

planning rapid transit for urban recovery

Calls for greater equality or levelling up can never be met without long-overdue changes in the way that we plan and deliver local infrastructure projects, says **Nicholas Falk**



Nicholas Falk

A Nottingham Express Transit tram in Nottingham city centre

The government's decision to change direction on the plan for High Speed 2, which left major cities such as Bradford out in the cold, is enabling fresh thought to be given to how to connect up disadvantaged places and boost urban recovery. Britain's provincial cities not only lag far behind their continental equivalents in economic terms, but also lack the integrated transport systems that make getting around European cities much easier, as reports from the Centre for Cities have highlighted.¹ Two-thirds of people can reach the centres of the big European cities in which they live by public transport within half an hour, compared with only two-fifths in their UK equivalents. Now that cities are starting to

draw up plans for tackling climate change, it is ever more important to improve public transport, not only to cut pollution and hence improve public health, but also to give a boost to poorer areas and the people who live in them.

What makes a successful city region?

Transport is key to success in building successful city regions. What matters to most people is not the speed of getting from one city to another, but the reliability and cost of getting around the place in which they live and work. However, spatial planning in Britain is weak because development, transport and finance operate in separate silos, and depend

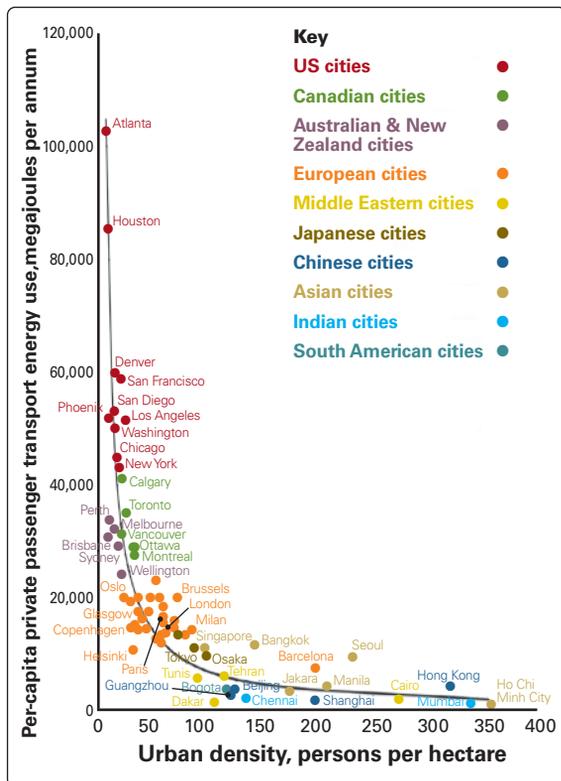


Fig. 1 Per-capita private passenger transport energy use and urban density in global cities

Source: P Newman: 'Density, the sustainability multiplier: some myths and truths with application to Perth, Australia'. *Sustainability*, 2014, Vol. 6 (9), 6467–87

too much on central government. Few see the city as a whole and over the longer term. Higher-density areas consume less energy and hence create lower carbon emissions, as research reveals (see Fig. 1), but British cities are also hampered by low-rise buildings and sprawling suburbs—any expansion will lead to increased congestion and will be capped by the impossibility of increasing road capacity to meet the increased demand. Consequently, their future depends on reducing traffic, not on the introduction of electric or autonomous cars.

To make urban recovery or transformation viable, we need to rebuild at higher densities around railway stations. Under-used land on the edge of town centres can provide ideal homes for those looking for their first or last homes, as international models in good cities such as Vienna and Copenhagen demonstrate.² As I have argued in a series of articles in *Town & Country Planning*,³ this calls for different approaches to spatial planning, as well as measures to tap into land value uplift to help fund local infrastructure.⁴ Simply reacting to proposals from developers will never turn the tide.

