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# Freight in eco-towns

- Eco-towns are a Government-sponsored programme of new towns to be built in England, that are intended to achieve exemplary standards of sustainability. However, the plans have not been without controversy. Erica Ballantyne and Anzir Boodoo discover how freight fits into the plans.


In 2007, the Department for Communities and Local Government (DCLG) announced a programme to build a number of eco-towns. At the time of going to press, the new Coalition Government has not announced any serious changes to the plans.

DCLG received around 50 bids for new towns from developers and landowners, which were reviewed through a Government consultation process with a challenge panel of independent experts. As part of this, the Town & Country Planning Association and DCLG produced a Transport Worksheet,<sup>TCPA & DCLG, 2008</sup> which set out the transport criteria for assessing each proposed eco-town. The criteria were largely based on planning for and demonstrating the deliverability of modal share

targets – percentage of trips aimed for by each mode – and incorporating maximum levels for car use. Little attention was given to the logistics and transport of freight, aside from stating that freight movements should be managed to reduce their volume.

A planning policy statement (PPS) for the eco-towns laid out other planning criteria for the towns,<sup>DCLG, 2009</sup> again reiterating that the towns should be designed in such a fashion as to prioritise sustainable travel; walking and cycling are particularly encouraged, thereby significantly reducing reliance on private car use.

One of the aims of the proposed eco-towns is that car-free developments be included. Melia<sup>Melia, 2010</sup> defines these as: 'residential or mixed use developments which:



A cycle car in Headingly, Leeds is a novel way of carrying freight by cycle

normally provide a traffic-free immediate environment; and are designed to facilitate movement by non-car means; and offer no parking or limited parking separated from the residences'. A number of these have been built in Germany, such as Stellwerk 60 in Cologne and Vauban in Freiburg. Slateford Green in Edinburgh is one of the first examples of such a scheme in the UK, where parking is limited to around one space per 10 dwellings. However, according to Whitelegg,<sup>Whitelegg, 1993</sup> the concept of a car-free city does not 'directly address the problem of lorries'.

**Logistics requirements**

The movement of freight into and around eco-towns needs consideration in the planning phase equal to the passenger transport aspects. One of the main proposals is that new eco-towns are planned to incorporate consolidation or transshipment centres, which would aim to reduce the number of goods vehicles entering the urban area. These centres would provide the opportunity for local distribution to be carried out on more environmentally friendly modes, such as electric zero-emission vehicles.

However, the successful use of consolidation centres to date has generally been for mass retail users, such as The Arc at Meadowhall shopping centre on the outskirts of Sheffield, whose success could be attributed to the numerous benefits available for retailers using it. The

main appeal of such a facility for an eco-town is the environmental benefits, which include reduced vehicle-km, improved vehicle utilisation and reductions in the carbon footprint.

The viability of using consolidation centres for eco-towns is contestable, as estimated populations in the region of 15,000–25,000 inhabitants may be too small a community size to warrant such a designated facility. This is mainly because the volume of freight may be too small for the savings of consolidation to offset transshipment costs. In addition to the environmental benefits, there need to be clear advantages that make economical sense. Businesses will be creating an extra link in their supply chains, which not only increases delivery lead-times, but also generates issues of double handling, contradicting a lean approach.

With potentially low populations residing in eco-towns, the likelihood of the consolidation concept being a viable solution may be possible if the new eco-towns are twinned with other towns or cities in the region. This way, the centre could service a wider catchment area, making it a more realistic solution, whilst creating environmental benefits for multiple urban areas. Given that each of the four approved locations is essentially an extension to an existing town, only separated by small green areas, the idea of twinning for a consolidation centre may be a realistic way forward for freight distribution.



Car-free housing district in Vauban, Freiburg



The entrance to the home zone or woonerf at Schoolwerf, Almere Haven. Though largely vehicle free, even such zones need access for removal trucks.



An alternative solution for local freight distribution in the proposed eco-towns could be the use of specially adapted bicycles, referred to as cargo bikes or cargo cycles. These are completely non-polluting – zero emissions and zero noise – which makes them highly suitable for distributing freight consignments in an eco-town or for making door-to-door parcel deliveries. In addition to the environmental benefits, according to the Paris-based operator La Petite Reine, urban deliveries are faster by cargo cycle than traditional trucks and 10–20% less expensive. The concept has been operating successfully in some French cities for the past two years, where businesses requiring small to medium-sized deliveries over short distances – typically

up to 30km in an urban area – are making use of greener freight distribution services using truck-sized cargo bikes. A UK cargo bike operator, Green Link, is now operating in York, Darlington and Luton, targeting the local delivery and courier market.

**The last mile**

Car-free housing can have a number of benefits for the quality of life of its residents, particularly those with children; the separation of housing from car parking can assist the modal shift from shorter trips traditionally taken by car, to walking and cycling instead. However, there is a potential problem with making deliveries.



Car-free zone in the Park de Vijf Werven home zone in Almere Haven. The café in view has to receive deliveries in spite of the fact it is in a car-free zone.



