

# Power and Operations

FACT SHEET JUNE 2013



Bombardier Transportation commences installation works on Stage one of Queensland's first light rail system.

**Bombardier Transportation (BT), is part of the design and construction joint venture of the GoldLinQ consortium.**

BT are responsible for installing overhead line equipment, traction power substations, network and communication systems, and traffic signalling along the 13-kilometre light rail corridor.

## Overhead Line Equipment

The overhead line equipment provides power to the trams. The overhead wires are supported by 8.5 metre high steel overhead line poles. Located at the top of the tram is a connector (pantograph) which draws the electricity from the overhead wires.

Across the project more than 470 overhead line poles will be installed, if lined up they would equal 80 football fields in length. Thirty kilometres of wire will also be installed weighing 32,000 kilograms, equal to the weight of three standard buses.



*Overhead line equipment in Queen Street, Southport.*

## Traction Power Substations

Six Traction Power Substations (TPS) located across the corridor supply electricity to the overhead wires. The TPS are corrugated steel buildings similar in size to a double car garage. The electrical equipment used to supply power is stored safely within the buildings. Landscaping will feature around the TPS to integrate the buildings into their surrounding environments.

An important feature of the electrical system is that it allows for the trams to be disconnected from the network if an urgent maintenance or emergency arises. If a tram does need to be disconnected the rest of the network will continue to operate safely.



## Tram and Depot Equipment

BT has also designed and delivered the 14 *Flexity 2* trams. The *Flexity 2* has been tailored by Queenslanders, for Queenslanders, specifically for the unique Gold Coast lifestyle.

Another important part of the system is the maintenance equipment. This includes a tram wash plant, three large cranes to lift and move trams during maintenance, road rail vehicles used to move trams out to the corridor and a special rotating machine that allows the trams wheels to be inspected and smoothed.

### Network and Communications System

The network and communication system has been designed to provide safety to passengers and support communication between the tram drivers and operation control centre.

For passengers there will be CCTV surveillance, intercoms and emergency help points on both the stations and the trams.

The information display and public address system will keep passengers informed by updating commuters on arrival and departure times and any emergency announcements.

A radio system will connect the tram drivers to the operation control centre. This system is especially important for emergencies and contacting maintenance crews along the corridor.

### Signalling System

Along the corridor the trams will travel through 52 road intersections. At each of these crossings the tram will have its own traffic light. These are much like busway signals, except Gold Coast commuters

will notice a new 'T' (instead of a 'B') at the light rail intersections. A white 'T' means the driver can proceed through the intersection.

The traffic system is designed to give the trams priority. This means it is unlikely trams will encounter red lights at intersections. The priority system uses detection loops (a wire

embedded in the track on either side of the intersection to tell if the tram has entered and cleared an intersection. Once the tram has cleared the intersection other traffic will be allowed to proceed. If there is no tram at the intersection, traffic will not be stopped. It is important that road users continue to follow Queensland road rules around the new light rail system.



An artist's impression of Broadbeach North Station.

To keep up-to-date with the progress of Queensland's first light rail network and sign up for updates visit [www.goldline.com.au](http://www.goldline.com.au). or call the project hotline on **1800 967 377\***.

\*Free call within Australia. Call charges may apply from mobile phones and payphones.

