Gateways and Corridors in Globalization: Planning Sustainable Infrastructures for Transcontinental 'Spaces of Flows'

Kathy Pain
Department of Geography, Loughborough University, United Kingdom

ABSTRACT

Major changes in the global economy have become a dominant theme for governments worldwide. Post-industrial informationalisation of economic activity and the shift from manufacturing to advanced knowledge-based services pose significant challenges for 21st century territorial policy and planning. Transcontinental trade flows and new forms of commercial production have caused a major shift in local-global economic relations with significant implications for traditional 'gateway cities' and 'corridors' (Burghardt, 1971; Whebell, 1969). Recently completed research into how these changes are impacting on North West Europe - INTERREG IIIB ‘POLYNET: Sustainable Management of European Polycentric Mega-City Regions’ - predicts key dilemmas for policy as forces of globalization extend and deepen (Hall and Pain, 2006). This paper outlines the detailed findings from this research and considers the implications for Canada.

INTRODUCTION: RESEARCHING GATEWAYS AND CORRIDORS IN GLOBALIZATION

Advances in electronic information and communication technologies have been widely seen as heralding the increasing detachment of production and trade flows from what has been termed by Manuel Castells (1996, 2000) the ‘space of places’. In the first volume of his seminal 1996 trilogy, ‘The Information Age: Economy, Society and Culture: The Rise of the Network Society’, Castells put forward the theory that, in a new ‘informational economy’, the rise of the ‘network organisation’ would cause the emergent ‘space of flows’ to dominate established politico-territorial spaces that are defined by jurisdictional and administrative boundaries. Castells’ work drew attention for the first time, to the increasing importance of the cross-border informational relationships between cities and their implications for governance. Whereas systems of governance remain strongly attached to territorially bounded places, new economy city production processes are shaped by transcontinental, networked spaces of flows.

For ten years, the Globalization and World Cities (GaWC) Study Group at Loughborough University has specialised in studying the ‘new economy’ business relationships between cities associated with these contemporary processes of
GATEWAYS AND CORRIDORS IN GLOBALIZATION

...globalization (Beaverstock et al., 2000). This research focuses specifically on the activities of new economy gateway and corridor users - knowledge-intensive ‘advanced producer services’ (APS) - first recognised by economist Saskia Sassen (1991; 1994) as dominant new industrial functions based in major ‘global cities’ - which increasingly govern worldwide knowledge production and trade flows. GaWC analysis of large-scale data sets on the servicing strategies of APS firms - the locations of their city-based offices and their advanced business functions worldwide - allows the ‘global connectivity’ between cities to be measured and mapped schematically (Taylor, 1997; 2001a). In addition to quantitative analysis, in-depth face-to-face interview studies with the senior decision-makers of president, vice-president, chairman and similar status in global business networks, provide vital insights into the business relationships and interactions between cities that underlie these network structures.

Of relevance for the consideration of policy on gateways and corridors, the GaWC methodology informs spatial policy on the emerging worldwide geographies of informational gateway cities and the virtual corridors that inter-link them. Its research thus reflects the dramatic changes in the scale of ‘city hinterlands’ associated with major technological and business developments. Whereas Christaller’s (1933) original hinterland concept related to a relatively local scale of economic relationships prevailing in the pre-globalization era, GaWC analysis depicts what Taylor (2001b) has termed the new economy ‘hinterworlds of cities’, reflecting their increasingly stretched economic relations (Cochrane and Pain, 2000; Taylor and Walker, 2004; see also Pain, 2008, in this volume). Application of the methodology in the North West Europe interregional POLYNET research has shed important light on the impacts of globalization in Europe and the implications for policy and planning.

GATEWAYS AND CORRIDORS - EUROPEAN POLICY

POLYNET has investigated advanced service economy ‘informational flows’, seen as vitally important for ‘Lisbon Agenda’ goals (EC, 2000) to promote Europe’s growth and competitiveness in the global economy, in eight densely urbanised North West European regions each consisting of a number of towns and cities: ‘South East England’, ‘Paris Region’, ‘Central Belgium’, ‘the Randstad’, ‘Rhine Main’, ‘RhineRuhr’, ‘Greater Dublin’, and ‘Northern Switzerland’.

