

# The Politics and Planning of Urban Compaction: The Case of the London Metropolitan Region

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**This paper investigates how the theoretical debate and actual planning related to the compact city model manifests itself for the case of the London Metropolitan Region – a context that has been exposed to significant debates and programmes on urban compaction. This paper presents three main aspects. First, it briefly revisits the state of the compact city debate. Second, it introduces the most relevant planning tools, the governance of spatial planning in London and the integration of land use and transport infrastructure facilitated by the city’s strategic planning instrument, the London Plan. Third, it introduces the London metropolitan region and its spatial characteristics while highlighting the most important urban development patterns. It focuses specifically on residential and workplace densities and mobility patterns and highlights the changes over the last ten years. The paper will conclude that today, London can be considered as a case where a political agenda for urban compaction has been reinforced by market forces which together have led to a new phase of urban development leading to a more compact, walkable and transit oriented city.**

## 1 The compact city debate

Urban form is a fundamental descriptor of cities regardless of political, cultural and geographic contexts. Furthermore, steering and controlling the spatial dimension of urban agglomerations is a critical task of city making and as such underpins urban policy at different governance levels (UN Habitat 2009). Not surprisingly, significant efforts have been made to explore the causalities between the physical structure of cities and important policy outcomes which cut across social, economic and environmental objectives. Yet, across the board, the evidence related to most of the complex relationships in cities is only tentatively conclusive and encourages disagreement and an open-ended debate.

At the same time, cities are developing at a rapid pace and political decisions on their shape and infrastructure need to be taken whether or not our knowledge on causalities is able to keep up. As a result, the ‘science of urban form’ is overtaken by the ‘politics of urban form’ and normative positions assert themselves as an integral part of city making. Based on a combination of evidence-based knowledge and more normative positions characteristic for architecture and design and to some degree even for engineering, numerous paradigms for urban development have emerged and many have left their mark on cities around the world. Among the more recent and influential ideas is the ‘compact city model’ which has received significant attention in Europe and North America over the last 20 years while being increasingly considered in cities of emerging economies which are traditionally more compact than their western counterparts.

The compact city model stands out as the most generic spatial interpretation of the sustainable city and represents an umbrella term for various other related concepts such as the European city model, transit oriented development, new urbanism, decentralised concentration and smart growth. All share the idea of reinforcing city access based on proximity and highlight the importance of higher density and mixed-use urban form (Gehl 1987; Kelbaugh 1989; Calthorpe 1993; Jenks, Burton et al. 1996; Thomas and Cousins 1996; Gertz 1997; Urban Task Force 1999; Burgess 2000; Rogers and Power 2000; Williams, Jenks et al. 2000; Burton 2002; Cervero 2003; OECD 2012; UN-Habitat 2012). A central consideration of compact city development is to reduce the need to travel. No longer, it is argued, should transport be regarded as the simple facilitation of movement but instead it should be concerned with the overarching objective of increasing accessibility (Topp 1994; Houghton 1995; Gertz 1997; Simpson 2004; Knoflacher, Rode et al. 2008). Since the early 1990s, calls for a ‘new realism’ (Goodwin, Fund et al. 1991; Owens 1995; Docherty and Shaw 2008) in transport planning forcefully argued for the ‘predict-and-provide’ model of transport planning to be replaced by a greater focus on demand management and land use planning.

Besides transport and accessibility-related advantages, a range of additional co-benefits are frequently referred to and underpin many of the arguments for urban compaction. Jenks et al (1996) list as general advantages the conservation of the countryside, more efficient utility and infrastructure provision, and the revitalisation and regeneration of inner-urban areas. The potential for energy efficiency at the building level, mainly heating and cooling (Rode, Keim et al. 2011; UNEP 2011), as well as for supplying decentralised grid-based green energy such as combined heat and power, are also advantages (Owens 1992; OECD 2010) as is a lower embedded energy demand for urban infrastructure due to greater utilisation

(UNEP 2011). Finally, the importance of design quality for the compact city agenda further promotes energy efficiency at the building and neighbourhood level (Urban Task Force 1999; UNEP 2011). Urban compaction is therefore widely regarded as a central measure for reducing carbon emissions (UN-Habitat 2012) and increasing energy price-resilience (Cortright 2008).

There are also direct economic benefits. Breheny (2001) highlights the related intensity and diversity of activity in line with Jane Jacob's understanding of what makes the city more attractive. Looking through the lens of density, UNEP's Green Economy Report stresses the cost-effectiveness of compaction for operating public infrastructure, facilities and services (UNEP 2011), while Thomas and Cousins refer to the provision of "a milieu for enhanced business and trading activities" (Thomas and Cousins 1996 p56). A recent OECD report (2012) further argues that compact cities can facilitate economic growth and the report highlights the potential of related policies for integrating economic viability, environmental sustainability and social equity. Burton concludes that the advantages of a compact city "are seen to contribute to the objective of more sustainable development in its broadest sense, embracing social and economic sustainability as well as environmental concerns" (Burton 2002 p219).

