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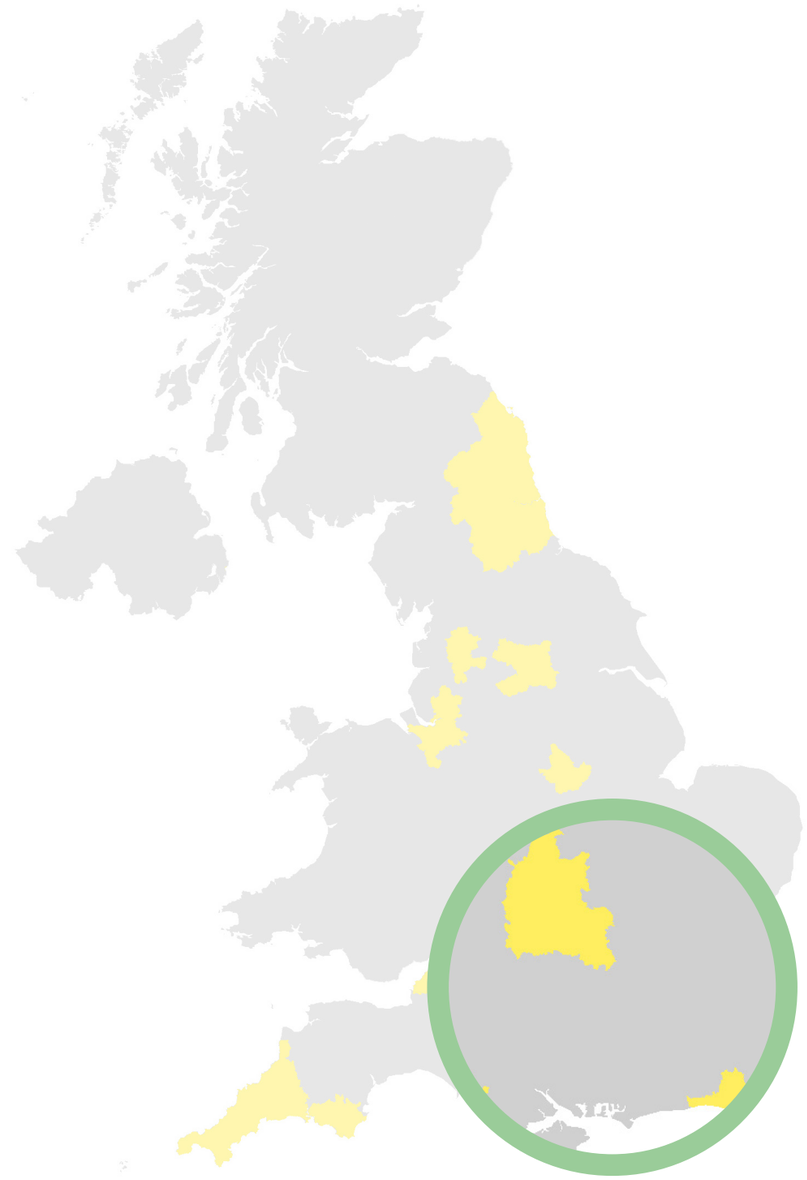


The location of development

Mapping planning permissions for housing in two South East city-regions

Contents

1. Introduction

In Spring 2016, the RTPI and Bilfinger GVA published the overarching results of a major study into the location of recent planning permissions in twelve city-regions across England. This research provided much-needed evidence on spatial patterns of housing growth across cities, towns and rural areas, and sought to widen the debate around how we monitor the effectiveness of the planning system.

This report for the RTPI South East region presents full range of data, mapping and analysis for the city-regions of Oxford and Brighton. These are complemented with notes from a roundtable discussion where RTPI members and other stakeholders from the South East discussed the research methodology and commented on the findings of the analysis.

Why was this research commissioned?

There is a critical need for new housing in England, with studies showing a need for between 220,000 and 300,000 additional houses per year[1,2]. While demand is greatest in London and the South East, all regions are likely to need significant additional housing[3].

Increasing the supply of housing is a national political priority, and one that exerts a strong influence on the shape of English planning policy[4]. In 2012 the NPPF introduced the presumption in favour of sustainable development, and required Local Plans to meet their own objectively assessed housing need by identifying a minimum five-year supply of land. The Government has more recently implemented further changes including measures to speed up the preparation of Local Plans, grant 'permission in principle' to housing on brownfield sites, and exempt certain types of development from making financial contributions to infrastructure provision.

Statistics are regularly published on the number of planning permissions granted and housing units completed. These are increasingly being used to debate the effectiveness and efficiency of the planning system. However these debates must not rest on quantity alone – spatial qualities of location and scale are of equal importance.

Location in planning policy

In England, planning and containment policies are regarded as having been generally successful in achieving relatively compact settlement patterns and avoiding sprawl[5]. The current NPPF remains clear on the importance of location to sustainability, and states that a core role of planning is to ensure that "…*sufficient land of the right type is available in the* ***right places***"[6] [emphasis added]. These are described as places which support growth, innovation and the efficient provision of infrastructure, are accessible to a range of local services, encourage the use of public transport, walking and cycling, and help tackle climate change[7]. Local Planning Authorities are required to consider these sustainability criteria when allocating sites within a Local Plan.

A lack of spatial analysis

While there is good evidence on the quantity of planning permissions being granted for housing, there is a lack of consistent monitoring and analysis on the location and scale of new developments. For example, there is no way of telling whether a significant proportion of new housing in England is:

- Located in places which are far from jobs and services, and accessible only by car
- Spread across multiple small sites which are harder to provide with infrastructure

This makes it hard to evaluate whether changes to planning policy are impacting on the aggregate location and scale of new development. This concern was raised in a 2014 report from the CLG Select Committee, which noted that efforts to assess the performance of the NPPF were hindered by "…*an absence of reliable, up-to-date data*", which made it difficult to determine "…*how successful the Government's policies have been and how they may need to change*"[8]

In response to these concerns, the RTPI commissioned Bilfinger GVA to conduct an exploratory study into the location and scale of recent planning permissions in twelve English city-regions. It looked at their distribution across urban, peripheral and rural areas, and analysed the relationship to major employment clusters and railway stations.

What were the initial findings?

The study mapped the location of planning permissions granted for schemes of 50 or more housing units, between 2012 and 2015, across the twelve English city-regions. It covered **704 major housing schemes**, which represented planning permission for **over 165,000 units**.

The spatial analysis found that:

- Almost 75% of the units granted planning permission were located with 10km of a major employment cluster
- Almost 13% were located within walking distance of a railway, light rail or metro station
- 50% were being delivered on very large schemes of 450 units and above
- 46% were located within an existing built-up area

Adding local expert opinion

The overarching report recognised that the spatial dimensions of sustainability are complex, and could not be neatly captured by any single method of analysis. It recommended that the research be viewed as a stepping stone towards a broader and more informed debate on the effectiveness of planning policy, and the spatial dimensions of growth in England.

This report represents a further step in this direction, presenting the mapping and analysis for the South East with the notes from a roundtable discussion held in London during July 2016. At this roundtable, planning professionals from the two city-regions discussed the validity of the research findings, and the factors which influence the location of development in their area. These expert opinions help to set the broad findings of the overarching report within a local context.

The green text boxes in this report contain the notes of the roundtable discussion. A list of roundtable delegates is provided on page 31.

2. Methodology

This section describes how the two city-regions were selected and defined, and the approach to mapping planning permissions, major employment clusters and railway stations. It then explains how the planning permissions were analysed based on location and scale.

Selecting the city-regions

The two city-regions analysed in this report were selected in order to provide a balance of different settlement patterns from across the South East region. Each recorded positive employment growth on the Centre for Cities index of towns and cities[9].

Defining the city-region boundaries

The city-region is a useful scale at which to consider the relationship between a city and surrounding areas. While there is no fixed methodology for defining a city-region, there are a number of terms which help to understand the concept:

Primary Urban Area (PUA): A PUA is a city level-definition first used in Department for Communities and Local Government's "State of the Cities Report". It refers to the continuous built-up area of a town/city with a population over 125,000, and can include multiple local authorities[10].