The research has been supported by INTERREG IIIB European Regional Development Funds with strict policy priorities in mind. These derive from key spatial strategy documents the European Spatial Development Strategy (ESDP, EC 1999) and the North West Metropolitan Area Spatial Vision (NWMA, 2000) which set the framework for Member State metropolitan and regional policy. These documents are non-statutory but, linked to major Structural Funds investment, they are highly instrumental in shaping European planning. Their strategic aim is to create a more ‘polycentric’ or balanced distribution of urban and economic development across cities and regions in Europe and also between its economic ‘core’ area, which includes North West Europe, and ‘peripheral’ EU regions. Urban spatial polycentricity is purported to provide the means of achieving three fundamental policy goals - the enhancement of Europe’s competitiveness in the global knowledge economy, the promotion of sustainable development and
increased *social cohesion* across the expanding European political territory. ‘Gateways’ and ‘corridors’ are specified as key vehicles for the implementation of this *redistributive* spatial strategy.

Five quantitative and qualitative POLYNET studies have investigated the flows and interactions associated with contemporary globalization impacting on the eight major regions of North West Europe in order to inform EU policy on the value of spatial polycentricity. Their ‘hinterland-hinterworld’ relations have been approached from different angles in each study.

First, the regions’ *local hinterland space* has been mapped using standard census data on daily travel to work patterns to show the extent of contiguity of their component ‘functional urban regions’ (FURs), a scale of analysis that has been the focus of much recent attention in the United States also (for example, Richard Florida/Rob Lang ‘megapolitans’ and the Regional Plan Association/Lincoln Institute of Land Policy ‘mega-regions’).

In the second and third complementary studies, GaWC methodologies have been used to analyse in-depth, the regions’ *hinterland-hinterworld* relations associated specifically with APS activity. Firstly, primary data on the service *connectivities* generated by the co-presentation of multiple APS networks across each region has been collected for four network scales – regional, national, European and global. The very large data sets compiled have been analysed quantitatively to reveal how different scales of business connectivity impact on the eight *multinodal* urban regions and the implications for spatial polycentricity. Secondly, an in-depth interview study has investigated relations within and between the firms and offices mapped on the basis of the quantitative analysis. Some 600 face-face interviews, averaging 45 minutes to 1.5 hours in duration, have been conducted with senior actors in firms, industrial and professional organisations operating in this large transnational area (over 500 firms and 100 trade, professional and government institutions). A fourth web-based business and communications survey has provided further insights into physical transportation and virtual communication flows into, out of, and within the regions.

Finally, in the fifth phase of the study, metropolitan, regional, Member State and EU-wide spatial and economic policy documents have been evaluated in relation to the empirical findings from all four empirical studies. The results have then been discussed with senior policy makers and planning practitioners in each region to establish the implications for future policy formulation and implementation. The overall results from the research have been reported in ‘The Polycentric Metropolis’ (Hall and Pain, 2006) and in a series of academic research papers which provide in-depth insights into the policy issues relevant to each region. Together the findings help to address two questions relevant to gateways and corridors:

*First, how emergent urban ‘hinterworld’ relations can inform spatial planning in a territorial ‘hinterland’ space?*

*Second, what this means for ‘gateway’ and ‘corridor’ roles in globalization?*

**FLOWS AND PLACES - PARADOXES OF GLOBALIZATION**

‘Death of distance’ predictions which emphasise the virtualisation of economic activity (for example Cairncross, 1995; 1997a,b) have suggested that the role of
cities as concentrated locations for business and centres of employment, is becoming less important and that, with increased home working and reduced travel, more environmentally and socially sustainable patterns of economic development (the focus of EU policy on polycentricity) will be possible. But the POLYNET results show a very different scenario unfolding in North Western Europe. The emergent urban development processes uncovered by the research reveal important contradictions and tensions between EU environmental, social and economic priorities. These derive from two basic spatial paradoxes associated with globalization which have important implications for the roles and functions of gateways and corridors in policy.

