

<b>Institution: University College London</b>
<b>Unit of Assessment: 16 – Architecture, Built Environment and Planning</b>
<b>Title of case study:</b> <b><i>Strategic planning for the UK: Using transport investment to promote polycentric urban and regional structures</i></b>
<b>1. Summary of the impact</b> <p>Research by Hall on transport planning and polycentric development has influenced spatial planning policies in the UK, USA and China. His fundamental thesis, following Colin Clark's axiom, has been that transport investment alters accessibility and thus development potential for regions, cities and neighbourhoods. As policy advisor, he secured implementation of High Speed One, the proposed High Speed Two and the Orbirail Overground line in London, and the promotion of the strategic planning of London and its wider region on a polycentric basis. These schemes have benefited millions of passenger users, enhanced investment in rail networks and led to economic revival and growth.</p>
<b>2. Underpinning research</b> <p>Research by Sir Peter Hall in the UCL Bartlett School of Planning has demonstrated that urban structures in the UK and mainland Europe have become increasingly polycentric, both physically (morphologically) and functionally, with individual towns and cities linked by fast, high-quality public transport which encourage agglomeration, networking and clustering. However, in practice this process has limits: too easily, high-speed networks can encourage the growth of larger cities and their regions at the expense of other urban places, particularly those experiencing painful adjustment from the manufacturing (goods-handling) economy to the knowledge (cognitive/cultural) economy.</p> <p>In 1995, Hall published research into the demonstrated effects of high-speed rail in other countries, notably Japan [b]. At the same time, he also began to develop the concept of growth corridors in extended mega-city regions [a, c] and developed the "Regional Metro" concept, especially as a basis for growth in South East England. In a report for the Royal Town Planning Institute (RTPI) in 1999 [d], Hall developed the concept of a polycentric London, based on the completion of an Orbirail system through the capital's middle ring of suburbs. It was a forward-looking strategy for transport development that was to have a major impact on London's transport strategy.</p> <p>Subsequent research on living and working patterns in the South East was conducted by Hall in his role as PI of the EU-funded, eight-nation POLYNET project. From 2003, he developed the case for improved transport connectivity both between and, increasingly, within regions, leading to regional and local transport investment in north-west Europe. The POLYNET project showed that planning strategy should be based on a distinction between 'Regional Metro' high-speed services and 'Very High-Speed' services. By bypassing development corridors to connect directly to regional core cities in the midlands and north of England, this would free space on the existing lines to accommodate traffic growth without congestion. Hall sketched an outline for a future High Speed Two network using the old trackbed of the Great Central Railway [e], and proposed an outer orbital railway connecting places in a 40- to 50-mile ring around London [f].</p> <p>From 2008–12 Hall was director of the European Union's SINTROPHER project, a €23 million combined research and investment programme to improve connectivity from key hubs on the emerging European high-speed rail network to five 'peripheral' regions in north-west Europe. This was followed in 2012–13 by the SYNAPTIC programme to promote seamless web interchange at key hubs. A comparative case study of two regions - Manchester and its sub-regions in north-west England, and Lille and its sub-regions in Nord-Pas-de-Calais (France) – showed that, for both regions, the arrival of high-speed trains did support the development of a knowledge economy. Notably, the study showed that whilst faster train connections with the national capital provided economic benefit to the regional capital the same was not true of some sub-regions around it, especially those which were formerly industrial [g].</p>

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**3. References to the research**

- [a] Hall, P. (1989) *London 2001*, London: Unwin Hyman. [ISBN-10: 004445161X; Available on request]
- [b] Hall, P. (1995) 'A European Perspective on the Spatial Links between Land Use, Development and Transport', in Banister, D. (ed.) *Transport and Urban Development*, London: Spon, pp. 65–88. [[http://mekhea.files.wordpress.com/2010/08/transport\\_and\\_urban\\_development.pdf](http://mekhea.files.wordpress.com/2010/08/transport_and_urban_development.pdf)]
- [c] Hall, P. (1995) 'Towards a General Urban Theory', in Brotchie, J., Batty, M., Blakely, E., Hall, P. & Newton, P. (ed.) *Cities in Competition: Productive and Sustainable Cities for the 21st Century*, Melbourne: Longman Australia, pp. 3–31. [ISBN-10: 0582801060; Available on request]
- [d] Hall, P., Edwards, M. & Robson, D. (1999) *London's Spatial Economy: The Dynamics of Change* (Report to the London Development Partnership), London: RTPI London Branch. [<http://discovery.ucl.ac.uk/1369585/1/LDPREPSUM%2026.11.99.pdf>]
- [e] Hall, P. (2005) 'A Low-Cost High-Speed Line for the North', *Town and Country Planning*, 74: 46-48. [Available on request]
- [f] Hall, P. (2005) 'Time to think in Circles', *Town and Country Planning*, 74: 358-360. [Available on request]
- [g] Chen, C.-L. & Hall, P. (2012) 'The wider spatial-economic impacts of high-speed trains: A comparative Case Study of Manchester and Lille Sub-Regions'. *Journal of Transport Geography*, 24: 89-110. [DOI: [10.1016/j.jtrangeo.2011.09.002](https://doi.org/10.1016/j.jtrangeo.2011.09.002)]