Strategic Housing Market Assessment Area (SHMA): These draw on a range of housing market indicators to define a relevant Housing Market Area (HMA), including migration patterns, house moves, labour flows and market performance/ trends. They offer an understanding of sub-regional housing markets and are used to predict the levels and mix of future housing provision.

Local Enterprise Partnership (LEP) boundaries: LEPs are voluntary partnerships between local authorities and businesses set up in 2011. Their geographical remit tends to include a wide range of local authorities, based on a combination of economic and political factors[11].

Travel to Work Areas (TTWAs): These are areas with a working population of at least 3,500, within which at least 75% of the resident workforce work in the area, and at least 75% of the people who work in the area also live in the area. They are helpful in defining a wider economic geography based on labour markets.

PUAs are based on the physical built up form of a given area, and do not necessarily capture the complex dynamics of wider job and labour market movements. SHMA boundaries capture the functional relationship between employment, transport, leisure and retail offer of the PUA, and a much wider surrounding area.

However TTWAs represent commuting patterns (or travel to work flows) between local authorities, and this directly captures the link between households (origin) and employment (destination). TTWAs were therefore selected to define the city-region boundaries.

To identify meaningful flows of inward commuting, this methodology defines a city-region as including any local authority in which 3.5% or more its employed resident population travel into the main city for employment. The 3.5% threshold was chosen as it displays a significant overlap with PUA and SHMA boundaries, and highlights the surrounding local authorities which have a functional economic relationship with the main city (see Table 1).

This provides a consistent approach for data collection and analysis, although the city-region boundaries presented in this report will differ from existing political or administrative city-region boundaries and should not be interpreted as such.

Table 1: City-regions as defined by local authorities within the 3.5% commuting threshold

City-region	Local authorities
Oxford	Oxford, Vale of White Horse, Cherwell, West Oxfordshire, South Oxfordshire
Brighton	Brighton & Hove, Lewes, Adur

Mapping the location of recent planning permissions, major employment clusters and rail stations

For each city-region, data was collected on:

- The location and scale of planning permissions granted for housing schemes of over 50 units between 1 January 2012 and 18 September 2015. Each scheme was then categorised based on size and mapped using GIS.
- Significant employment clusters, defined as Middle Layer Super Output Areas* (MSOAs) with 10,000 jobs and over.
- Areas of specialist sector job growth, defined as MSOAs with higher than average concentrations of employment in the knowledge economy and manufacturing sectors
- Rail stations including all forms of rail transport, such as inter-city rail, light-rail, metro and tram

Planning permission data was sourced from EGi, the Estates Gazette database. It is a live data source, and the data was extracted at a given point in time.

The data comprises outline planning permissions, permissions, and reserved matter applications. It should be noted that:

- Duplication of data was avoided. For example if there was more than one reserved matter application for the same phase of a development, then it was counted as a single planning permission.
- If a development had an outline planning permission and a reserved matter application between 2012 and 2015, then only the outline planning was considered to avoid duplication of numbers.
- The data does not include appeal information.

Measuring the proximity of planning permissions to major employment clusters and rail stations

The distance was then calculated between each scheme and the nearest major employment cluster and railway station. This distance was calculated as a straight line (as the crow flies), and each scheme was ranked according to the following categories:

Distance to major employment cluster	Distance to railway station
Under 10km	Under 800m
10 to 20km	800m to 2km
Over 20km	Over 2km

The analysis also recorded the number of schemes located within a MSOAs with a specialism in the knowledge economy or manufacturing sectors.

Categorising the location of planning permissions

Using GIS mapping, each scheme was categorised based on its location within either:

- The existing built-up areas
- Land designated as green belt, including previously developed sites in the green belt
- Other locations, including those on the edge of built-up areas, those beyond the green belt, and those in rural locations

Measuring the scale of planning permissions by the number of housing units

Each scheme was also categorised by the number of housing units that it represents, using the following nine categories:

- 50-99 units
- 100-149 units
- 150-199 units
- 200-249 units
- 250-299 units
- 300-349 units
- 350-399 units
- 400-449 units
- 450+ units

* Super output areas (SOAs) were designed to improve the reporting of small area statistics and are built up from groups of output areas (OA). MSOAs are geography with minimum population of 5,000 and maximum of 15,000.

3. Explaining the analysis

The metrics used in this report present several ways to explore the relationship between housing, jobs and infrastructure. This helps to consider methods of analysis that might support strategic planning at a city-region level and the effective monitoring of planning policy. It should be noted that the analysis in this report does not represent a judgment on the overall sustainability of a site or the effectiveness of planning across a city-region - the spatial dimensions of sustainability are complex, and issues of location and scale are influenced by factors beyond the planning system.

This section describes why each method of analysis was chosen, and provides caveats on how results should be interpreted.

Measuring proximity to major employment clusters

A central aim of the government's economic development policy is to devolve powers and freedoms to the city-region level, creating a more flexible and decentralised system in which cities drive economic growth[12]. Through the mechanisms of growth, city and devolution deals, local authorities are now working collaboratively across borders and sectors to develop ambitious economic development strategies.

The success of this approach depends on the ability of city-regions to maximise the effects of agglomeration: the benefits to productivity, innovation and economic growth achieved by the clustering and networking of knowledge-intensive industries in urban areas[13]. This can be achieved by coordinating economic development strategies with plans to improve connectivity and deliver associated housing growth at the city-region scale[14]. This is because major employment clusters attract commuters from a wide geographical area - however with the exception of London, these commuting journeys are predominantly made by car[15]. With limited road capacity, fast-growing areas can suffer from problems of peak congestion, road pollution and strain on infrastructure[16]. These negative externalities can undermine agglomeration benefits if not addressed[17].

Successful economies also create a demand for new housing, which needs to located in places which are accessible by active and low-carbon public transport modes to a range of jobs and services. The coordination and distribution of sufficient new housing across the city-region is also critical to sustainable economic development, and avoiding the problems mentioned above[18].

By measuring the proximity of each new housing schemes to the nearest major employment cluster, this analysis offers one way to explore this relationship between housing and jobs at the city-region scale.

For the purposes of this analysis, major employment clusters have been defined as those with 10,000 jobs or above. This threshold was selected to highlight areas of high employment density - those which are likely to influence commuting patterns in relation to new housing across a city-region.

However it is important to recognise that patterns of commuting are heavily influenced by the distribution of existing housing in relation to employment, and by rates of churn within housing and employment markets. Employment will also be distributed across a city-region at a much finer grain than shown in this analysis, with lower density employment sites shaping commuting patterns. It should also be recognised that commuting patterns are more complex than the traditional 'in-out' model suggested here[19].

Mapping the overlap between planning permissions and areas of specialist sector job growth

This research also considers the location of planning permissions in terms of their relation to areas of specialism in the knowledge economy and manufacturing sectors. This complements the measurement of proximity to major employment clusters by demonstrating areas of potential future growth, and showing how these correspond with the patterns of housing development across the city-region.

While manufacturing reflects more traditional job forms and has seen decline in the recent years, it remains a key source of employment and economic activity for a number of English towns and cities. Parts of the sector have also continued to strengthen, for example in 'value added' or 'advanced manufacturing' activities.

The knowledge economy has played a key role in the economic resurgence of city-regions in recent years, creating a more balanced economy following reliance on the financial and business service sectors. The agglomerative nature of the knowledge economy has led to a proliferation of clusters, enterprise zones and innovation and business centres in the economic policy interventions of local visions, masterplans and economic development strategies.

For the purposes of this research, the knowledge economy is defined as comprising of the following sub-sectors[20]:

Table 2: Knowledge economy sectors

Sector	Sub-sector
Science	• Biotech and pharmaceuticals • Medical • Life sciences • Clinical Science • Research and development • Some forms of advanced manufacturing
Computer programming, consultancy and related activities	• Software • Computer games • Computer programming • Information Service
Telecoms	• Telecoms and communications

The strength of these sectors was mapped in each city-region using Locational Quotient (LQ) analysis, which measures the industrial specialisation of a MSOA relative to the entire region. For example, an LQ of 1.0 in manufacturing means that the MSOA and the region are equally specialized in manufacturing, while an LQ of 1.8 means that the MSOA has a higher concentration in manufacturing than the regional average.