Paradox I - Network Extension with Concentration

First, there is evidence of a greater complexity of urban gateway hinterland-hinterworld relations as European connectivity to global APS networks increases in all the POLYNET regions studied. As North West Europe is becoming more globally connected and its economic interdependencies extend worldwide, paradoxically global functions are concentrating in one city in each region. This co-existence of processes of concentration and dispersal of new economy APS production was originally identified by Sassen (1991; 1994) as a process applying to a small number of global cities only (London, New York and Tokyo) but the new evidence from POLYNET indicates that similar, apparently contradictory, processes are now occurring at a sub-global city scale that involves many more cities. Thus, whereas Rodrigue et al (2006) have noted that “the concentration of services in world cities is following a spatial trend which appears to be the opposite of production”, concentration with dispersal at a regional scale - described as the global ‘mega-city region’ (MCR) in the study - is found to underpin the emergent North West European geographies of advanced service production. The established notion of a competitive ‘world city hierarchy’ may thus become less relevant as globalization deepens because service business networks are constructing inter-city functional complementarities at finer geographical scales which could be exploited by policy.

GaWC quantitative analysis shows that the cities of London and Paris have the highest global connectivity out of the eight major APS centres studied (Hall and Pain, 2006) but evidence of increasing city network interdependencies, complexity and specialisation between North West European cities demonstrates that their relationships constitute a non-zero sum game. A concentration of international APS activities and functions in Dublin, Brussels, Amsterdam, Frankfurt, Dusseldorf and Zurich also gives these cities a ‘global gateway’ role within their regions.

In-depth interviews with senior global business managers, show that concentration in one city in each region is now seen as essential to the development of global APS agglomeration economies. These regional service centres are regarded by firms as having a specialised ‘knowledge gateway’ function in global business networks that articulates regional and national markets into the worldwide service economy. Furthermore, while specialised global functions are clustered in these cities, other regional centres are gaining complementary advanced functions across a wide geographical area. The clearest example of this phenomenon is South East England where complementary
quantitative and qualitative analyses reveal different, but synergistic, roles and functions that inter-link regional APS clusters with each other as well as with London - a phenomenon described in the study as ‘functional polycentricity’ (Pain, 2007). Figure 1a illustrates schematically, this stretching of advanced service network relations to form a multi-nodal global MCR.

Research by Taylor and Aranya (2006) has recently extended UK quantitative analysis to a national scale, revealing increasing connectivity to global networks of some medium sized cities outside the South East England MCR and beyond Europe, Rossi and Taylor have reported a similar pattern of inter-urban complementarity in banking services in Brazilian cities. Sao Paulo remains the dominant gateway for banking services but banking networks are using Brazilian cities in different ways to serve their regional, national and trans-national markets, resulting in a complex multi-scale, inter-city service geography in a developing economy (Rossi and Taylor, 2006).

Together these studies provide empirical evidence that processes of service concentration and dispersal are operating simultaneously, not only between global cities as hypothesised by Sassen, but increasingly at multiple geographical scales. Cities not previously recognised as being in the ‘first league’ of global cities, can have a gateway role as extending business networks act as conduits, or ‘new corridors’, for informational and trade flows in the global economy. Longstanding interpretations of global, national and regional city hierarchies as essentially competitive are therefore increasingly inaccurate descriptors of emergent inter-city relations, and this has important implications for the consideration of polycentricity in policy.

Functional linkages in city networks are highly complex, thus the extent to which ‘development’ appears ‘even’ is entirely scale-dependent. A key finding from the study is that a distinction needs to be recognised between functional polycentricity, which refers to flows of information and the organisation of firms, and morphological polycentricity, which (like Central Place Theory) describes the scale-specific distribution of towns and cities of different sizes. Crucially, morphological polycentricity at a regional scale - typified by the Randstad, Netherlands and Rhine-Ruhr, Germany in the ESDP - was not found to be associated with a more balanced distribution of advanced service functions. Intra-regional functional linkages in these regions were found to be surprisingly weak, counter-intuitively, the scale of global functions and worldwide super-connectivity of London (regarded as a mono-centric spatial formation in the ESDP) was found to promote strong functional inter-linkages between its adjacent centres across a wide (MCR) area.