**4. Details of the impact**

Hall's research on polycentricity has delivered significant and wide-reaching impacts via three principal routes. The first of these is the uptake of his research by policy makers; the second is Hall's own direct influence on decision making as a policy advisor; and the third is his involvement in overseeing infrastructure investments in his role as a project director. Through these routes, his research has had significant impacts on UK infrastructure, providing millions of passengers with improved transport infrastructure, particularly in once poorly connected areas. These three pathways to impact - and illustrative examples of the changes and benefits accruing from them and resulting from cumulative work over many decades - can be outlined under the following three headings:

**(i) Making the case for high speed rail and rail connectivity in the UK and Europe**

During the period from 1993–96, Hall worked intensively on the strategic design of the Channel Tunnel Rail Link (High Speed One). From 1993–94 he was Special Adviser to the Secretary of State for Environment on Strategic Land Use Planning, with special reference to the East Thames Corridor and Channel Tunnel Rail Link. In 1994–95 he drew on his own research work in his role as adviser to the London and Continental Railways Consortium on planning and regeneration aspects of the Channel Tunnel High-Speed Rail Link, widely known as High Speed One (HS1) – not least in their successful 1995 bid to build and operate the HS1 system. In these roles he developed the strategy for the Thames Gateway sub-region with the proposed HS1 as its centrepiece. At this point, although substantially complete in its core area, the London Docklands regeneration was still lacking development at its eastern end, and there was seen to be a strategic need to extend the initiative into the wider Lower Thames sub-region. Fundamental research by Hall [a, b] informed the configuration of the route, particularly the inclusion of station hubs on HS1 at Stratford (East London) and Ebbsfleet (Kent) [1; p. 142]. Following Hall's research findings, Stratford and Ebbsfleet were identified as strategically significant potential growth poles to trigger economic regeneration in the Thames Gateway region, offering attractive connections to Central London, Southeast England and Northern Europe [1; p. 143]. HS1 opened on 14 November 2007, and Stratford International Station came into use for domestic services on 30 November 2009.

Further research by Hall on polycentricity, in particular the concept of the Mega-City Region, made a vital contribution to the case made for High Speed Two (HS2), a high capacity railway linking the North of England to London and beyond, connecting directly to the continent (via HS1 and the

Channel Tunnel) and to Heathrow Airport. In 2005, Hall advocated HS2 in an article [e] and as a member of the Advisory Group to Greengauge 21, a non-profit advocacy group working with railway industry leaders to whose successful advocacy of the concept he made a key contribution. Greengauge 21 published its *Manifesto* in January 2006, attracting widespread media coverage and stimulating major national debate. In January 2009 the Department of Transport accepted the case in a report proposing an initial route from London to the West Midlands [4], and established HS2 Ltd to examine the case and present a potential route. In March 2010 the Labour government accepted the case made in a White Paper on HS2. After further review by the incoming Coalition Government, in January 2012, following a public consultation on the London to West Midlands route to which around 55,000 responses were received, the then-Secretary of State for Transport announced the government's decision to proceed with the construction of that line. As a consequence, HS2 Phase 1 from London to the West Midlands is currently planned to come into operation by 2026. The proposal remains controversial, but Hall's research has continued to provide an important source of evidence in this debate, notably through recent research [g] with Chia-Lin Chen reporting the positive economic impacts of high speed rail on the Lille Métropole sub-region [5].

### **(ii) Investment in and benefits of improved UK and European rail networks.**

The Green-Hall report [6] and SINTROPHER/SYNAPTIC research projects, both overseen by Hall, have led to major investments in UK and European rail service including, for example, the upgrade of Manchester Victoria Station; the new Koksijde Station (passenger data); ongoing investment in the redevelopment of stations at Veurne and Diksmuide; and the completion of Phase 3 (Line 2) of the Valenciennes tramway. Investments made as an integral part of SINTROPHER included upgrading the Blackpool tramway upgrade investment; this has allowed the service to carry more than 5m passengers since reopening in April 2012, 15% over the projected figure. Furthermore, the Blackpool tramway extension (North Pier-North Station) has been identified as a regional priority for investment in 2015–17 [7].

Furthermore, the existence of HS1 and Stratford International Station, albeit then still under construction, was a principal consideration in the International Olympic Committee's choice of London – announced in July 2005 – as the location for the 2012 Olympic Games [8]. A total of 4m passengers were carried on special shuttle services on HS1 during the London Olympics [2] with no operational glitches, and a strong post-Olympic boost saw traffic through the station up by 5% in October – December 2012 [8].