Having introduced the key benefits, central policy targets and instruments of urban compaction, the following paragraphs will focus on a more critical perspective. A fundamental critique of the compact city model is that it ignores negative side effects and critics claim that the negative externalities of higher density levels, such as traffic congestion, increased local air pollution and the urban heat island effect, are not equally considered. Other negative density associations that are frequently highlighted include overcrowding and reduced privacy, an increase in noise and crime, reduced access to nature, loss of open and recreational spaces as well as increased health hazards and greater vulnerability to natural disasters (Rudlin and Falk 1999; Burgess 2000; Williams, Jenks et al. 2000; OECD 2012).

A more normative critique of urban compaction policy is based on a position that generally rejects state intervention that potentially goes against consumer preference. In the case of the UK, Breheny (2001) highlights that higher densities remain unpopular with residents and local politicians alike and that people want to live in houses, not in flats, ideally with a garden in a town or rural area. Similarly, Richardson and Gordon (2001) make the case for consumer sovereignty, prioritizing access to good schools, safety from crime, access to the countryside and recreational amenities, as well as a high degree of mobility.

Indeed, the compact city ideal struggles in particular with two apparently universal aspirations: motorisation and a steady increase in personal living space. Some commentators, therefore, even challenge the idea of reducing the need to travel. For them, it is the 'greening' of existing automobility that will continue the "liberation from the tyranny of proximity" (Echenique and Saint 2001 p2). It is also in this context that the "desire to travel" or "desire to reach destinations that involve travelling further" is introduced (Simmonds and Coombe 2000 p125). Here, commentators emphasise that most households choose locations not to minimize the journey to work but to trade off multiple factors. It is for this reason that Richardson and Gordon (2001) even reject the very notion of 'excess commuting' and critics warn that lowering travel demand could lead to a reduction of economic competitiveness and output. Thomas and Cousins (1996) conclude that the compact city model tends to ignore the causes and effects of decentralisation as well as related benefits.

A more implementation-oriented critique of the compact city model concerns not so much the desired outcome itself (more dense, mixed use and accessible urban development) but the means by which it is usually achieved. To a significant extent, compact city policy is relying on regulatory planning mechanisms which have been characterised by some economists as 'second best' as they distort markets and lead to a range of negative side effects. For example, research has linked the UK's broader spatial planning policy to increased house prices and lower housing quality, greater housing market volatility, higher office rents, lower retail productivity and employment of small independent retailers (Cheshire and Hilber 2008; Cheshire, Hilber et al. 2011; Cheshire, Leunig et al. 2012). A particular concern has been with policies that involve urban growth boundaries which aim to limit urban sprawl without compensating the resulting constraint of greenfield housing supply with more pro-active promotion of housing construction within the built-up areas of cities. In the case of Greater London, Hilber and Verleumen (2010) emphasize that regulatory constraints on 'vertical development' is a major factor in London's extraordinarily high house prices. Such restrictions have a regressive impact on housing supply, affordability and housing equity (Barker 2006).

Finally, many critics stress the need for realism, as urban containment implies a reversal of the prevailing direction of urban development over the last 50 to 100 years (Angel, Sheppard et al. 2005). For rapidly growing cities, some experts argue that it is better to prepare and steer horizontal expansion rather than constrict and contain development, which has proved difficult in any event (Angel 2011). At the same time, most cities in the developed world will only add a marginal amount of built form to their territory which could be built at higher density. Any further compaction seems politically difficult since it would imply converting existing urban land back to nature (Bertaud 2004). In the latter contexts, more realism is also demanded with regards to the positive environmental impacts of compact city development. Studies for the UK as well as the US suggest that even draconian urban containment policy might only result in modest gains with regards to reducing overall energy consumption (Breheny 2001).

To conclude, I would like briefly to turn to urban practice by emphasizing that many of the core principles of the compact city model have been acknowledged by urban policy makers and planners while accepting some of the central criticisms introduced above. The OECD concludes that “by and large, they [the outcomes of urban compaction] appear to be positive and significant” (OECD 2012 p20). And while on the one hand – and certainly in a European context – urban compaction policy has become a mainstream planning approach, on the other the predominant trend of urban change remains one of dispersal and decentralisation.

Still, the last 20 years have seen a considerable implementation of compact city policies, particularly in Europe as well as in cities as diverse as Curitiba, Vancouver, Hong Kong and Singapore. These cities have all maintained and even increased recognisable features of compact city development. Above all, these cities have focussed on integrated transport and land use while relying on a mix of policy instruments, including urban growth boundaries, density regulation and provisions for mix use (Kühn 2003; Tang, Wong et al. 2007; UNEP 2011; Rode, Floater et al. 2012). Furthermore, and from reviewing the literature presented in this section, it seems that many of the negative side-effects of urban compaction policies can be avoided when policies focus on guiding urban development and prioritizing certain locations rather than limiting development. It is in this context that minimum density requirements are often singled-out as an effective policy tool (OECD 2012).