Planners are now being asked to consider the impacts of their decisions on climate change as well as on 'levelling up', and the options before

them are ever more complex and of uncertain outcome. Meanwhile, shortages of both finance and capacity are creating interest in financial tools such as land value capture, and even potential reforms to property taxation.⁵

The *City Investment Analysis Report* report produced by the Climate Investment Commission, backed by the Core Cities, London Councils and the Connected Places Catapult, rightly calls for 'place-based investment demonstrators [...] public-private partnerships [and] more detailed planning to secure investment'.⁶ Interestingly, the contribution that rail could make is virtually ignored, although there is a reference to the Brentford-to-Southall scheme, which Jonathan Manns and I originally promoted as part of a concerted effort to reshape West London.⁷ However, without a focus such as a transport corridor, appropriate delivery mechanisms, and opportunities for investors to share in the uplift in land values from development, it is hard to see how the finance that is potentially available for 'green investment' will ever be tapped, or carbon emissions cut.

How rapid transit can help

The best way of reducing traffic and pollution in the centre of cities is to upgrade the quality of mass or public transport. That allows traffic to be taken out of the centre, and space to be given over to active travel, whether walking or cycling. Public transport needs to be frequent, regular and affordable to compete with the appeal of private cars. To find out how successful cities have funded and organised rapid transit systems, the Academy of Urbanism held an online seminar that highlighted four leading examples—the solutions it demonstrated included upgrading suburban rail, as with DART (the Dublin Area Rapid Transit), building overhead metros, as in Copenhagen, and even street-running trams, as in Aarhus, Nottingham, and Dublin. The full conclusions are set out in a report and series of particularly insightful videos,⁸ but some of the highlights are outlined below.

Light rail systems or tramways can work much better than buses because they offer better performance and carry many more people in comfort. They also have a permanence that will encourage developers to invest. A tramcar follows the narrow street-based path that its rails take it on, and can go round tight corners. And a steel wheel on a steel rail is much less polluting than rubber tyres. The upfront investment is usually greater, but needs to be evaluated as part of a total makeover of the city centre or the regeneration of an isolated area. This is because much of the infrastructure cost goes in upgrading underground utilities and remaking the street (French tramway proponents define this approach as 'façade to façade').

Trams have a particular contribution to make in historic cities, where densities are high, and where there are lots of tourist and students to pick up. Yet

even though cities such as Oxford and Cambridge lag behind comparable cities such as Grenoble or Heidelberg, there is no funding for proper feasibility studies to assess options, let alone pilot projects. URBED's report on a seminar held with experts from University College London in 2015 highlighted the gaps.⁹ A startling chart (see Fig. 2) showed that while Germany had maintained its large number of light rail systems, and France had rebuilt rapidly over the preceding 20 years, Britain had lagged far behind. It is no coincidence that French provincial cities have grown much faster than Paris, with Montpellier being the outstanding example of turning a sleepy university town into the fastest-growing French city, based on a technopole and an extensive tram system.

All the cities in these success stories put particular effort into engaging with communities to overcome possible opposition. Schemes were developed in phases so that people were won over. Partnerships were set up to pool resources, starting with public land in the case of Copenhagen. The uplift in land values from building the new town of Ørestad on the route to Copenhagen Airport was enough to fund the first line of the city's Metro. The public development company used to build Ørestad has gone on to redevelop redundant dockland, accompanied by the implementation of a second line. In Aarhus, Denmark's second city, the local authority acquires land far in advance of future development so that the community can control what happens and fully benefit from public investment.

Financing rapid transit

Because tram systems are expensive, they require major up-front commitments from local authorities. Many of the costs relate to the relocation of underground services and upgrading the public realm—which are not necessarily transport costs. It is hard to reduce costs, although economies can be made by buying systems such as ticketing off

the shelf rather than designing them afresh. However, once completed, most systems make a small operational profit:

- In Dublin initial funding for the Luas light rail system came from the Irish government, plus a loan from the European Investment Bank. When lines running outside the city centre were constructed, developers funded 50% of the cost through a planning levy.
- In Copenhagen the funding for the first line of the Metro came from loans raised by the Copenhagen City and Port Development Corporation, which were secured against the increased value of the land along the line after it had been re-zoned for development.
- In Aarhus the funding came largely from the city council, with other authorities sharing a quarter of the costs. In some cases developers have funded a new station and a section of a line.
- In Nottingham, central government provided 65% of the funding and local sources 35%. The Workplace Parking Levy (the first of its kind in the UK) brings in £10 million a year and is paid by every employer with more than ten staff.

