### Western Rail Access to Heathrow (WRAtH)

**Key Issues**
The scheme involves construction of a 5km twin bore tunnel between Richings Park and Heathrow Terminal 5.

Various route options were considered in the environmental options appraisal. Two main corridors were considered – a ‘Langley’ corridor from Langley, Slough to Terminal 5, and a ‘Colnbrook’ corridor partly using existing freight lines between Colnbrook and the Great Western Main Line (GWML). Route variations within these corridors were considered. A number of environmental constraints associated with these route options were identified.

Some route options passed through a Source Protection Zone (SPZ) with risks associated with dewatering and pollution of the principal aquifer. In addition, some of the routes would lead to loss of flood storage, and compensation would therefore be required.

Some tunnel route variations also passed under residential properties with potential for noise and vibration impacts.

There are also a number of archaeological sites, ecologically designated sites and watercourses in the vicinity of the scheme.

**Purpose of the project**
The proposed scheme is needed to provide a more direct rail route to Heathrow Airport for passengers and staff travelling to and from Reading, Oxford, South Wales, Bristol, Birmingham and beyond.

Road links in the region are approaching capacity and reaching critical congestion levels, a significant barrier to reliable road travel. WRAtH will alleviate pressure on the regional transport network by encouraging modal shift from road to rail.

**Description of the project**
The proposed scheme involves the provision of a rail link between Reading railway station and Paddington railway station via the Great Western Main Line and Heathrow Airport Terminal 5. The scheme includes the construction of a 5km twin-bore rail tunnel between Richings Park and Bedfont Court at Heathrow Terminal 5.

Jacobs was commissioned to undertake an environmental appraisal of various route options and prepare the EIA Scoping Report to support a DCO application.
Lessons learnt

A detailed Environmental Options Appraisal was undertaken covering each of the route options. As part of this appraisal a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was undertaken. A Red Amber Green (RAG) analysis was also undertaken for each environmental discipline in order to compare each of the route variations. These tools were very effective in clearly presenting the environmental pros and cons of each of the options and were used in selecting a preferred option.

Taking into account environmental, financial and engineering factors, one of the Langley corridor options was taken forward for further design development. This option was one of the preferred environmental options as it included a shorter tunnel resulting in less spoil requiring disposal.

Extensive consultation with the Statutory Environmental Bodies, Local Planning Authorities and public was undertaken and influenced the design and option selection. For example, a variation of the Langley corridor (orange option) was rejected on environmental grounds following input from these consultees.

Contact details

Daniel O'Kelly  
Principal Environmental Scientist  
Jacobs  
Tel: 0118 9468323

Lessons learnt cont. –

The scheme requires construction of several intermediate headshafts. Jacobs’ environmental consultants were involved in identifying suitable locations for positioning these above-ground structures. One shaft was relocated for environmental reasons in order to reduce the noise and visual impact on nearby residential properties. Another shaft location was rejected on the basis of the presence of ancient woodland.

Various options for a rail underbridge were considered, with one option rejected on environmental grounds due to an unacceptable visual impact.

As part of the scheme is in floodplain, a Flood Risk Assessment was undertaken, including flood modelling, identifying potential flood compensation areas.

Options for the disposal of large quantities of tunnelling spoil are currently being investigated and assessed in conjunction with the ECI contractor.

For access to more EIA case studies and hundreds of non-technical summaries of Environmental Statements visit:  
www.iema.net/qmark