Some also speculate whether changing consumer preference might in the end turn out to be the greatest factor in shifting towards more compact urban development in the future (Läpple, Mückenberger et al. 2010; Brake and Herfert 2012). In the developed world, the last 20 years have seen a revived interest in inner city living, increasing desirability of apartment living and preferences prioritising access to job markets, urban services and entertainment rather than maximising personal living space. Transport preferences have followed suit, and increasing the shares of public transport, walking and cycling is now established as a central policy priority in an increasing number of cities as well as being supported by the electorate.

## **2 Compact City Policy**

### **2.1 Policy targets**

Implementing the compact city model is particularly reliant on policy cutting across different urban scales and sectors. Typically it includes a focus on urban regeneration, the revitalisation of urban cores, the promotion of public and non-motorized transport; extensive environmental controls and high standards of urban management (Williams, Jenks et al. 2000; Breheny 2001). Burgess summarises the compaction agenda as “to increase built area and residential population densities; to intensify urban economic, social and cultural activities and to manipulate urban size, form and structure and settlement systems in pursuit of the environmental, social and global sustainability benefits derived from the concentration of urban functions” (Burgess 2000 p9-10).

To date, compact city policy has relied heavily on spatial planning and investment strategies involving three top-level policy targets: higher urban densities, mixed-use and urban design quality (Urban Task Force 1999). These are usually considered at the scale of the functional urban region and synchronised with transport strategies that focus on expanding the provision of public transport, improving walkability and opportunities for cycling while mitigating the adverse effects of vehicular traffic (Gertz 1997). Typical policy instruments include regulatory planning tools (e.g. urban growth boundaries, minimum density standards or mixed-use requirements) and direct government interventions or investments (OECD 2012). Less common are market-based instruments and pricing tools although they are regarded as particularly beneficial when addressing multi-dimensional policy goals (Cheshire and Sheppard 2005). Compact city policies are generally seen as most effective for new developments given the difficulties of changing established urban structure, but they have also proved successful for retrofitting existing built-up areas (OECD 2012).

For the UK, a central benchmark for compact city development was set by Friends of the Earth, who argue that net density levels of 225 to 300 person per hectare (equivalent to densities in central neighbourhoods of Paris, Berlin and Barcelona) are needed for sustainable development (Burton 2002; Burdett, Travers et al. 2004). Such threshold densities allow for desirable accessibility levels by foot, bicycle and public transport while ensuring reduced infrastructure and operating costs (see section 1.2). They imply apartment housing with a floor area ratio (FAR) typically above 1, rather than living in individual houses (Steemers 2001). They also clearly distinguish the densities desirable for the European compact city from those of sprawling US agglomerations – with fewer than 20 persons per hectare – and the garden city model with up to 180 persons per hectare (Howard 1946); but also from the hyper density of Asian cities, with 500 and 1,500 persons per hectare (Burdett, Taylor et al. 2011). In recognition of the fact that it is difficult to propose optimal density levels independent of context, accessibility and socio-spatial characteristics of cities, pragmatic approaches to the compact city model simply refer to suitable high density rather than any specific measure (Urban Task Force 1999; Burton 2002). For example, existing and

proposed public transport infrastructure is usually regarded as the most important factor for setting threshold density levels for housing developments (Greater London Authority 2004).

The compact city agenda is further concerned with a well-balanced mix of different urban functions, ranging from housing to working, services, retail and leisure (Sherlock and Transport 1990; Owens 1992; Breheny and Rookwood 1993; Urban Task Force 1999; Rogers and Power 2000). This mixture is applied to various scales of the city, with transport implications usually a major consideration. It is important to note that reducing the need to travel through mixture is particularly effective for non-work related trips. In most cities, non-work related trips represent the vast majority of urban travel, for example, 83 per cent of all trips in the case of Greater London (Greater London Authority 2011). Reducing commuting distances is generally regarded as more difficult given the complex factors affecting locational choices of working and dwelling (Gertz 1997). Depending on the potential for agreeable co-existence of different uses, mixture can play a role at the building, neighbourhood, or city scale. A common differentiation of different types of mixed uses is horizontal versus vertical mixes. While the first looks at the organisation of different uses 'next to each other' at the two-dimensional scale, the latter refers to three-dimensional arrangements of different uses within buildings.

The third fundamental target of compact city development is design quality. It is argued that only good architectural interpretations for buildings, streets and public spaces can guarantee the success of urban development that includes higher densities and increased levels of mixed use (Urban Task Force 1999; Kenworthy 2006). Particular importance is also given to an interconnected design of streets which reinforces walking, cycling and efficient public transport, as well as providing public spaces that encourage social interaction and safe places for children to play (Gehl 1987; Elkin, McLaren et al. 1991; Williams, Jenks et al. 2000; Building for Life 2005). An urban grid, where streets always terminate in other streets with a high frequency of access to buildings along streets, is further seen as advantageous (Rudlin and Falk 1999). Today, for example, there is a broad consensus – at least in the wider European context – of the advantages of 19<sup>th</sup> century city design, with medium-rise high-density housing structured by streets and squares (Elkin, McLaren et al. 1991; Goodchild 1994; Urban Task Force 1999).

