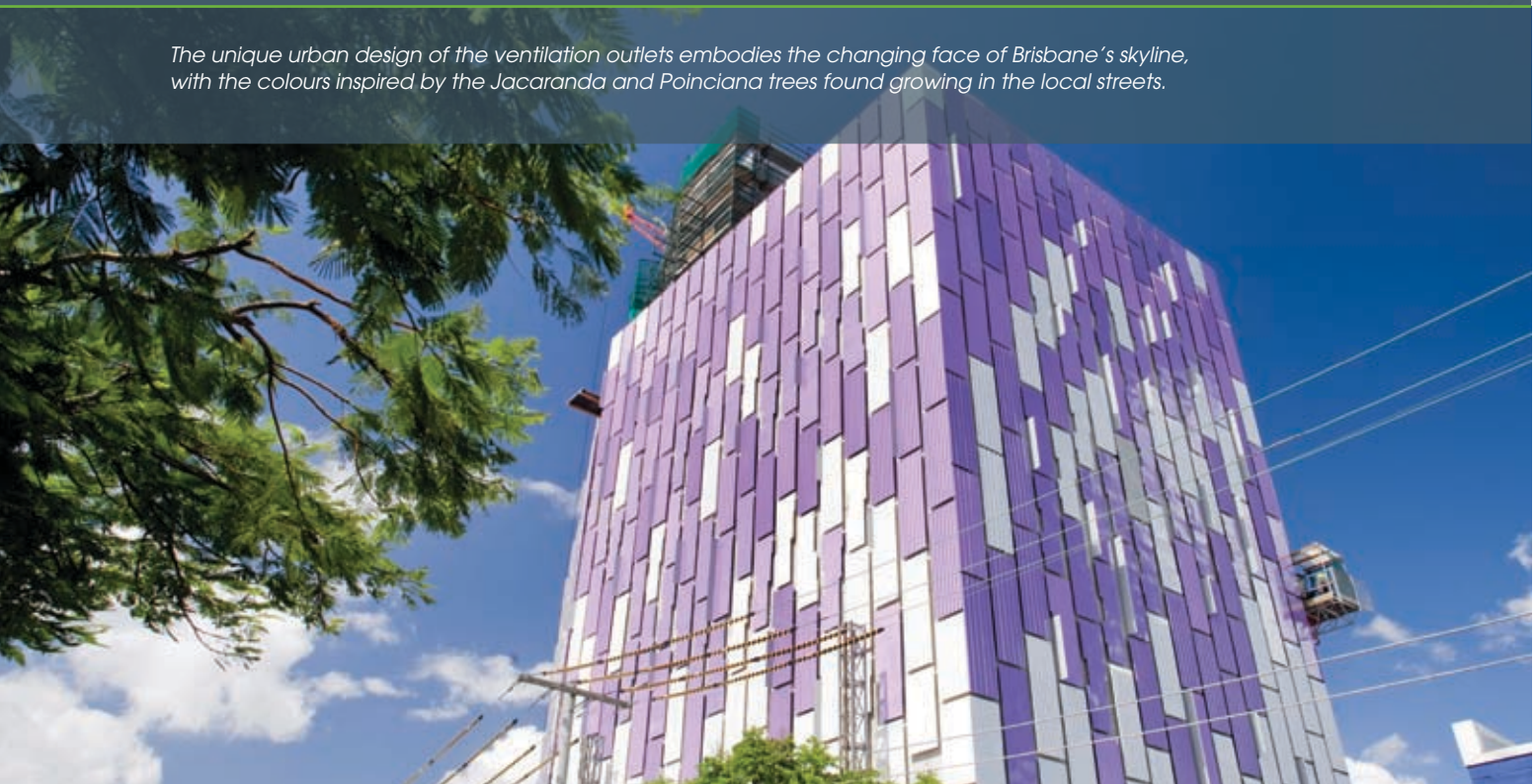
The outlets will be 36m high at Bowen Hills and 43m high at Woolloongabba. The ventilation outlet height and exit velocity will ensure appropriate dilution and dispersion of vehicle emissions now and into the future, and in all weather conditions.

Brisbane City Council undertook community consultation regarding the ventilation outlets as part of the Environmental Impact Statement process.

The external panels have been fitted to the ventilation station at Woolloongabba. Work has commenced fitting panels on the northern ventilation station.

Internal fit-out of both buildings will continue throughout 2009.

The unique urban design of the ventilation outlets embodies the changing face of Brisbane's skyline, with the colours inspired by the Jacaranda and Poinciana trees found growing in the local streets.



CONTACT US

For more information about the project:
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