



Visions of a 'car-free future'

City centres could become virtually car-free over the next 20 years under new plans proposed by a research project led by ITS.

The year is 2030. Traffic jams and smog have been banished from city centres and replaced with tree-lined boulevards where commuters walk or cycle to a much greater extent than now; electric bicycles and airport style travelators have become common modes of travel.

It might sound like the setting for a science fiction film, but this is just one scenario outlined by scientists who aim to create urban environments which are safer, more sociable and less environmentally damaging.

The team have produced three 'visions' of future UK cities where up to 80% of all journeys are made by bike or on foot and where cars and lorries are virtually obsolete. Their proposals, published in the *Journal of Transport Geography*, are illustrated by animations and images of how these cities may look.

Each of the visions presents a scenario where a number of changes have been made to the infrastructure of urban areas. These range from relatively minor adjustments, to major shifts in society and infrastructure that would cut car journeys from around 60% of all trips to just 5%.

Lead author Dr Miles Tight, said the benefits of such changes would go beyond simply reducing congestion. "Walking and cycling can make a considerable contribution to sustainable transport goals, but getting people out of their cars and onto their feet or a bicycle has the potential to address many other problems which blight urban areas, including road accidents, air and noise pollution, and obesity," he said.

"The kinds of changes we're talking about are not beyond the realms of possibility. Obviously we don't expect people to give up their cars overnight, but we want to show people what cities could look like if walking and cycling played a much larger role and what the implications might be for lifestyle, behaviour and logistics."

Vision 1: Change to current European best practice

- Similar to present-day European centres such as Copenhagen or Delft
- Moderate increases in walking and a major increase in cycling, better public transport and reduced number of car journeys (one in three journeys made on foot, one in ten by bike)
- Private car ownership reduced by 50% in urban areas, one in three journeys still made by car
- Greater control over drivers: Intelligent Speed Adaptation, road pricing, etc.
- Safer cycle paths and more pleasant pedestrian environments
- Car journeys remain for trips impossible by bike or foot
- Freight transport still largely undertaken by lorries and vans.

Vision 2: Dramatic social change, major reduction in car use

- Car is now the minority mode of transport (just 5% of journeys), partly curtailed by government intervention
- Car ownership is limited to those with mobility problems or for emergency use
- Public transport significantly improved, with door-to-door service in some areas
- Freight carried by public transport at off-peak times and more freight distribution in the evenings to avoid congestion
- A 'garden city' approach to regional development with communities largely independent from the central urban area
- Better road safety, reduced pollution and greater sense of 'community'

Vision 3: Extreme change brought about by fuel shortages

- Society blighted by a large-scale energy shortages
- Smart technology such as electric bikes, information systems and segways allow walking and cycling to become predominant mode of urban transport (80% of journeys).
- Less public transport than vision 2 given the energy shortage
- Major shift in land use with employment and services becoming localised in several 'urban villages'
- Freight transported from distribution centres at the edge of urban area to locations in the city via bicycle and electric vehicles.

With the visions in place, the team are in the process of discussing with city authorities how the changes required might be achieved in the specific context of a number of towns and cities in the UK.

"Experience has shown us that simply making small changes like adding a bit of cycle lane here and there is not going to lead to large-scale sustainable change. A real paradigm shift from driving to walking and cycling is going to take government-led intervention on a large scale," added Dr Tight.

The project is a collaboration between the Universities of Leeds (ITS), Oxford, East Anglia, Manchester and Salford funded by the UK Engineering and Physical Sciences Research Council.

For more information

Images and animations from the Visions project are available on the project website www.visions2030.org.uk

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The paper: *Visions for a walking and cycling focussed urban transport system*, by Miles Tight, Paul Timms, David Banister, Jemma Bowmaker, Jonathan Copas, Andy Day, David Drinkwater, Moshe Givoni, Astrid Gühnemann, Mary Lawler, James Macmillen, Andrew Miles, Niamh Moore, Rita Newton, Dong Ngoduy, Marcus Ormerod, Maria O'Sullivan and David Watling is published in the *Journal of Transport Geography* (doi:10.1016/j.jtrangeo.2011.03.011)