Trams provide a classic opportunity for land value capture. The construction of new lines leads to an increase in property values around stops, and when this uplift is captured it can cover a significant proportion of the costs. Denmark offers the best models and shows how investment in transport can boost urban regeneration and economic growth, as well as creating happier and less polluting cities.

Developing light rail in Britain

Achieving similar results in Britain will be difficult—although land value capture was used in financing the public transport infrastructure developed by the London Docklands Development Corporation, and the Docklands Light Railway offers a precedent in terms of powers of land assembly and funding. Unfortunately, the 'stop-go' and Punch and Judy

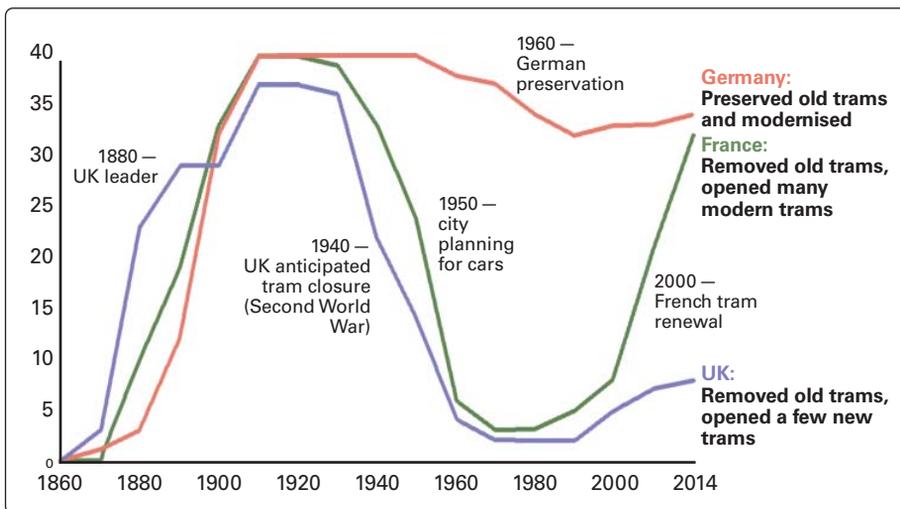


Fig. 2 Number of urban areas in France, Germany and the UK with a tram system (urban areas with more than 200,000 inhabitants—about 40 cities)

Source: S Hasiak and C Richer: *Appraising the Spatial Impacts of Tramway Systems: Phase 2: Comparative Analysis of Six Peripheral Tramways and Conclusion*. CTE Nord Picardie, 2014



The Aarhus Metro—Denmark offers good models of land value capture, and demonstrations of its benefits

system of British politics renders long-term planning difficult, making it almost impossible to develop the markets and expertise found on the European mainland. This leads to unfeasible proposals such as those found in Cambridge and Bristol, where underground tunnels have been proposed as a way of overcoming opposition. Hope is placed on ingenious and impractical ways to cut costs, rather than on integrating transport and development plans and funding.

Building new light rail systems is an excessively lengthy process in the UK, typically taking 15-20 years, during which time plans are all too often hit by political swings and financial upsets. This is where cities should make the most of the public transport infrastructure that they have inherited, and go first for interim solutions, rather than waiting for an ideal system that never gets built. To help revitalise our suburbs, Reg Harman and I devised what we call 'Swift Rail', modelled on the *Stadtschnellbahnen* systems found in many German and Swiss cities. This involves operating high-performance urban trains with rapid acceleration on existing (in Great Britain, Network Rail) lines. Swift Rail could also operate on new and re-opened sections of line, with new urban stations—as proposed for the Cowley freight line in Oxford and possibly even for the old route between Oxford and Witney. Studies suggest that the costs could be covered from the uplift in land values.¹⁰

Voluntary agreement may be possible. The Witney branch route may be funded from agreements made with the four main adjoining landowners, who stand to benefit from a substantial uplift in the value of their land that such a rail service would bring. However, a Development Corporation is probably needed to focus the work and package funds from interested

organisations over the time needed for implementation, and to avoid what economists call 'free riders'.

