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PODCARS FOR THE IPOD GENERATION

Martin Tillman, Associate at Steer Davies Gleave, investigates the introduction of the podcar in the sustainable transport market.

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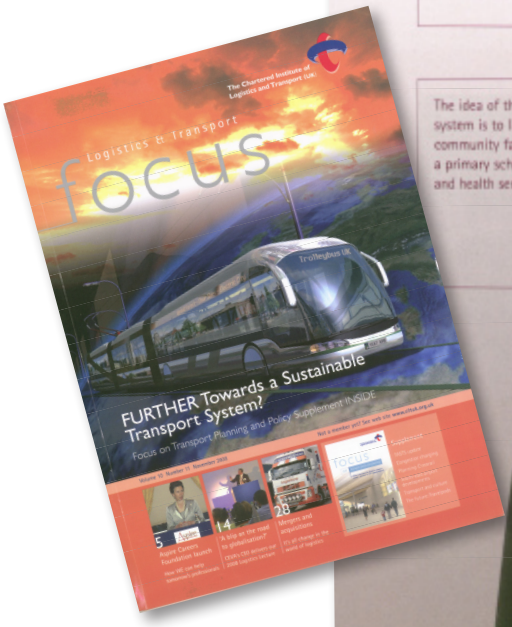

Podcars for the iPod generation

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With two million iPods sold in the UK over the past year and the Apple brand now firmly established in the mobile phone market with its iPhone, Martin Tillman investigates the introduction of the podcar in the sustainable transport market, a concept and design that could have taken design hints from Apple!

The idea of the Dunsford Park system is to link the key community facilities, such as a primary school, local shops, and health services, by podcar

press cuttings

Toyota launched the current Prius in 2005, making it cool to be sustainable. Then came the California-designed Tesla, which launched the ultra-hip, all-electric sports car. But it is not only limited to cars. In Paris, the Velib bike hire scheme has become fashionable. In the UK, town and city councils are discovering the benefits of shared spaces to encourage walking. The public transport operators Stagecoach and National Express have even introduced wi-fi on their buses, alongside smart leather upholstery, and housing developers have ambitions to introduce at-home public transport information display systems in new-build homes.

Whilst these examples move sustainable transport in the right direction, a bigger push is required to encourage more people to get out of their cars. A glimpse at future public transport is the podcar or personalised rapid transit system. Podcars are a public transport concept based on 'non-stop, on-demand small vehicles – typically carrying up to four passengers – on a network of specially built guideways. Another way to describe podcars is a horizontal lift.

Given the climate change agenda, the role of podcars is gaining momentum. They are very lightweight, have zero local emissions and there are plans to power them by wind or solar energy. At a recent podcar conference in New York, the latest developments were presented and debated.

So far there are no true podcar schemes running anywhere in the world, although there are variations in operation. Perhaps the most well-known is the Morgantown 'people mover' in West Virginia, USA. It was built 1974 and is still 98% reliable. Its driverless, 20-person car runs on an elevated track and connects the three campuses of West Virginia University. A more recent example is the driverless system in Rivium, Holland, build by the 2getthere company. It began operation in 1999 and the 1.8km track links a railway station with a business park. The vehicles look just like minibuses and can hold 20 passengers. The peak capacity is 500 passengers per hour in each direction on a 2.5-minute frequency. The big difference with this system is that the vehicles run at ground level and even mix with pedestrians and cyclists.

In 2008, the UK will have the world's first podcar in operation at London's Heathrow airport, linking Terminal 5 with the business car park, covering a distance of 4.2km. The scheme is being developed by ATS and BAA using the ULTra system. BAA already has the podcar expansion plans mapped out. The all-electric system at Heathrow will be fully segregated from all other modes of transport, and will be elevated for the majority of the six-minute trip. The system is scheduled to have 18 vehicles, each carrying up to four passengers.

Also in the UK, the planned 600-acre eco-town of Dunsfold Park, near Guildford, is investigating the possible introduction of a podcar system. The proposal for Dunsfold Park is for 2,600 new homes and a business district providing 2,000 jobs. The idea is to link the key community facilities, such as a primary school, local shops, and health services, by podcar. The promoters of the scheme have even built a 400m test track for an ULTra system. The test track runs on the ground, and in terms of ride quality, the test vehicles are smooth and controlled, and passengers have said they enjoyed the whole experience.

The ULTra and 2getthere systems can run at grade or segregated, but the majority of the podcar schemes are designed to run segregated. All are designed to operate electrically. For single line systems, developers talk of headways of two to four seconds between cars, and theoretical – full load – capacities of 7,200 passengers per hour. However, due to the nature of podcars, a large number of the cars would be empty en route to where they have been called. Thus lower carrying loads would be expected; perhaps more realistic is around 2,700 passengers per hour.

So why are there no podcar systems in operation, given that they could potentially carry significant passenger numbers and have relatively cheaper construction costs? The main issue is the same with any fixed route system: people must be able to get from point A to point B, then on to C. Furthermore, reliability and deliverability are still big issues. These issues have not stopped Abu Dhabi in the United Arab Emirates, where the world's first 100% carbon-neutral and car-free community is currently being built. The Masdar development will cater for 1,500 businesses, 70,000 jobs and 50,000 residents. A solar-powered podcar network is part of the plan.

There is no doubt that podcar systems offer an attractive alternative to the car. They are innovative and are likely to capture the public's imagination as a mode of transport. In particular, podcars benefit campus environments, such as airports, business parks, universities and hospitals, where demand for vehicles is controlled and the system can be designed in small workable stages. However, instead of replacing one form of car transport with another, planners need to encourage the best location of activities to encourage more access by cycling and walking. Activity at street level can help to ensure vibrancy and a feeling of security.

The future for podcar schemes will in part be decided by the opening of the Heathrow ULTra system. If that scheme is successful and popular with the public, there will certainly be lots of interest in podcars around the world.

In the land where Apple invented the iPod, there is real appetite for less reliance upon fossil fuel-hungry cars – especially given the current price of oil – and a move towards encouraging electric vehicles into the mix of public transport, walking and cycling. America certainly does not want to be left behind in the race for podcars.

Information

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For more information on the future of podcars, why not join our Transport Studies or Strategic Rail Forums? See our web site **www.ciltuk.org.uk** for more details.