Measuring proximity to rail stations

In measuring the distance between housing schemes and rail or metro stations, this research suggests one way to understand the potential for sustainable commuting in a city-region. While living near a station does not guarantee use for commuting or other travel purposes, this simple measurement of proximity implies access to a key mode of low-carbon public transport. At the time of publication, the government is proposing to amend national planning policy to increase development densities around commuter hubs, defined as a rail, tube or tram interchange[21]. Meanwhile several reports have proposed that land close to a railway station could be loosely considered as a 'sustainable' location[22].

However it is important to note that this research does not consider proximity to dedicated bus or cycle routes, despite the important role that these play in enabling sustainable commuting patterns. However these are relatively flexible forms of public transport infrastructure which can more easily be adapted to connect with new developments.

Measuring proximity based on straight line distances

The analysis measures the distance between schemes, jobs and rail stations as a straight line rather than actual travel distances. It was not possible to measure actual travel distances for research of this scale, as these are complex and dependent on a wide range of external factors such as traffic, route choices and mode of transport. They are also subject to change over time as new infrastructure and development is delivered.

The distance categories for proximity to employment are based on the assumption that 10km represents a 15 minute drive under average conditions. The category for proximity to rail is based on the assumption that an 800m distance represents an 8 to 10 minute walk.

Measuring the size of schemes by the number of housing units

Categorising planning permissions by the number of housing units they represent helps to explore the relationship between location, scale and the provision of infrastructure.

Within a city-region, a proliferation of small-scale developments in peripheral locations, such as villages or on the edges of towns and cities, might indicate that housing demand is being met through a shift towards a more sprawling or dispersed settlement pattern[23]. Such developments are generally more costly and less efficient to service with infrastructure when compared to higher density large-scale urban extensions or new settlements[24]. Conversely, a proliferation of small-scale developments in existing built-up areas might indicate a city-region where brownfield sites are playing a bigger role in meeting housing demand.

Regardless of location, careful planning is needed to prevent an accumulation of smaller schemes from gradually overwhelming local infrastructure capacity. Large-scale developments often provide a direct financial contribution to infrastructure and affordable housing provision through a Section 106 agreement, whereas an effective Community Infrastructure Levy (CIL), coupled with an Infrastructure Delivery Plan, is needed to ensure that smaller developments make a sufficient contribution to infrastructure provision. For this reason, it is important to understand the general size distribution of planning permissions across a city-region.

Notes from the roundtable: is our methodology appropriate?

Delegates began by discussing the methodology used to define city-region boundaries, map the location and scale of permissions, and analyse their proximity to employment clusters and railway stations. They were asked whether our methodology had produced results which matched with their understanding of housing development in the city-region.

The approach to defining city-region boundaries was seen to work well for Oxford. Here, the 3.5% inward commuting threshold covered the four local authorities which surround the city, and in which new housing would likely have a functional relationship to the city. However, delegates noted that the permissions mapped in the west of the Vale of White Horse, near Shrivenham, would be likely to have a closer relationship to Swindon than Oxford. They also recommended that Brackley, in South Northamptonshire, be included in future studies.

When discussing the definition of the Brighton city-region, delegates commented that several towns and villages in Mid Sussex could have been included. This included Burgess Hill, Hassocks, Haywards Heath and Wivelsfield, settlements which are all connected to Brighton by rail. They noted that the exclusion of Mid Sussex and Horsham from the analysis was likely caused by the proximity of London and Gatwick airport, which distort commuting patterns in the area.

In both city-regions, the number and distribution of mapped permissions were seen to provide a broadly accurate impression of where new housing was being located, despite a few inaccuracies in marking the exact location. In the Brighton city-region, delegates noted that the high proportion of permissions in 'other locations' (57%) might be attributed to two recent permissions in Newhaven which fall just outside the existing built-up area.

Delegates also commented that permissions for student housing were significant in both city-regions, and were not captured by this analysis.

Delegates then discussed issues with the methodology for defining and mapping employment clusters. In the Oxford city-region, they noted that the threshold of 10,000 jobs did not fully capture the 'knowledge spine' of employment, which had led to employment clusters in Bicester and Begbroke being excluded from the analysis of proximity between permissions and jobs. Delegates also commented that the use of Medium Super Output Areas (MSOAs) might give the misleading impression that jobs were evenly spread across a wide geographical area. They gave an example of the large MSOA to the west of Didcot, where jobs are concentred in several science parks, surrounded by agricultural land. They also noted that areas with smaller MSOAs, such as Bicester, were less likely to meet the 10,000 jobs threshold.

In the Brighton city-region, which has relatively fewer jobs than Oxford, delegates thought that the mapping had not captured the fine-grain distribution of employment. They commented that the single cluster of 10,000+ jobs in the centre of Brighton actually extended further north, and noted the presence of several important industrial estates to the west of the city centre, the technology hub to the east of Brighton railway station, and smaller jobs clusters in Newhaven and Lewes. These omissions may have distorted the analysis of proximity between permissions and in the city-region. However, the analysis of proximity between permissions and railway stations were seen as accurate in both city-regions.

As a final point, delegates reflected that while local authorities had detailed spatial data on planning permissions and employment density, this could be difficult to coordinate at the city-region scale. They understood that there were benefits to having a single replicable methodology for mapping permissions and employment clusters (despite the caveats noted above) which allows for consistent monitoring of spatial relationships over time.

4. Focusing on the South East

This report presents a series of maps which show the location of planning permissions granted for schemes of 50 or more housing units, between 2012 and 2015, across two city-regions in the South East of England. This covers the location of 71 major housing schemes, which represent planning permission for almost 19,000 units.

The report then analyses the relationship between planning permissions, employment clusters and railway stations in each city-region, along with commentary from the roundtables on the findings shown.

The two city-regions

1. **Oxford**
2. **Brighton**

Number of housing units mapped in this report*

*numbers based on EGi data

Statistics for the two city-regions

Their combined population was **1.1 million** in 2015, up by 2.9% since 2012.

Between 2012 and 2015, planning permission was granted for almost **28,000 new housing units**, divided across 324 different schemes. This is equivalent to one new house for every 39 people.

To place these numbers in context, recent housing projections indicate that **at least 220,000 additional households** will be formed each year across England until 2022. Between September 2013 and September 2014 **117,070 houses** were completed[25].

These city-regions contained over **half a million jobs** in 2014. Private sector employment increased in these city-regions by an average of **9%** between 2011 and 2014, adding over **35,500 new jobs**.

Between 2012 and 2015, 32% of the housing units granted planning permission in these city-regions were on minor schemes of 50 units or less. The remaining **68% of housing units were on larger schemes of over 50 units**, representing almost 19,000 housing units. These are the subject of the mapping and analysis in this report.

