

### Client

Transport for Greater Manchester

### Location

Bolton, Manchester

### Construction Value

£24m

### Contractor

Kier

### Architect

AHR

### Start

September 2014

### Completion

September 2017

### Sector

Transport

### Form of contract

NEC A

### Delivery type

Design & Build



Forming an integral part of Bolton's Newport Street Gateway regeneration proposals and Town Centre Transport Strategy, the new interchange provides a modern, high quality facility for bus passengers and is a link between bus and rail services, acting as a gateway to the town centre.

The new interchange offers a modern concourse and passenger facilities including retail units, café and public toilets with adult and baby changing facilities. It directly connects bus and rail services via a Skylink pedestrian footbridge improving transport links and access to the town centre.

Financed through the Greater Manchester Transport Fund, the interchange is highly accessible, including level or ramped flooring throughout. It also has a new 48-space 'Cycle Hub' outside the interchange entrance offering secure storage for bikes with CCTV and swipe card access for a small annual fee.

### Innovative construction

On this technically challenging project, TfGM and the contractor were required to develop innovative construction solutions, working with multiple sub-contractors, whilst also completing the works safely within agreed timescales. These included:

- **Precast bus deck:** Using value engineering the team changed the original design of the frame from in-situ concrete to precast. This allowed strong certainty of completion to programme. The structure had to accommodate 210 bus departures per hour.
- **Ethylene Tetra Fluoro Ethylene (ETFE) roof:** The interchange has an air inflated roof system formed from clear plastic to allow natural daylight into the station, helping to reduce electricity usage. This was a challenging element in both design and construction as the team had to work to tight tolerances for the interface between the ETFE roof structure and the building's steel frame.



For more information please contact:  
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Inside the Interchange



ETFE roof



The Interchange by night

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### Sustainability

Aside from the EFTE roof enhancing the use of natural daylight, the new interchange also makes use of other innovative sustainable energy initiatives to reduce energy consumption including: rainwater recycling to flush the toilets, solar panels, air source heat pumps and low-energy LED.

The project received a Green Apple Silver award in recognition of its positive contribution to the environment and for promoting biodiversity during construction activities.

### Minimising disruption

As a result of the extremely close proximity of the site to the railway line, close liaison between TfGM, the contractor and Network Rail was vital. Kier Rail were also involved during the pre-construction phase in order to help co-ordinate the works and arrange 'possessions' of the rail line and 'line blocks'.

Possessions were carried out overnight to cause as little disruption as possible and were necessary when the precast structure was erected. The liaison between the parties worked effectively in achieving this.

Due to the site's town centre location, several measures were taken to minimise disruption to local residents and businesses:

- A 'left turn only' policy was enforced for all delivery vehicles to prevent any congestion on the roads
- A local car park was hired for the duration of the project, ensuring no disruption from operatives' parking
- Monthly newsletters were compiled by TfGM, with input from the contractor, providing local businesses and residents with site progress information and news
- Co-ordination meetings were held with the nearby church in order to ensure that services were not interrupted by noise. An acoustic wall was also built in front of the church to reduce noise levels from the interchange.

### Working with the community

The project was awarded 2 Considerate Constructor Bronze Awards over consecutive years in recognition of the work carried out to enhance the reputation of the construction industry, and the value added to the local community and workforce by TfGM and the site team.