This Mitsubishi Canter Eco-D perhaps represents the alternative fuel truck of the future and may point the way to a future approach to our eco-town deliveries

There are a number of different requirements in terms of deliveries to the door, from postal deliveries, which are often made on foot or by cycle anyway, through parcel and home shopping deliveries, to refuse collection and removal vans. This means that there is essentially a requirement for vehicle access as near to people's doors as possible. In Vauban, the largest car-free area in Europe, all dwellings are on narrow, single lane loop roads.<sup>Carfree UK, 2008</sup> These one-way streets operate as shared spaces,<sup>Hamilton-Baillie, 2010</sup> although motorised vehicles are only allowed access to make collections and deliveries. They are, however, engineered to allow access for the largest pantechon removal vans. Shops and other businesses requiring deliveries are located either along the main spine road through the development or outside the car-free area.

**Location issues**

The location of an eco-town also has implications for logistics activities. Proposed locations vary from essentially rural locations, such as St Austell China Clay community, Cornwall, to more urban locations, such as Rackheath, Norfolk. Choosing suitable locations to site an eco-town requires careful consideration to ensure it will match the functional characteristics aimed at meeting the Government's objectives. However, there has been little requirement for the promoters to think about how the eco-towns will sit within their local contexts and contribute to the wider area; although now rejected, proposals for eco-towns near Leicester and Milton Keynes included rapid transit links to their parent cities.

One of these objectives is the desire for the towns to be relatively self-contained, but have good connections to surrounding towns and cities using low-carbon transport modes. Hence, a location with proximity to other urban areas could help justify the benefits of a regional consolidation centre and town twinning. In addition, the provision of locally sourced goods from

within or around the eco-town could encourage greater use of environmentally friendly distribution operations – for example, a company in Florida provides an entirely local service that delivers local organic produce on a bicycle-towed trailer on a weekly basis to its customers around the city of Sarasota. With the number of eco-minded consumers continuing to grow, eco-towns could provide the opportunity for similar schemes in the UK to develop, incorporating the use of environmentally friendly transport to make home deliveries.

**Good for logistics?**

Eco-towns may have the potential to be advantageous for logistics operations. If the resident population is encouraged to make optimal use of available public transport, such as bus and train services, in addition to making more journeys on foot, the roads are likely to be significantly less congested. Reduced road congestion will potentially assist freight operators, by making distribution services more reliable and easier to plan. Collection and delivery points are likely to become more accessible, as people have greater incentive from improved public transport networks to leave their cars at home; resulting in a reduced number of poorly parked vehicles that often obstruct delivery entrances.

In addition, the eco-towns programme will provide opportunities to pilot new ways of organising deliveries within urban areas to reduce the number of vehicle movements and the carbon footprint per tonne or cubic metre.

**Conclusion**

With freight and logistics having apparently been largely overlooked, the Government is clearly forgetting the important role that freight has to play in urban environments. Without freight transport, the movement of goods into and out of urban areas would not be



possible. Therefore, the planning of eco-towns needs to consider necessary freight movements and how they can be conducted in a sustainable manner.

Some potential solutions for the movement of freight in eco-towns have been discussed above, ranging from urban consolidation centres and transshipment facilities, which facilitate the use of more sustainable transport modes, such as electric vehicles or alternatives such as cargo bikes, to be adopted for the final delivery leg. Careful site selection for the eco-towns could also enable towns to be twinned for the benefit of shared consolidation centres in the future. Eco-town development could also encourage supply chains to become more localised, especially in terms of food being produced, distributed and consumed locally.

The second round of eco-town proposals began in December 2009,<sup>DCLG, 2010</sup> including several short-listed sites attached to much larger cities, such as Leeds and Coventry. These proposals could have more potential for large consolidation centres twinned with their parent

cities, hence reducing freight traffic volumes on their congested streets. This should be taken into consideration in the selection process.

The eco-town programme undoubtedly has the potential to transform the way logistics operations are undertaken in the future. Opportunities will arise for more sustainable methods of freight transport to be fully realised in practice.

On 1st July 2010, at the conference: *Towards Car-free Cities*, in York, CILT is hosting a workshop to discuss the issues that surround freight transport in car-free areas. For the first time, this international conference, run by the World Carfree Network, will be held in the UK, bringing together an eclectic mix of transport planners, researchers and activists for a combination of presentations, workshops and outdoor activities.

**Further details, conference programme and booking information, web site: [www.worldcarfree.net/conference](http://www.worldcarfree.net/conference)**  
**Note. Full conference and day rates are available.**



### About the authors

**Erica Ballantyne MILT** is undertaking PhD research at the Institute for Transport Studies, University of Leeds. Her relevant experience includes roles as a logistics planning manager in the fmcg market and a transport planning analyst for a nationwide UK haulier. She is now researching the benefits of integrating freight logistics into urban transport demand management measures and policies.

**Anzir Boodoo MILT** is a PhD researcher at the Institute for Transport Studies, University of Leeds. He is on the central committee of Carfree UK, a group of transport and built environment researchers and practitioners campaigning for low-car/car-free housing and cities. He has assisted with inputs to the eco-towns transport worksheet, parliamentary committees and the eco-towns consultations, engaging with several of the eco-town promoters. His current research is investigating the perceptual impacts of urban form on pedestrians, in order to improve the pedestrian environment in new developments.

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### Further information

For more information on the issues discussed in this article, why not join our Transport Planning, Transport Modelling or Freight Transport Forums within our new Transport Planning Professional Sector? See our web site [www.ciltuk.org.uk](http://www.ciltuk.org.uk) for more details.