## 2.2 Governing spatial development in London

The implementation of compact city policy in the case of London is coordinated by the Greater London Authority – the city's relatively young strategic planning authority. London's governance has undergone considerable change over the last decades and the most relevant modification has been the re-instatement of a London-wide government in 2000, with a directly elected mayor. Still, as Figure 1 indicated, a number of central government departments continue to have planning and transport responsibilities within Greater London, including the oversight of commuter railways and a decisive voice in major planning decisions. London's boroughs remain centrally involved in granting planning permission to urban development projects.

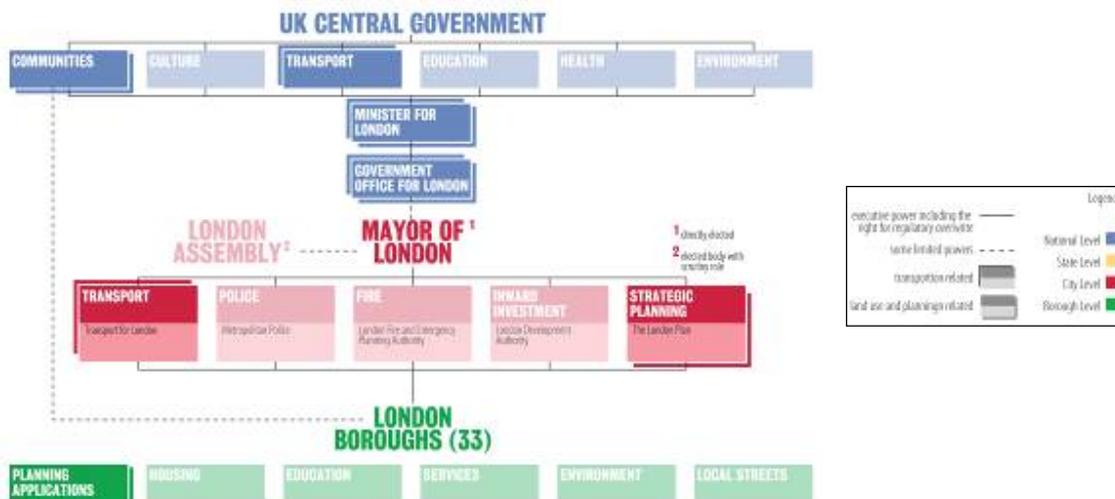


Figure 1: London Governance Structure  
Source: Rode (2011)

The creation of the Greater London Authority (GLA) brought with it the integration of formerly fragmented agencies responsible for urban development and transport to a significant degree (Figure 5). An important administrative reform that occurred alongside the Greater London Authority was the establishment of Transport for London (TfL) – still today one of the most progressive institutional arrangements for planning and operating transport at city level. TfL oversees mobility delivery for all transport modes: walking, cycling, all public transport and road traffic.

### 2.3 The London Plan

Over the last decade, London has reformed strategic planning more than any other mature western city of similar size. These reforms are directly linked to the UK's shift from land-use planning to spatial planning (Rydin 2011), which in turn was heavily informed by the European Spatial Development Perspective. With this shift came a re-alignment of spatial plans focusing on shaping spatial development, rather than traditional land-use plans which simply regulated land use. For London, the UK Government proposed (in the GLA Act and secondary legislation) a new city-wide spatial development strategy. The degree to which the London Plan (as the spatial development strategy was named) rehabilitated the city's positive attitude to strategic planning in general, and compact city oriented development more specifically, can hardly be overestimated.

The first London Plan was published in 2004 and its thematic orientation follows many of the recommendations made by the European Spatial Development Perspective (ESDP) of 1999 and includes sustainable growth, quality of life, economic growth, social inclusion, accessibility, design quality and climate change adaptation (Greater London Authority 2004; Greater London Authority 2011). Still, as experts point out, the London Plan has a particular emphasis on housing, responding to one of London's core challenges not covered by any other strategy document of similar stature (Greater London Authority 2004, Policy 3A.7).

It is important to bear in mind that the London Plan is, despite its name, a strategy rather than a detailed land-use plan. It is a text-heavy, 400-page document setting a strategic vision rather than specifying territorial features or land uses based on a scaled map (UK Government 2000, 5.4). The plan identifies key growth corridors, 'opportunity areas' and 'areas for intensification'. By doing so, it furthers the strategy of accommodating London's future growth on brownfield sites and endorses Central Government's Green Belt policy (see Figure 2) which protects open land surrounding London from development. With regards to land use and public transport integration, so-called PTALs (Public Transport Accessibility Levels) are highly influential and inform, for example, desirable housing densities: the better public transport access, the higher the density level at which the area should be developed (and the lower the private parking provision).