High-resolution versions of each map can be downloaded from: **rtpi.org.uk/locationofdevelopment**

Oxford

Demographic and employment trends

Total population (Dec 2015)	**659,400**	
Population growth (2012-2015)	+18,200	2.8%
Total jobs (2014)	**341,506**	
Total jobs change (2011-2014)	+20,248	6.3%
Total private sector jobs (2014)	**289,272**	
Total private sector jobs change (2011-2014)	+26,806	10.2%

Core strategy and other plan progress

Oxford	**Core Strategy adopted March 2011** Site allocation adopted Feb 2013, three Area Action Plans adopted Apr 2008, Feb 2013 & July 2015 Work has begun on the preperation of a new Local Plan to 2036.
Vale of White Horse	**Core Strategy submitted March 2015**
Cherwell	**Core Strategy adopted July 2015**
West Oxfordshire	**Core Strategy submitted July 2015**
South Oxfordshire	**Core Strategy adopted December 2012**

Brighton

Total population (Dec 2015)	**438,900**	
Population growth (2012-2015)	+12,600	3.0%
Total jobs (2014)	**177,267**	
Total jobs change (2011-2014)	+7,701	4.5%
Total private sector jobs (2014)	**114,548**	
Total private sector jobs change (2011-2014)	+8,701	6.4%

Brighton & Hove	**Core Strategy adopted March 2016**
Lewes	**Core Strategy adopted May 2016**
Adur	**Core Strategy published March 2016**

Plan progress information from DCLG, 2016 [26]

5. Mapping the permissions

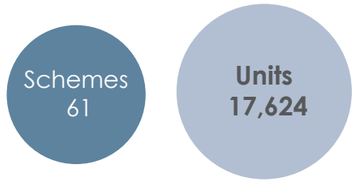
This section shows the location and scale of permissions in each city-region

Oxford

Commuting flows in the city-region

Local authorities	No. of inward commuters	% of total commuters
Oxford	42,406	48%
Value of White Horse	10,753	12%
Cherwell	9,528	11%
West Oxfordshire	7,541	9%
South Oxfordshire	7,369	8%

Number of schemes* and associated housing units



*includes only those of 50 units of above

In relation to the twelve city-regions included in the full study, Oxford is permitting relatively few new residential units compared to its population size. The graph below shows that the majority of recent permissions in the city-region have been granted in the local authorities of Cherwell and Vale of White Horse.

Distribution of units by local authority

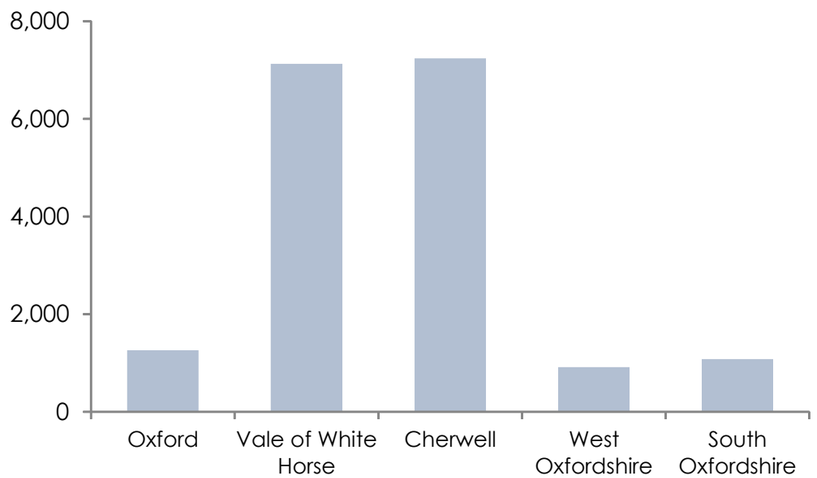


Fig 1. Simplified map of planning permissions for schemes with over 50 housing units (2012-2015)