The foreseeable financial position in the UK should encourage planners and politicians to rethink local finance, especially given the unfairness of current property taxes and the need to raise funds from those who benefit most from investment, who largely live outside the cities.

For example, the central belt of Hertfordshire has a population of about one-quarter to one-third of a million. It forms a key commuter belt but is also economically strong in its own right, and has high levels of traffic within and between its many towns and local centres. There have long been suggestions for a transit across this area, and Hertfordshire County Council is currently engaging with the public on a possible scheme. Transport planner Reg Harman has set out a project for a 'Herts Orbital Transit' tramway, combining existing and abandoned railway trackbeds with on-street running through the main towns.¹¹ This has been supported by a major local landowner, Gascoyne Estates, and was discussed at a charette held in September 2021.¹² Hertfordshire County Council is working on the development of a cross-county transit system as part of its published transport strategy (although no specific mode has yet been defined).

Planning for transformation

Despite the cutbacks in the national rail system during the 1960s there are still 2,500 stations, many close to town centres, but often poorly integrated with other forms of transport. Some of the cities that face the greatest growth pressures, such as Bristol and Oxford, have spare rail capacity thanks to modern signalling systems, and freight lines that are only

occasionally used. Most have space for new housing near existing stations, as Brian Love and others have argued compellingly.¹³ A few cities, such as Coventry and Preston, are considering the potential of ultra-lightweight trams. While each place is different, and therefore requires a particular solution, all could learn from the experience of how mid-sized cities with populations of under 250,000 elsewhere have tackled the difficult and lengthy process of planning, development and finance. This should be a priority in implementing the Levelling Up White Paper.

The Academy of Urbanism online seminar⁸ noted five stages associated with success:

- **Vision:** Start by clarifying the challenges for urban recovery or growth and how the social, physical and economic aspects of the locality are interrelated. Time must be invested in generating the ambition for transformational change.
- **Practical options:** Identify the best opportunities for making impacts in the short, medium and longer terms through a mix of transport interventions. GIS should help in assessing against multiple criteria.
- **Organisation:** Bring together the main stakeholders in partnership to plan how improvements can be resourced. Updated Development Corporation powers would help to reinforce local capacity and help in tapping land value uplift.
- **Funding:** Raise finance from different sources for each stage and for each element, making use of the uplift in land values to supplement public funding. Green bonds are an obvious option, and there are ample institutional funds waiting to be tapped.
- **Stewardship:** Deliver and promote improvements in ways that win ongoing community support from property-owners and employers, as well as from residents who will benefit from greater prosperity and wellbeing. The long-awaited reform of council and possibly other property taxes should help here.

Calls for greater equality or levelling up require long-overdue changes in the way that we plan and deliver local infrastructure projects, as the TCPA has long argued. An alliance is needed to share experience and avoid repeating mistakes, which could start with Bristol and Leeds, two core cities that lag far behind their continental competitors. Instead of staggering from crisis to crisis, causing social services and maintenance to be cut, development to stop and plans to be scrapped, we should look to rapid and integrated transport to offer a practical way of tackling both climate change and levelling up. Surely the time is ripe for sharing experience and for organisations such as the National Infrastructure Commission and the Connected Places Catapult to work together with transport organisations and planners to make the available funding go much further?

● **Dr Nicholas Falk**, an economist, urbanist and strategic planner, is the founder of consultancy URBED (www.urbed.coop) and now runs the URBED Trust (www.urbedtrust.com). The views expressed are personal.

Notes

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- 4 N Falk: 'Location, location and location — funding investment in local infrastructure' (see note 3)
- 5 N Falk: *Applying Land Value Capture Tools: Lessons from Copenhagen and Freiburg*. Urban Maestro. United Nations Human Settlements Programme (UN-Habitat), 2020. <https://urbanmaestro.org/example/applying-land-value-capture-tools/>
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- 7 J Manns and N Falk: *Re/Shaping London: Unlocking Sustainable Growth in West London and Beyond*. London Society White Paper. London Society (in connection with the All-Party Parliamentary Group for London's Planning and Built Environment), Oct. 2016. www.londonforum.org.uk/reports/LondonSociety_proposals_for_Growth_in_West_London.pdf
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