Figure 2: London's Green Belt  
Source: Rode (2011)

### 3 Policy Impact

The first London Plan was published almost a decade ago and urban development patterns over the last 10 years offer some insights into its relative effectiveness or at least into the degree, intentional or not, to which spatial development followed the compact city model.

Traditionally, London is not considered as a city that features strong compact city characteristics. Among the larger global city regions, London is characterized by a relatively low residential density with

more than 50 per cent of dwelling units in Greater London being terraced, semi-detached or detached houses. Typical density levels within residential neighbourhoods vary between 40 persons per hectare in Outer London and up to 150 persons per hectare in Inner London. Workplace density in central London, on the other hand, is more similar to those of other urban areas with concentrated global city functions and reaches peak density levels of 1,700 workplaces per hectare (see Figure 3). Access to London's employment hub is mainly provided by public transport. London features one of the most extensive rail systems, its underground measures 408 km in length and regional rail within the larger metro region (70 by 70 km) includes about 1,400 km (see Figure 4). Today's share of transport modes show the dominance of public and non-motorized transport modes while car use with about 40 per cent remains significant (see Figure 5).

Figure 3: Metropolitan London Residential Densities (l) and Workplace Densities (r)  
Source: LSE Cities (2011)

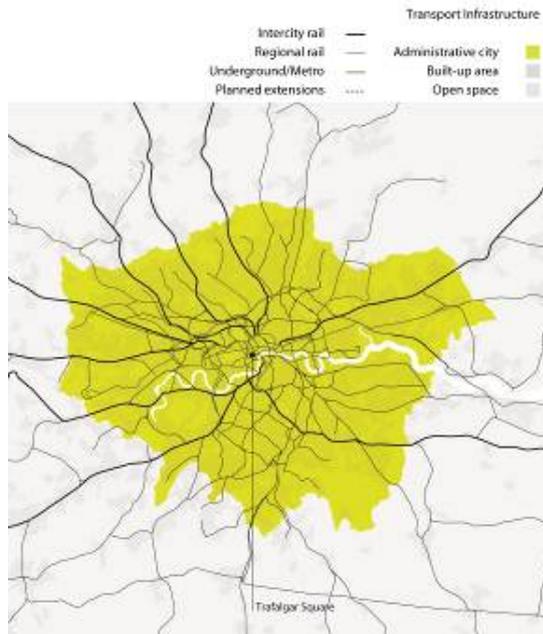


Figure 4: Rail Infrastructure in London  
Source: LSE Cities (2009)

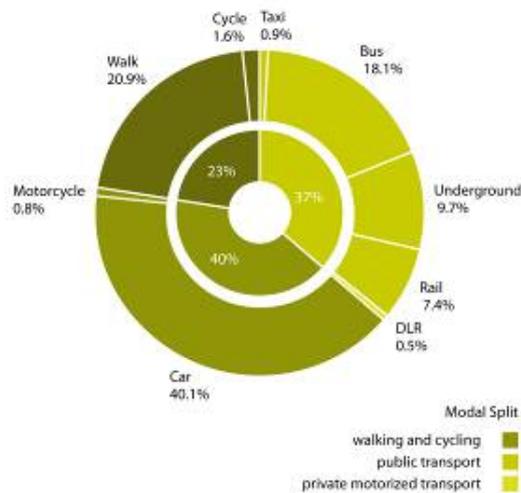


Figure 5: Modal Split London  
Source: LSE Cities (2008)

London's recent developmental history has been relatively continuous and urban change in the city was significantly informed by its economic success as one of the world's top three global cities (Sassen 2001; Gordon, Travers et al. 2002). This led to accelerated population growth that began in 1980 with new service sector job growth following the de-regulation of the banking industry. London is often referred to as the world's most international city, with strong economic and political ties to many parts of the world. Today's population is estimated at 8.2 million, up from 6.4 million in 1991 (Greater London Authority 2010; Office of National Statistics 2011). This growth has largely been the result of international migration and more recently of natural growth within the city. Following the financial crisis in 2007, London has experienced some diversification of its industry, with shifts towards digital technology, tourism and education (Hoffman 2011; Nathan, Vandore et al. 2012) and away from the narrower finance and insurance sector (Hoffman 2011).

### 3.1 Spatial development

London's spatial development continues to be a product of its primary economic functions. The global banking industry and an extremely active producer services industry have reinforced the central core of the city as the main area of economic activity (Greater London Authority 2011). What has changed, however, is a significant increase in urban residents living within the central zones or within a 10 km radius of the city centre (see Figure 6). This is the result of intensification and brownfield re-development following the shift from industrial to service sectors which led to land vacancies, particularly east of the centre (Greater London Authority 2010). The Thames Gateway, including the Olympic area, and redevelopments along Regent's canal and King's Cross are part of this. At the same time though, many towns and cities in the so-called home counties are booming, with Cambridge, Oxford and Milton Keynes being the most prominent examples (Centre for Cities 2012). Here, more traditional suburbanisation has continued to develop jointly with new business parks and high-tech industry clusters.