This demonstrates that a city’s global connectivity, or gateway role, in the worldwide service economy, can promote important functional trading relationships with other smaller cities and towns, which can also be conceptualised as networked urban gateway/corridor formations at different geographical scales. Understanding the processes by which such synergistic inter-urban relationships are constructed is thus essential to inform policy.
Figure 1: Mega-City Region Linkages (Source: Hall and Pain, 2006)

(a) SE England, (b) The Randstad, (c) Central Belgium, (d) RhineRuhr, (e) Rhine Main, (f) N. Switzerland, (g) Paris Region, (h) Greater Dublin
Paradox II - Network Flows with Materialities

The new geography of globalization is therefore associated with important development of functional linkages between cities across space at inter- and intra-regional scales, but this is associated with a second spatial paradox. Importantly, there is evidence of new gateway and corridor roles becoming at once more detached from and yet increasingly dependent on physical infrastructures (the space of places). This finding extends understanding of what Castells has identified as “a structural schizophrenia” between “two spatial logics” - of flows, and of places. Castells has warned that “the dominant tendency is toward a horizon of networked, ahistorical space of flows, aiming at imposing its logic over scattered segmented places” (Castells, 2000, p.459). But the POLYNET research reveals that, counter-intuitively, as conduits of trade flows are dematerialising with informationalisation / virtualisation, material flow infrastructures - transportation corridors and gateways for human interaction - are becoming more important. In competitive, globalising European markets, inter-city network flows are highly dynamic, thus flexibility and openness to both virtual and physical flows is crucial. This finding has implications for sustainable infrastructure and land use policy.

Although ICTs are used intensively in transnational office networks, the research shows that face-to-face contact is the essential gateway city production process and is increasing on a par with virtual communications. Advanced logistics is the most virtualised producer service industry studied, its networks are often “invisible”, hidden in retail and distribution networks, yet even these services remain located close to gateway city hubs and their transportation corridors. Multi-sector clustering and co-location remain vital for high-complexity/high-value knowledge transfer, innovation, production and trading within and between global firms in the dense central business districts of the new gateway cities. These cities' 'openness to flows' is vital to maintain their local and international accessibility and their functional connectivity to other regional and national towns and cities. Ease of movement and reliability of transportation services in and out of, as well as through, gateways is thus essential to business efficiency and is identified as one of two key threats to global APS clustering in London (Taylor et al, 2003; Cook et al, 2007). The new geography of advanced services thus remains highly dependent on 'spaces of places' and their physical infrastructures giving rise to a second important observation relating to the concept of polycentricity.

'Cris-cross' patterns of commuting and business travel in spatially polycentric urban regions are not supported effectively by public transport in any of the cases studied. The Randstad, Netherlands, team warns that if the urban settlements of such a region were all equally well connected to each other in terms of commuting "next to being a polycentric utopia, it would also be a clear recipe for traffic chaos and environmental degradation" (Werff Van der, M. et al, 2005, p.19). Even in South East England where the morphological distribution of cities and towns is dominated by London, cross commuting and business travel between secondary centres is shown to be vital to support functional polycentricity but this traffic cross-cuts existing hub-and-spoke transportation infrastructures (Figure 2).
The POLYNET findings on transportation pose a serious policy dilemma. Knowledge-based services are prioritised in the European Lisbon Strategy (2000) as vital to promote global competitiveness and the POLYNET study shows that they are essential for sustainable regional economic development, yet present UK spatial policy frameworks aim to restrict intra-regional movement and (in line with EU policy) divert resources along new multi-modal corridors to earmarked ‘Growth Areas’ which seen as currently underdeveloped.