Even against a difficult economic backdrop, Eurostar's passenger numbers rose by 2% in 2012 to 9.9 million, up from 9.7 million in 2011. The company's operating profit was £52.3 million, a substantial increase from £25 million in 2011 [3] – thereby demonstrating both the positive economic impacts and the popularity of the service as designed for passengers.

### **(iii) Orbital Rail and Polycentric Development in London and the Greater South East**

Research by Hall back in 1989 [a], and work he conducted in 1999 for the London Development Partnership [d], had a major effect on arguments for London to develop in a polycentric manner, particularly through successive versions of the Mayor's Strategic Plan in 2004 and 2009 [9]. The 1999 report argued for early completion of Orbirail, linking separate rail lines in London, into a single outer circle system, to encourage a more polycentric form of development at key interchange hubs. These proposals were revived by Boris Johnson after his election as London Mayor in 2008 [9], which led to the completion of Orbirail, assisted by a takeover of key national rail services in London by Transport for London (notably the North London Line) to become the London Overground service.

The full Orbirail system opened in December 2012 [10]. By completing the final section of track between Surrey Quays and Clapham Junction, previously unconnected areas are now served by an integrated rail service with trains running directly from Highbury and Islington to Clapham Junction. In 2012, London Overground carried 120 million passengers, nearly four times the number carried when it launched in 2007. Including the Orbirail extensions, demand has increased 280%, quadrupling from 2.57 million to 9.83 million journeys per four-weekly period. According to Boris Johnson as Mayor of London, the passenger numbers on London Overground services have been 'going through the roof' and as a result it has become 'the most popular suburban railway in

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the country' [11].

Accordingly, in February 2013, Transport for London (TfL) announced a £320-million programme to increase capacity by 25%, and to introduce five-car trains on all London Overground routes to meet rapidly increasing demand for the network's services. In the Public Expenditure Review in June 2013 the Chancellor of the Exchequer further announced £115 million funding for electrification of the Gospel Oak-Barking line, potentially extending Orbirail to serve major urban regeneration in Barking Riverside – a key site in Hall's Thames Gateway proposals [12].

Outside London, Hall's vision for polycentric development of the Greater South East region [c, g] also had a demonstrable impact on the Government's 2003 *Sustainable Communities* strategy, which follows the model of three major development corridors leading from London, and on the 2005 Milton Keynes-South Midlands Sub-Regional Plan, which proposes similar polycentric development for the so-called 'City of Mercia' (albeit grouped into larger urban units). Specifically, Hall's vision for an outer orbital rail service were taken up in Surrey County Council's proposal in March 2013 for an extended service on the lines he had proposed [13].

### 5. Sources to corroborate the impact

[1] Faith, N. (2007) *The Right Line: The Politics, the Planning and the Against-the-Odds Gamble Behind Britain's First High-Speed Railway*, London: Seagrave Foulkes [ISBN. 978-1-89861-803-4; Available on request]

[2] For the number of passengers who used HS1 during the Olympics, see the Southeastern Rail website item, 13 August 2012 [<http://bit.ly/1efhgKE>]

[3] Eurostar passenger numbers and operating profit in 2012 [<http://bit.ly/Hty56u>]

[4] Department for Transport, *High Speed Rail: Investing in Britain's Future – Decisions and Next Steps*, January 2012

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[5] SYNAPTIC (2013), *S-MAP 2030: An Action Plan for Seamless Mobility in North West Europe: North West of England Case Study: Irrigating the Region*, June 2013 [Available on request]

[6] Green, C. & Hall, P. (2009) *Better Rail Stations: An Independent Review presented to Lord Adonis, Secretary of State for Transport*. London: Queen's Printer and Controller of Her Majesty's Stationery [Available on request]

[7] For the SINTROPHER investments in the Blackpool Tramway, see <http://bit.ly/1aBXdoa>, PDF.

[8] Interview with Terry Hill, Chair of Board of Trustees, Arup [<http://www.theengineer.co.uk/civil-and-structural/in-depth/arup-boss-and-infrastructure-expert-terry-hill/1016864.article>]

[9] Mayor of London's 2009 strategic plan [<http://www.london.gov.uk/shaping-london/london-plan/docs/london-plan.pdf>, PDF – see references for Chapter 2 and policy 6.4]

[10] Majumdar, D., 'Outer London rail orbital opens for passengers', BBC News Online, 10 December 2012 [<http://www.bbc.co.uk/news/uk-england-london-20557061>]

[11] Passenger figures from Transport for London, dated 6 February 2013 [<http://www.tfl.gov.uk/corporate/media/newscentre/archive/27154.aspx>]

[12] HM Treasury, item on investment in electrification of the Gospel Oak-Barking line, June 2013 [[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/209279/PU1524\\_IU\\_K\\_new\\_template.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209279/PU1524_IU_K_new_template.pdf), PDF - see para 3.21]

[13] Surrey County Council, *Surrey Rail Strategy Issues Paper*, March 2013, pp. 13, 33, 37; and *Options Paper, Final*, March 2013, pp. 23, 51 [Available on request]