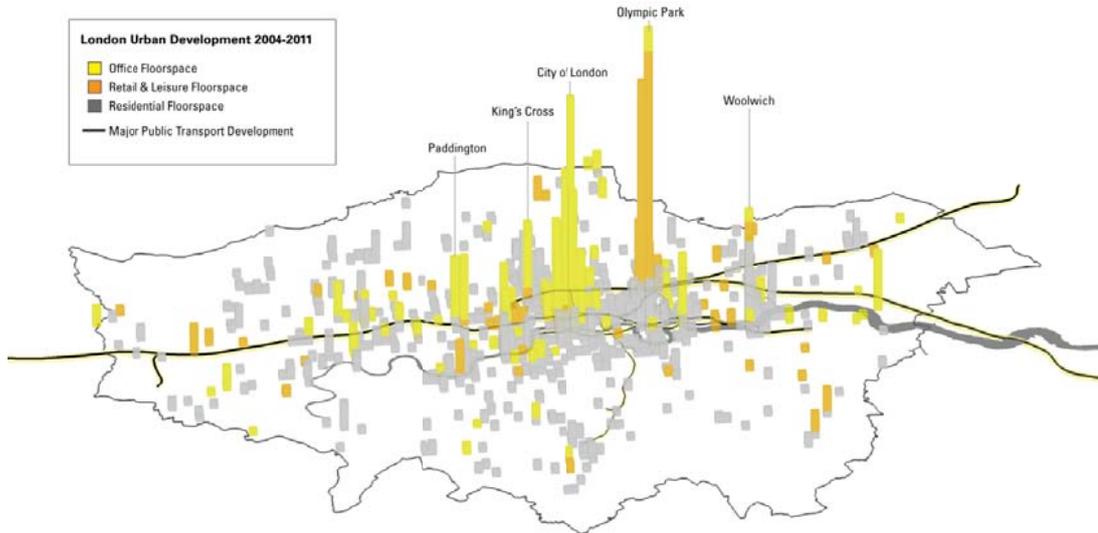


Figure 6: London Urban Development between 2004 and 2011  
Source: LSE Cities (2012) based on Greater London Authority (2012)

### 3.2 Strategic transport developments

Transport developments in London more directly mirror the compact city agenda, with significant investments in the public transport system, a re-discovery of non-motorized transport modes and one of the most significant efforts worldwide to reduce car use in the city centre with the introduction of the London congestion charge in 2003 (Transport for London 2008; Transport for London 2010). These efforts have re-distributed street space in favour of bus lanes, cycle paths and pedestrian areas, at the same time significantly upgrading the quality of the public realm. The effects on travel patterns in the city are relatively clear as Figure 7 and Figure 8 indicate. While travel by car has been declining for almost two decades, public transport is on the rise. Particularly bus travel has seen unprecedented increases in ridership during that period. Similarly, non-motorised travel is on rise with a surge in cycling, although from a low base, being the most radical change over recent years (see Figure 9).

However, there are serious shortcomings. For example, road safety continues to be a major concern with fatalities among pedestrians and cyclists in London totalling close to 100 in 2011 (Transport for London 2012). Furthermore, regional long-distance commuting is also growing with an increasing number of workers ‘jumping’ London’s green belt on a daily basis (Figure 10). Estimates suggest that about 300,000 commuters cross the green belt every day challenging a central component of London’s compact city policy: the region’s green belt (Rode 2011).

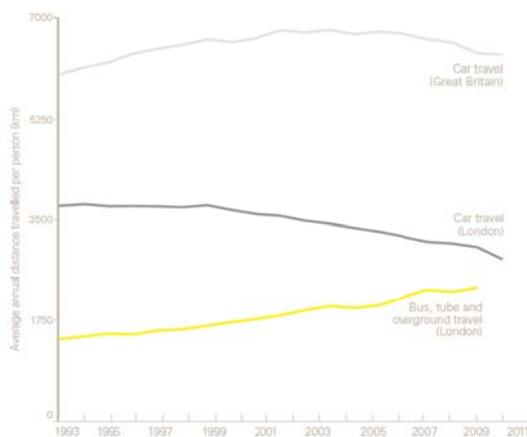


Figure 7: London motorised transport travel compared  
Source: LSE Cities (2012)

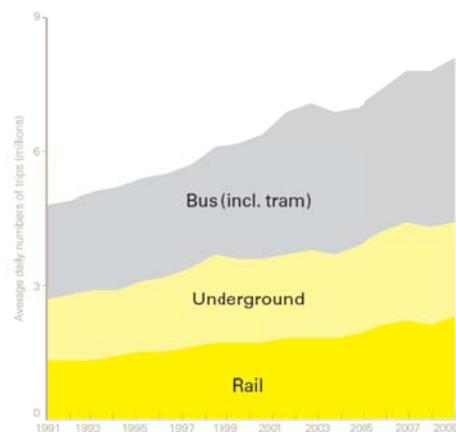


Figure 8: London public transport trends  
Source: LSE Cities (2012)