As already discussed by Pain (2008, in this volume), EU spatial policy relies on major investment in strategic transportation corridors to promote polycentric development at intra- and inter-regional scales, but many practitioners are sceptical that this alone can reverse long established patterns of uneven development. In South East England, major investment in transport infrastructures in the ‘Thames Gateway’ corridor so far shows little evidence of establishing the affective economic linkages necessary for sustainable growth in the area to the east of London. At the same time, resources are desperately needed to improve the ‘new economy’ urban corridors (routes for intense APS movement) associated with functional polycentricity which involve London and a wide area stretching from the north-east of the MCR (Cambridge) right round to the south of the region (Crawley-Gatwick and Brighton).
Writing on the role of corridors nearly forty years ago, Whebell (1969) noted “the reciprocity of transport and its geography” whereby “space shapes transport as much as transport shapes space” but also observed that while improvements in transport are important to support expanding markets and development opportunities, these do not occur uniformly (pp.1-26). The POLYNET research findings indicate that it still takes more than transportation infrastructures alone to create well-connected new gateway cities. Efficient inter-modal transportation systems are vital to support service economy flows but cities need other types of sustainable infrastructure also to be well-connected production and trading centres in globalization. Public sector interventions through regulatory and legislative frameworks are shown to be a crucial determinant of cities’ openness and connectivity to service business flows. Regulatory context is the second key threat to the London cluster (alongside transportation) identified by global firms. The French POLYNET team go so far as to propose that the more restrictive policy context of the Paris Region, which aims to divert development to more distant French locations, is the main reason that economic development comparable to that of South East England has not occurred (Halbert et al, 2006). This finding suggests a third spatial paradox which follows from the global-local intersection between gateway and corridor spaces of flows (virtual and material) and the territorial spaces of governance.

**Gateway Hinterworlds with Hinterland Governance – A Third Paradox**

In the fifth phase of the research, common policy and governance challenges relating to the management of MCR emergence were identified across the eight regions. In all cases, existing institutional and governance structures were seen as inadequate to deal with the new complexities of regional development processes. The challenges relate to decision-making, democratic structures and their horizontal and vertical boundaries, and also to the intellectual premises upon which policies and intervention are based - in particular a dichotomy between economic and spatial planning.

Importantly, the multi-scale flows and functional business linkages identified and mapped in the study do not relate to existing administrative and jurisdictional boundaries. Just taking into consideration MCR definitions based on commuting and the contiguity of FURs in the first phase of the study, the South East England MCR covers all or part of five ‘standard’ statistical regions - London, the South East, East of England, East Midlands and South West of England - that are the basis for spatial and economic policy. Furthermore, the boundaries of these regions bisect two major growth corridors in the UK Government’s national Sustainable Communities Strategy (ODPM, 2003a,b; 2004). The ‘Thames Gateway’ is split by the South East, East of England and London boundaries and the ‘Milton Keynes-South Midlands strategic corridor’, by the South East, East of England and East Midlands boundaries (Figure 3).

Responsibility for spatial and economic planning is also dealt with by two separate bodies in each statutory planning area outside London - regional assemblies (Regional Spatial Strategy (RSS)) and regional development agencies (Regional Economic Strategy (RES)). The London region is additionally split from the rest of the MCR by a separate system of governance. It is the only regional
body to have a direct democratic input to the policy making process through an elected Mayor responsible for the development of spatial and economic strategies (‘The London Plan’ and the ‘Economic Development Strategy’, the latter being prepared for the Mayor by the London Development Agency (LDA) (Mayor of London (2004)).

Even in London, the Mayor’s powers remain considerably curtailed by strong UK centralisation and Government control over local financial expenditure. The Mayor’s inability to control investment in the London Underground has been a much-publicised example. Outside London, at the local political level splintering of decision-making between individual cities, districts and counties continues to reflect specific localised interests. So-called ‘NIMBYism’ (not in my back yard) politics has the power to delay or restrict development, as illustrated recently by seesawing house-building targets announced for South East England RSS (Hall and Pain 2006).