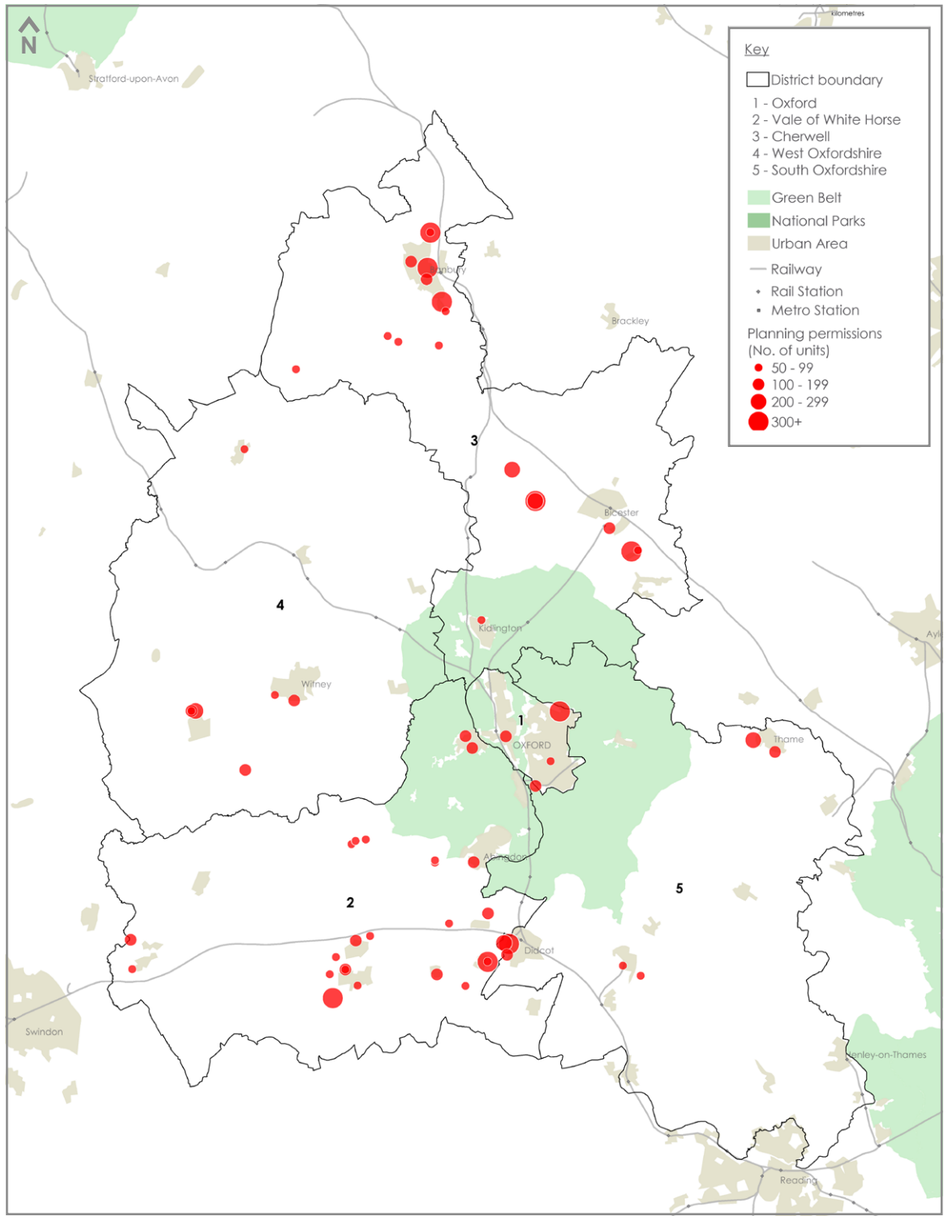


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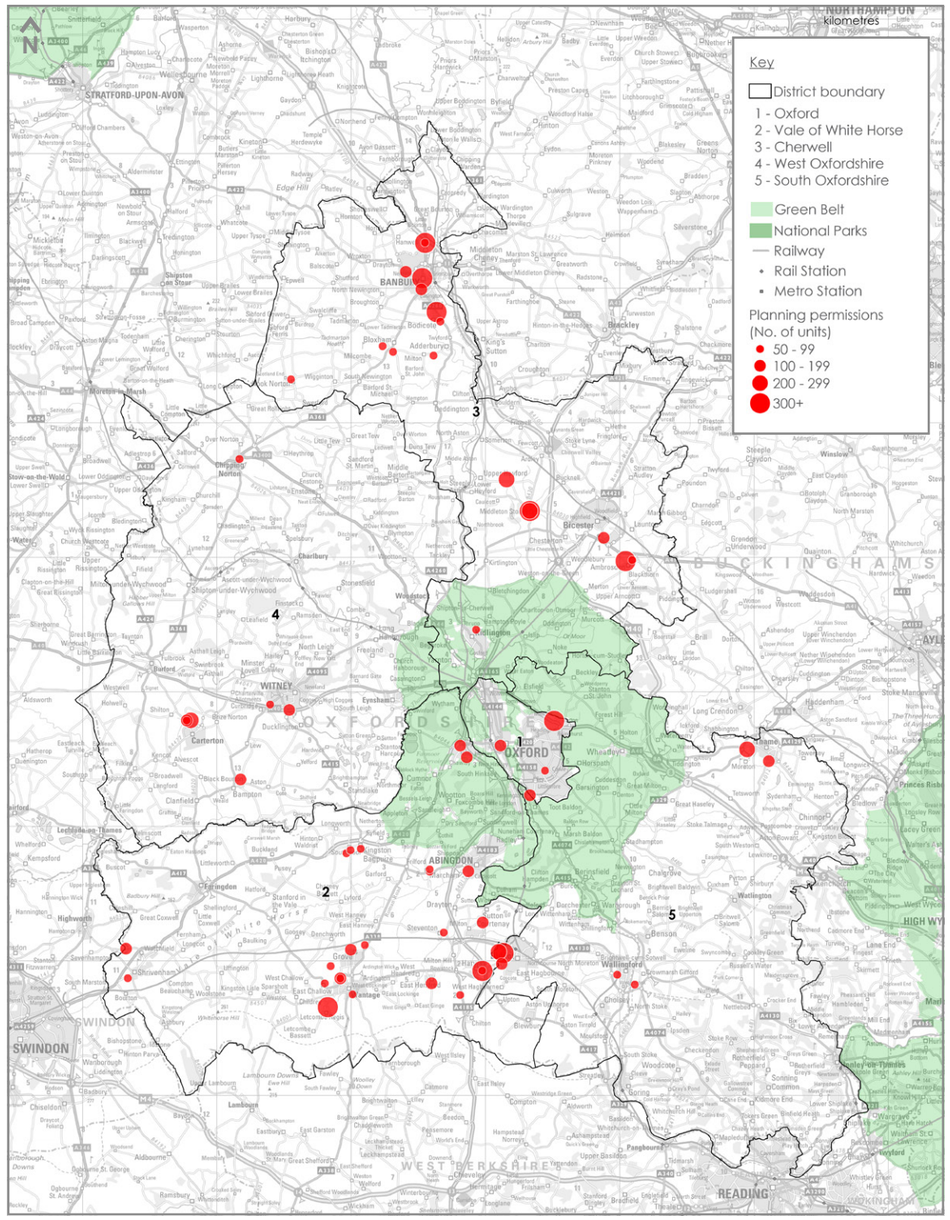
Fig 2. Detailed map of planning permissions



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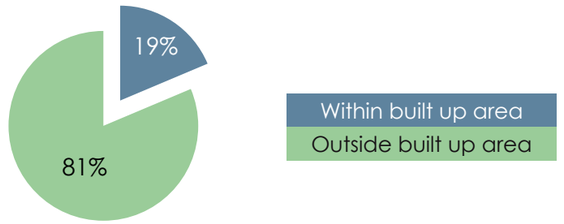
Figures 1 and 2 map the location of planning permissions for schemes of over 50 housing units, which account for 68% of the total number of units granted planning permission between 2012 and 2015 across the city-region. This is slightly lower than other city-regions covered by this study, suggesting a pattern of planning permissions for smaller schemes.

When looking across all schemes, the average number of units per planning permission is 92. This slightly higher than the other city-regions included in the full study. When looking at only major schemes, the majority of units have been permitted in schemes of over 450 units. Indeed there are four schemes in the city-region which account for over 8,500 new units.

The mapping also shows that only 19% of the housing units granted planning permission are located within existing built up areas, while the remaining 81% will be located in areas that fall outside the built up area or green belt. No planning permissions for schemes of 50+ units were recorded as located in the green belt.

% of housing units in existing built-up areas



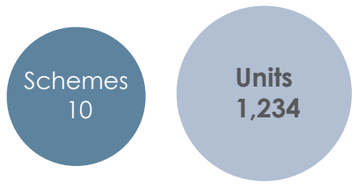
Distribution of housing units by scheme size

Brighton

Commuting flows in the city-region

Local authorities	No. of inward commuters	% of total commuters
Brighton & Hove	72,648	69%
Lewes	8,478	8%
Adur	6,615	6%

Number of schemes* and associated housing units



*includes only those of 50 units of above

In relation to the twelve city-regions included in the full study, Brighton is permitting relatively few new residential units compared to its population size.

Distribution of units by local authority

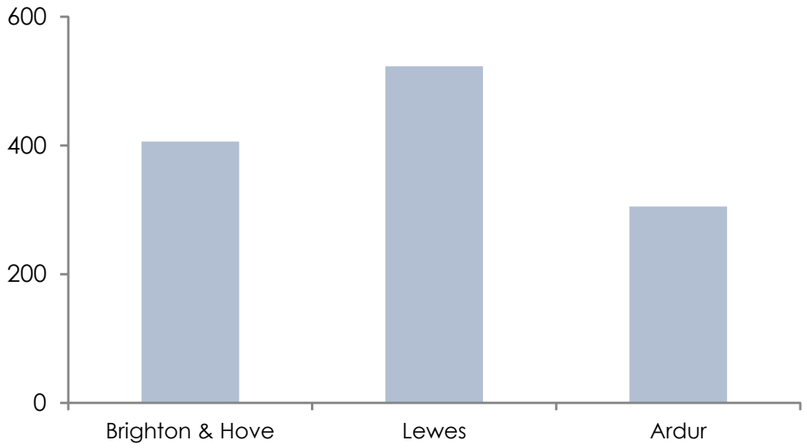


Fig 3. Simplified map of planning permissions for schemes with over 50 housing units (2012-2015)