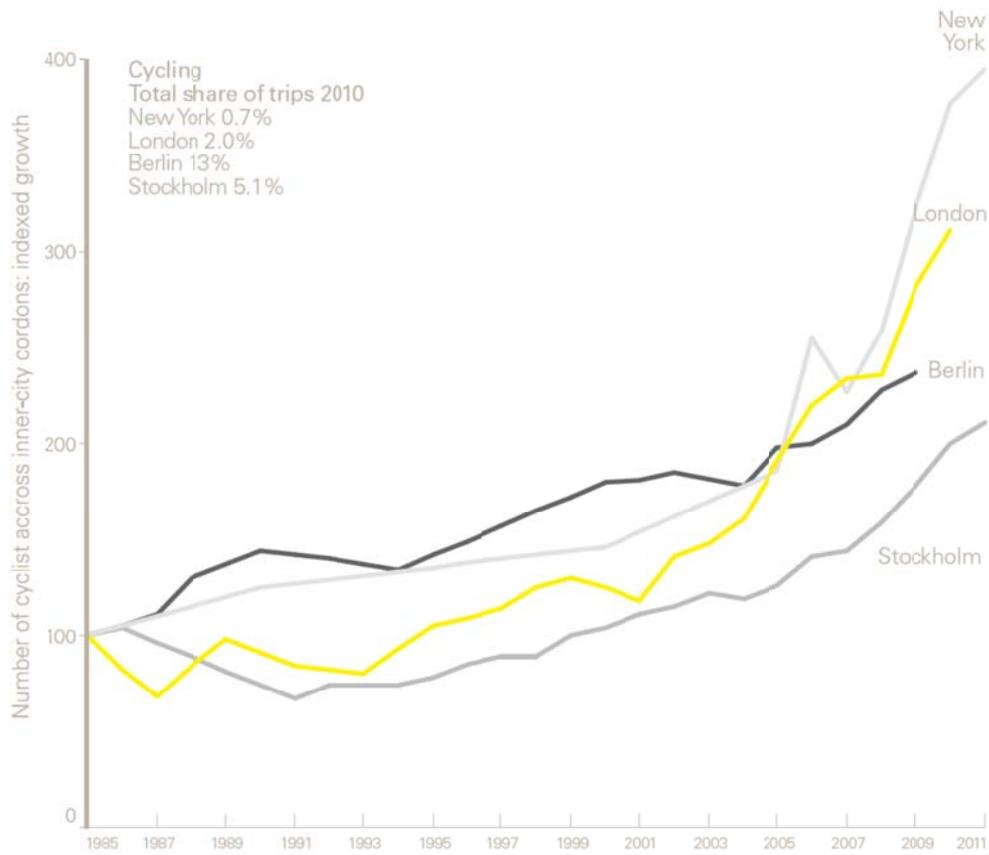


Figure 9: London cycling trends compared  
Source: LSE Cities (2012)