**Figure 3: South East England Growth Areas** (Source: UK Sustainable Communities Strategy, ODPM 2003a, p.54)

![Map of South East England Growth Areas](image)

Decision-making is similarly fractured between UK central government departments, including the Treasury, the Department for Trade and Industry (DTI), the Office of the Deputy Prime Minister (ODPM) (replaced since the study by the Department for Communities and Local Government (DCLG)), and the Department for Transport (DFT). Privatisation and new public-private interrelationships (for
example private financing initiatives to help fund infrastructure development in the South East Growth Areas) add a further layer of complexity to the decision-making and governance structures relating to the functional MCR. The responsibilities of the former Department for Transport Local Government and the Regions (DTLR) have now been split between the DFT and DCLG whilst their other responsibilities have been devolved through railway franchising and a range of executive agencies. The organizational and jurisdictional boundaries resulting from this proliferation of responsibilities results in a lack of oversight to deal with multi-scale interdependencies between service economy networks and geographical space that demand policy attention.

Returning to the two key questions - firstly, how emergent urban hinterworld relations can inform spatial planning in a territorial hinterland space and second, what this means for the gateway and corridor roles in globalization - what conclusions can be drawn from the North West European case for Canada?

CONCLUSION: THE GOVERNANCE OF HINTERWORLDS

The management of cities as new economy gateways and corridors with their associated infrastructures, virtual and material, evidently requires cross-border and inter-organisational co-operation. Inter-city functional synergies and complementarities revealed by the POLYNET research could be better exploited by policy with improved understanding of the ‘invisible’ trans-continental, hinterworld production and trading relations that are increasingly impacting at a local level. New trading relationships are being fuelled by progressive liberalisation outside the Western world, making policy awareness and agility in responding to these changes of especial importance.

For businesses, the “Asianisation of globalization” is predicted to be “the biggest issue” for the global economy. According to a senior APS economic advisor based in London, decisions will no longer be made between the US and Europe as historic trading relations between East Asia and the Middle East are re-established (speech given at The Women’s Forum, October 6th 2006, Deauville, France). Speaking as UK Trade Commissioner for the EU, Peter Mandelson has commented similarly that “a global economic and political order that has shaped the world since the middle of the nineteenth century is ending”. Mandelson sees world trade positively, as “arguably the single most important impact we [Europe] will have in shaping economic development in the global age”. But he also points to a need to address competing EU visions as to how Europe should respond to globalization to “build a credible, and practical, politics of openness” as opposed to a “politics of retreat, and national chauvinism and protectionism” (speech given at London Metropolitan University Global Policy Institute Launch, February 2nd 2007, London). From an academic perspective, Taylor et al (2002) emphasise that “a policy of exclusion from ... global connectivities will likely stultify economic growth and exacerbate economic polarization” (pp.231-241) whilst Short et al (2000) describe how “clamouring to grab a bigger piece of the global economic pie, supported by state policy, marks the current round of globalization in Europe and much of the rest of the world” (pp.317-340).

Empirical evidence from POLYNET confirms Castells’ description of a political space that is constructed by “scattered segmented places” existing in
parallel with a different spatial logic of the “networked ... space of flows” (Castells, 2000, p.459). This fractured politico-territorial space contrasts with the synergistic inter-city relations produced by globalising business service networks. Trans-boundary, inter-city APS flows are shown to be most intense in territories that are least obstructed by defensive trading strategies and where balanced regulatory and legislatory infrastructures are maintained.

Thus a key implication from the European findings is that the viability of traditional gateways and corridors in globalization is highly dependent on the development of appropriate and sustainable virtual, material and institutional infrastructures. Enlightened gateway and corridor strategy should therefore avoid historically competitive hinterland interpretations of urban and regional spatial relations, focusing instead on understanding and responding to the potentially complementary roles and functions of gateways and corridors in new hinterworld spaces of flows. With all three appropriate infrastructures in place, Canada would seem to be in a unique position to connect two of the world’s largest future economies - Asia and North America - in this time of global transition.

REFERENCES


Cairncross, F. (1997a) The Death of Distance, Boston: HBS Press


NWMA Spatial Vision Group (2000) Spatial Vision for the North Western Metropolitan Area (NWMA), Bristol: University of the West of England


Taylor, P.J. (2001b) Urban Hinterworlds: geographies of Corporate Service Provision under Conditions of Contemporary Globalization, Geography, 86, 1, 51-60