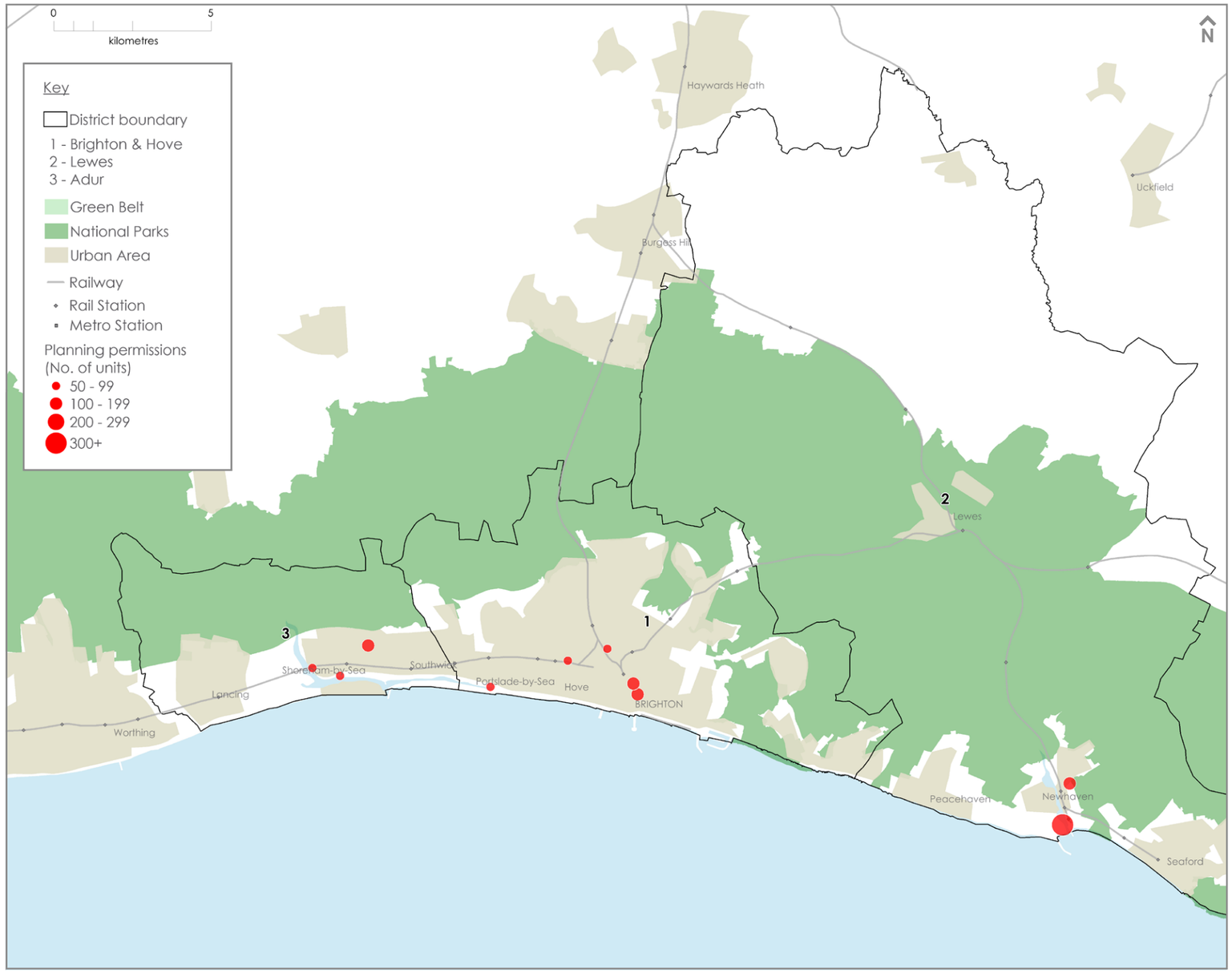
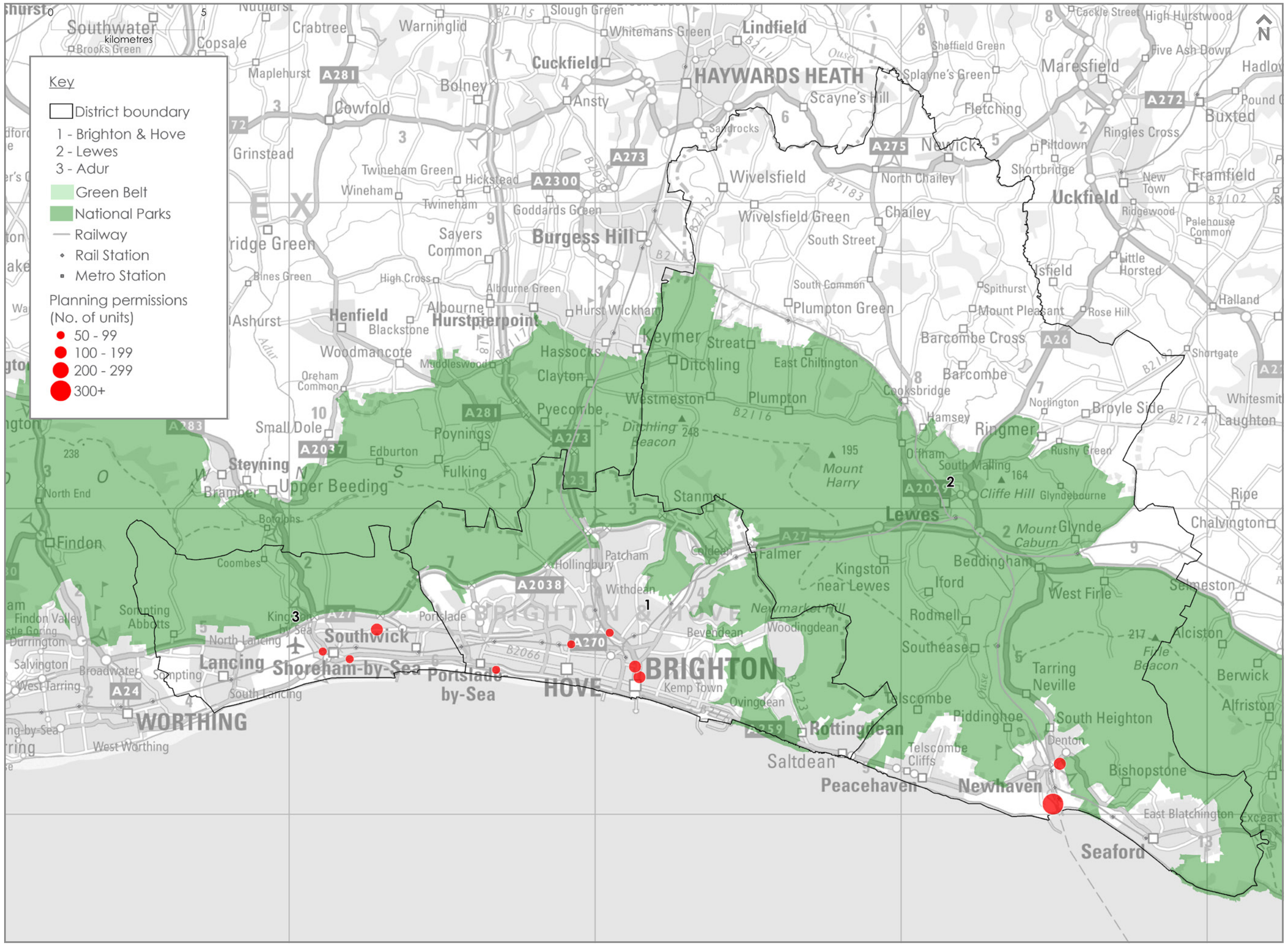


Fig 4. Detailed map of planning permissions



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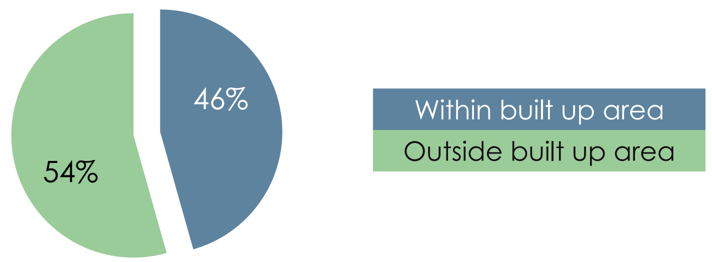
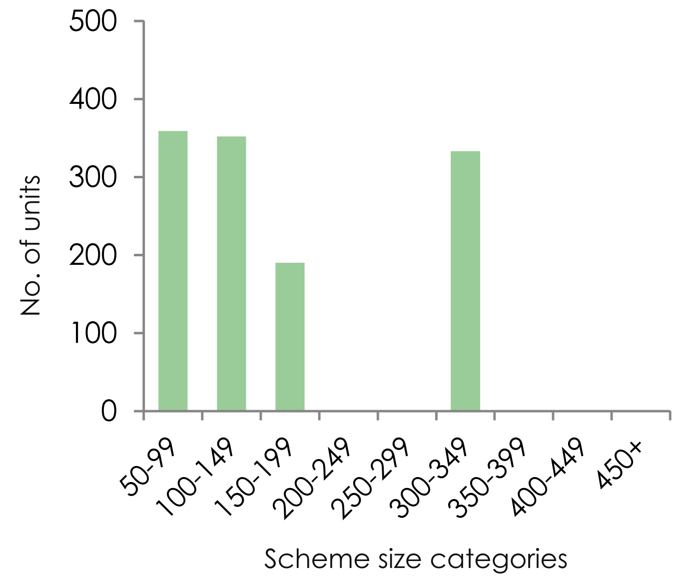
Figures 3 and 4 map the location of planning permissions for schemes of over 50 housing units, which account for 64% of the total number of units granted planning permission between 2012 and 2015 across the city-region. When looking across all schemes, the average number of units per planning permission is 46 - one of the lowest levels recorded by this study.

The mapping also shows that 46% of the housing units granted planning permission are located within existing built up areas, with the remaining 54% in areas that fall outside the built up area. No planning permissions for schemes of 50+ units were recorded as located in the South Downs National Park.

% of housing units in existing built-up areas



Distribution of housing units by scheme size



Notes from the roundtable: what is shaping these patterns?

Delegates considered the key factors which are shaping patterns of site allocations and planning permissions in each city-region.

They began by discussing how housing demand in the Oxford city-region had been driven by high levels of population growth over the past decade, related to the success of its universities and associated science and technology sectors. They agreed that this demand had translated into relatively high levels of permissions for housing, but expressed concern about how this was distributed across the city region, much of which outside Oxford was semi-rural in character.

