

Is Rapid Transit on the road at last?

Daventry pushes ahead with GRT network as Heathrow PRT prepares for March start date.

Personal/group rapid transit (PRT/GRT) is fast gaining credibility as a new alternative travel mode, transport professionals heard in Daventry last month. A 'champion' community in the EC's NICHES+ transport innovation project, the English Midlands town was hosting an international seminar on Unlocking Transport Innovation.

Its council announced plans – jointly with Northamptonshire County Council – to build a £20 million GRT network, the first in the UK. Using automated 20-25-seater passenger vehicles running on segregated guideways, this will aim to discourage car use in the rapidly expanding town, which mirrors the living environment of 60% of the English population.

The announcement came shortly after the November 2010 completion of simulated revenue service trials of the UK's first PRT service, a similar system using smaller, four-to-six seater vehicles. Developed by UK company ULTra as a private shuttle between Heathrow Airport Terminal 5 and a business car park, this is due to go live in March 2011.

Aimed at mimicking real-life operating conditions, the trials showed system availability – defined as the ability for any passenger to travel to any station during any given minute – running at 99.6%. This is virtually the same level as for automated people movers (APMs).

Speaking at the Daventry seminar, ULTra sales director Nick Ford foresaw the Heathrow system expanding beyond the confines of the airport to serve nearby hotels. A PRT system, he said, has the potential to carry as many people as:

- A lane of high-speed road traffic;
- A 200-seater APM or light rail vehicle arriving every five minutes; or
- A 50-seater bus arriving every 75 seconds but at much lower capital costs (£4-6 million per km, as opposed to £9-14 million for light rail or £11-40 for AMP).

PRT, he continued, offers major gains in time. 'These gains have value, which can be captured either through the fare box or through increases in land values.'

A modelling exercise carried out in the UK within another EC project – CityMobil – has previously indicated that a GRT system offering feeders to mainline transport terminals in Gateshead, in North East England, would deliver a 2.48 cost benefit ratio in revenue terms (excluding social benefits).

The concept envisaged 23km of segregated guideway with 36 stations, using 43 vehicles and charging a €2.2 fare. It put the capital cost at €36.4 million, with first-year operating and maintenance costs of €3.3 million.

Malcolm Buchanan of consultants Colin Buchanan

and Partners, who have advised on the development of PRT, told the seminar: 'It is now a credible public transport system that will easily outperform the bus. It will produce operating profits that will largely repay the capital costs, complement and increase the use of rail networks by improving station access, and significantly reduce the use of cars.'

He saw it having a key role in replacing poor and subsidised urban public transport networks. Its promoters could well be bus companies 'who will adopt it if it increases their profits or wards off competition. It will reduce the need for, but not replace, taxis.'

Business researchers Frost and Sullivan's recent Executive Analysis of the Global Emergence of PRT systems forecasts that, by 2020, there will be over 130 airport systems and nearly 60 urban ones in operation, the first of these being in Masdar City in the UAE, which opened in November 2010 with Dutch company 2gether as the system supplier. Shopping malls will be the next most important client sector.

The 2008-2011 NICHES+ project, coordinated by European cities and regions group POLIS, has involved seven 'champion' towns and cities, including Daventry, in the development and implementation of innovative urban transport concepts. It has also produced detailed guidance for PRT and GRT system implementers, prepared for it by the Transportation Research Group at the University of Southampton.

This suggests that, while GRT tends to be thought of as a 'last mile' solution the potential is greater – as at Daventry. For PRT, which 'provides personal transport, like a taxi, and so can expect to be highly attractive to users', it sees initial urban applications as being for widening catchment areas, eg for stations, and for serving dispersed sites – but, again, 'city-sized networks are possible'.

NICHES+ is staging its final conference on the theme of Urban Transport Innovation in London on 07 April 2011.

The five-year CityMobil project on advanced urban road transport, which ends in May 2011, has focussed on the development of automated transport systems for people and goods within the urban environment. It has supported three real-life implementation sites: one at London Heathrow Airport (UK); the others in Rome (Italy) and Castellón (Spain). It holds its final conference in La Rochelle, France, from 12-13 May 2011.

www.niches-transport.org
www.citymobil-project.eu
www.daventrydc.gov.uk
www.trg.soton.ac.uk
www.colinbuchanan.com
www.ultraprt.com
www.2gether.eu

An ULTra PRT pod in trial operation