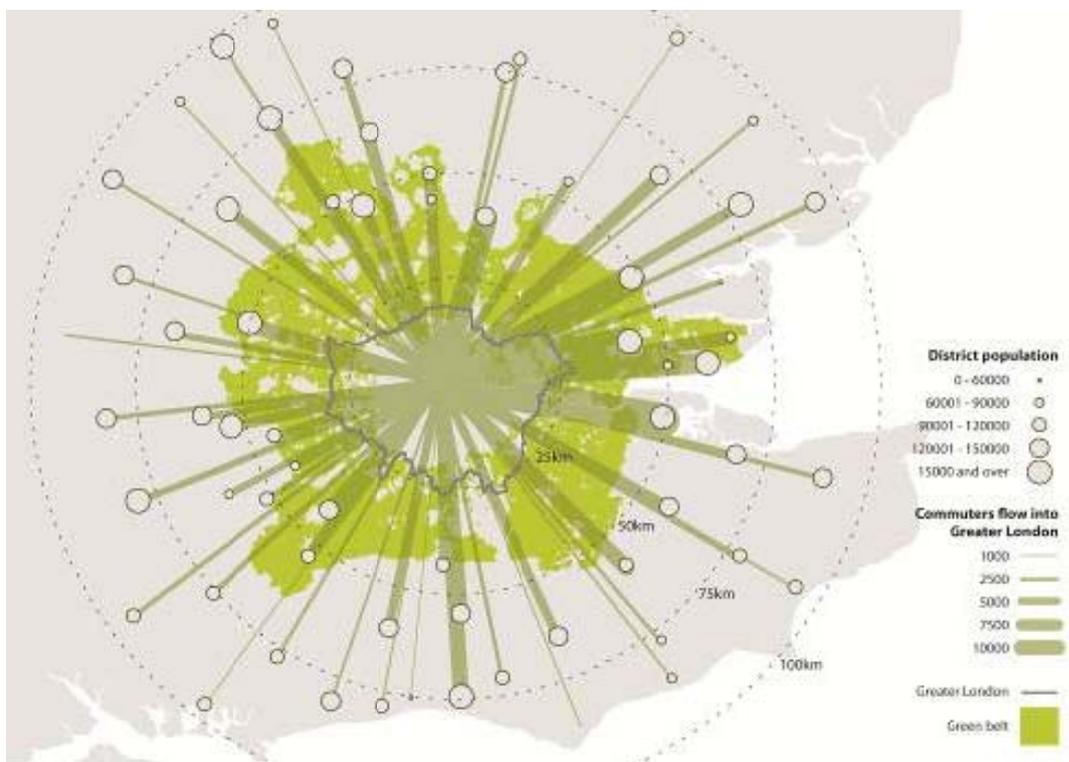


Figure 10: London Regional Commuter Flows: green belt jumping  
Source: Rode (2011)

### 3.3 Integrating transport and land use development

Looking at the degree to which spatial development in London has been integrated with public transport infrastructure – another central objective of the compact city model – highlights a significant success of achieving related policy objectives. Land use and transport integration have been central to rolling-out new infrastructure such as the Jubilee Line Extension, which opened in 2000, the expansion of the Docklands Light Rail and the London Overground, all designed to improve accessibility to central parts of East London. Of all new developments in Greater London, measured in the constructed floor area between 2004 and 2011, 53 per cent is located within walking distance of 0 to 500 metres to the next rail or underground station. Another 33 per cent is within a walking distance of 500 metres to 1km of public transport stations and only 2 per cent at a greater distance than 2km (see Figure 11).

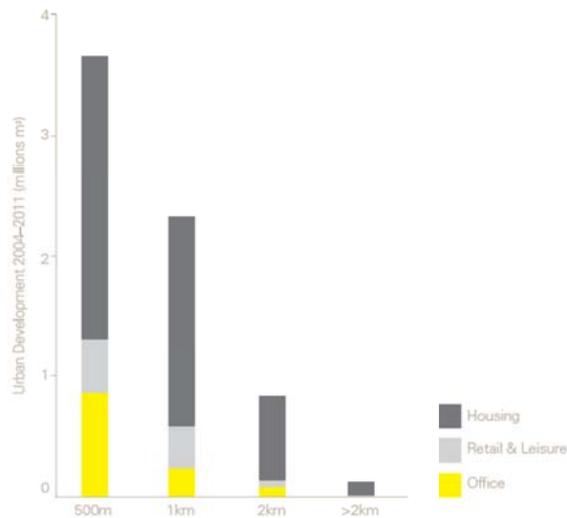


Figure 11: Proximity of new development to public transport stations  
Source: LSE Cities (2012) based on Greater London Authority (2012)

As Table 1 indicates, the overall trend of new floor space distribution in relation to public transport accessibility is the same across office, retail and housing developments. Still, there are some differences between them with new office space having the greatest public transport orientation and new housing developments being less oriented towards rail and underground stations. The most significant shortcoming of transport and land-use integration relates to quantitative standards for housing, density and parking provision which, despite the formal requirements for conformity, the London Plan’s compact city policies have not always been followed by boroughs and developers when implementing actual projects.

	0 - 500m		0.5 - 1km		1 - 2km		> 2km		Total Floorspace (m2)
	Floorspace (m2)	% of Total							
<b>Office</b>	877,730	72.8	237,951	19.7	85,021	7.1	4,807	0.4	1,205,509
<b>Retail &amp; Leisure</b>	454,552	52.5	351,906	40.6	52,268	6.0	7,475	0.9	866,201
<b>Housing</b>	2,382,790	47.7	1,777,790	35.6	714,090	14.3	116,000	2.3	4,990,670
<b>All</b>	3,715,072	52.6	2,367,647	33.5	851,379	12.1	128,282	1.8	7,062,380

Table 1: Public transport accessibility of new developments in London constructed between 2004 and 2011.  
Source: LSE Cities (2012) based on Greater London Authority (2012)

#### **4 Conclusion**

London is a particularly interesting case of how the compact city model has already had an impact on urban development. For example, the city increased the mix of uses and urban densities, the share of non-motorised transport and has promoted greater design quality – particularly related to streets and public spaces. At the same time, London is also struggling with the enormous complexity of implementing compact city strategies given its size, diversity and changing economic structure. Shortcomings related to commuting times and distances, road safety, parking standards, the location of major retail activity and the time-lag between large scale transport infrastructure developments and urban regeneration are just a few examples of this. Still, London can today be considered as a case where a political agenda for urban compaction has been reinforced by market forces which together have led to a new phase of developing one of the world's top three global cities in a more European way: compact, walkable and transit oriented.

#### **Acknowledgements**

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