Delegates described how this distribution of permissions was shaped by a complex and fragmented approach to planning and land use in Oxfordshire. A key issue was the Oxfordshire green belt, which covers parts of Oxford and a surrounding ring across the four district authorities. It was first proposed in 1956, and formally approved in 1975, with the objective to preserve the character of Oxford by preventing its expansion into its natural surroundings. Delegates explained that this role was reinforced by the first Structure Plan for Oxfordshire, which was strongly focused on conservation and proposed to restrain the physical expansion of Oxford city in favour of housing and employment growth in the four 'country towns' of Banbury, Bicester, Didcot and Witney.

Delegates saw the revocation of the Structure Plan in 2013 as marking a shift towards a more localised and fragmented approach to planning in Oxfordshire. It is worth noting that this opinion is shared by a recent RTPI-commissioned study on planning cultures in the South East, which described the situation in Oxfordshire as being "…marked by sustained patterns of tension" and a lack of consensus on where to accommodate growth[27]. Delegates noted that local authorities in Oxfordshire were not meeting their objectively assessed housing need (OAN) nor the requirement to maintain a five-year supply land for housing, which left areas vulnerable to speculative planning applications and led to scattered housing growth outside of the country towns. Meanwhile the 2008 recession had delayed the construction of larger planning permissions, and increased pressure on the use of smaller sites to meet housing need.

Delegates noted that small-scale brownfield housing development had helped to meet demand in Oxford itself, driven by the supply of windfall sites and high land values which encouraged development and regeneration. However, they were concerned that a reliance on brownfield sites was not sustainable in the long-term, with the supply of land effectively fixed by the green belt inner boundary. They noted that commuting to Oxford had expanded dramatically as residents searched for affordable housing options, leading to longer journeys across the green belt. The consequences of this scattered growth pattern are discussed in Section 3.

Some similar issues were noted by delegates when discussing the Brighton city-region, although the consequences were less severe. They described how the main built-up area was constrained on both sides by the national park and the sea, which meant that the city relied almost exclusively on smaller, higher density brownfield development in order to meet housing demand (some of this is excluded from the analysis, which only maps permissions for 50+ units). However, densification was made difficult by the high proportion of historic buildings in the city.

As a result, they said that the 2016 Local Plan from Brighton and Hove Council was only able to meet 50-60% of its OAN, despite having conducted a review of the rural fringe which opened up further sites on the edge of the city. They noted that the Council is now seeking to meet more of its housing need through the Duty to Cooperate with neighbouring local authorities, and looking as far as Mid Sussex.

6. Analysing the permissions

This section describes the relationship between permissions, employment clusters and railway stations in each city-region

Oxford

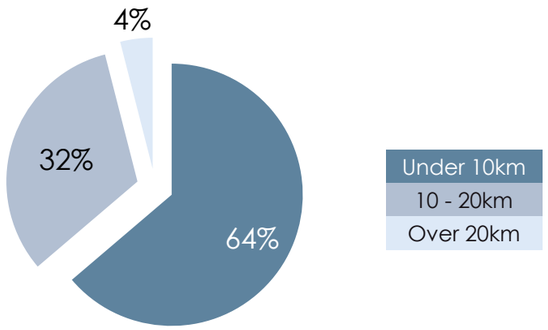
Proximity to major employment clusters

The Oxford city-region displays a slightly higher level of private sector job growth when compared to the other city-regions included in the study. Between 2011 and 2014 it recorded an increase of 10.2% in private sector jobs, which off-set the loss of public sector jobs as shown by the overall growth rate of 6.3% for both the public and private sectors.

Figure 8 shows employment clusters of 10,000+ jobs in the centre and east of Oxford, around Banbury in Cherwell, and in the 'Science Vale' around the towns Abingdon and Didcot in the Vale of White Horse. Other significant employment locations not shown on this map are located at Bicester and Witney.

When schemes of 50+ units were mapped against major employment clusters with over 10,000 jobs, it was found that 64% of housing units were located within 10km of significant employment locations.

Percentage of housing units by proximity to major employment clusters



Overlap with specialist employment clusters

Figures 9-12 show Medium Super Output Areas (MSOAs) in the Oxford city-region with concentrations of employment in four specialist sectors which are above the average levels in the South East. These maps indicate areas of potential employment growth in relation to the location of planning permissions.

% of schemes located within MSOAs with specialist sector job growth

Manufacturing	10%
Computer programming	3%
Science and R&D	25%
Telecommunications	3%

Fig 8. Map of planning permissions and major employment clusters (2012-2015)

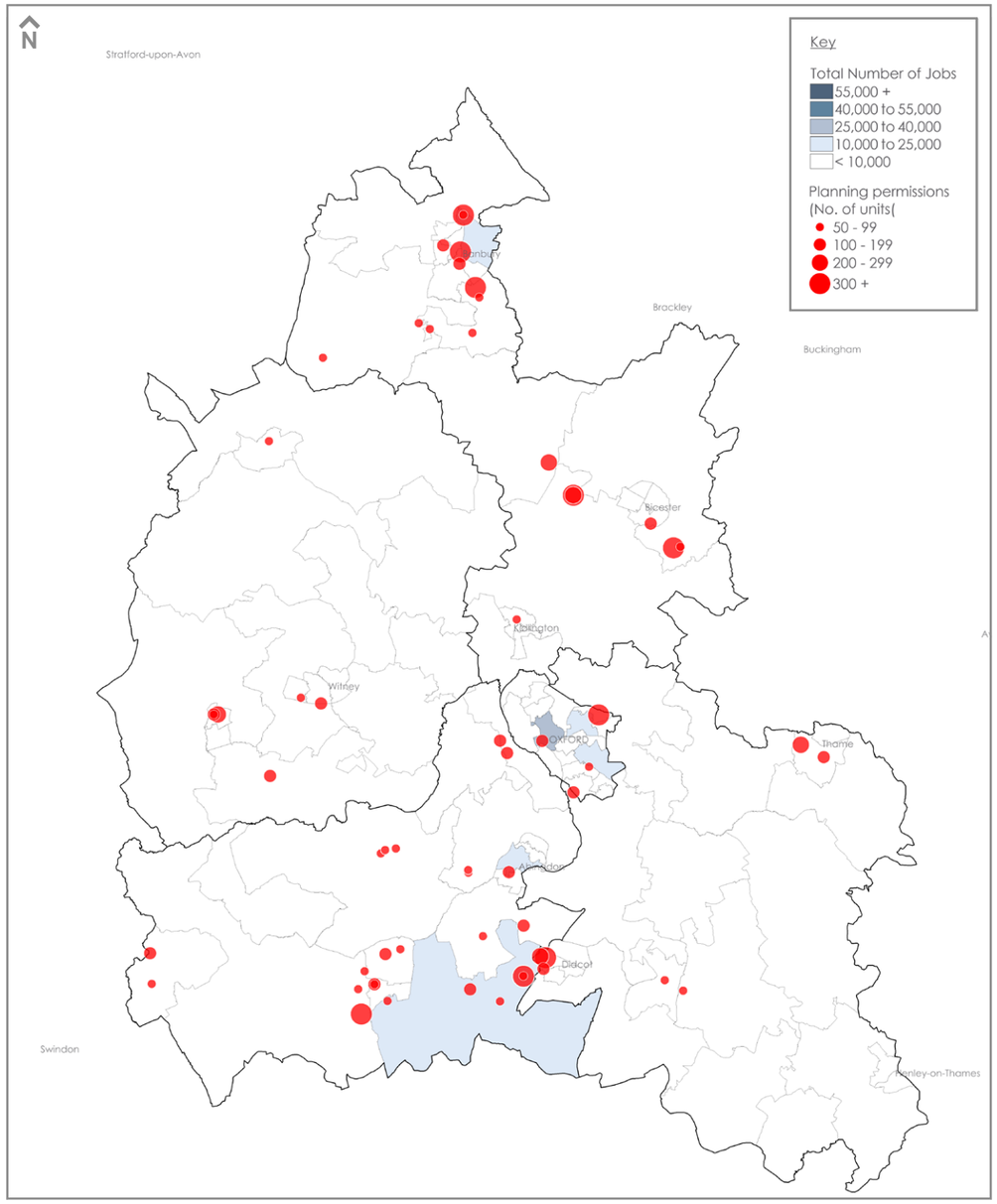


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Fig 9. Map of planning permissions and manufacturing clusters (2012-2015)

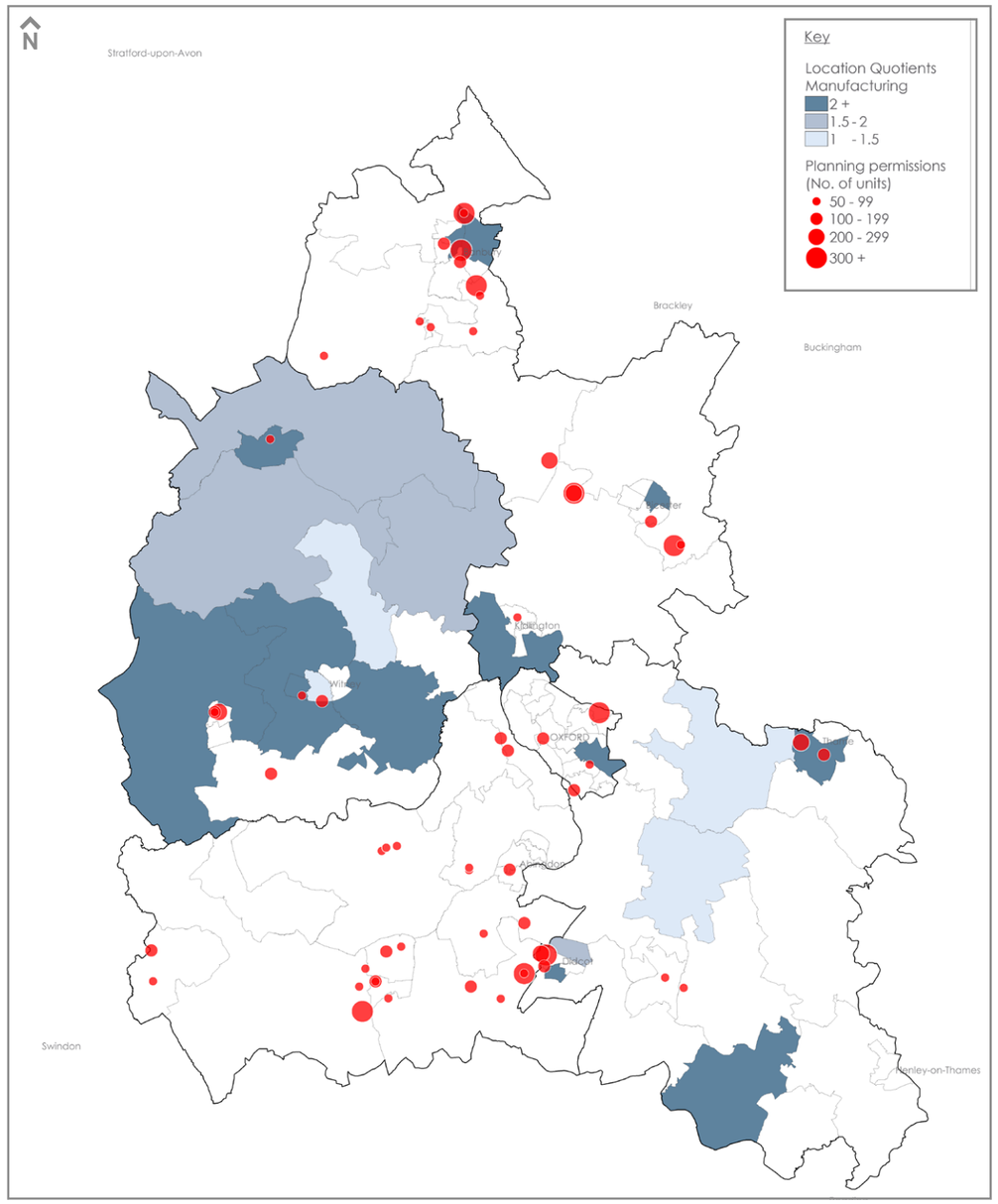

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Fig 10. Map of planning permissions and computer programming (2012-2015)

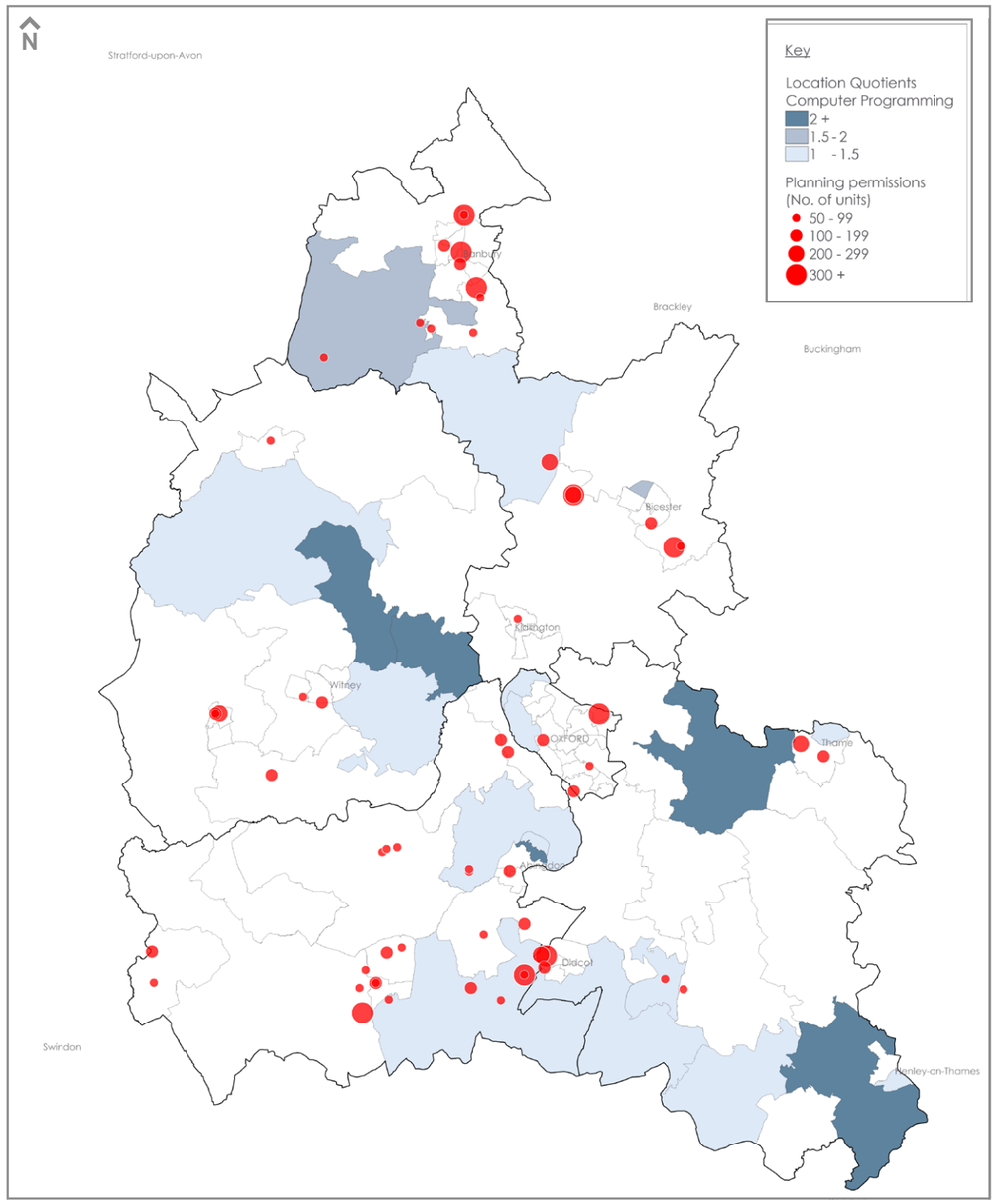

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Fig 11. Map of planning permissions and science/R&D clusters (2012-2015)

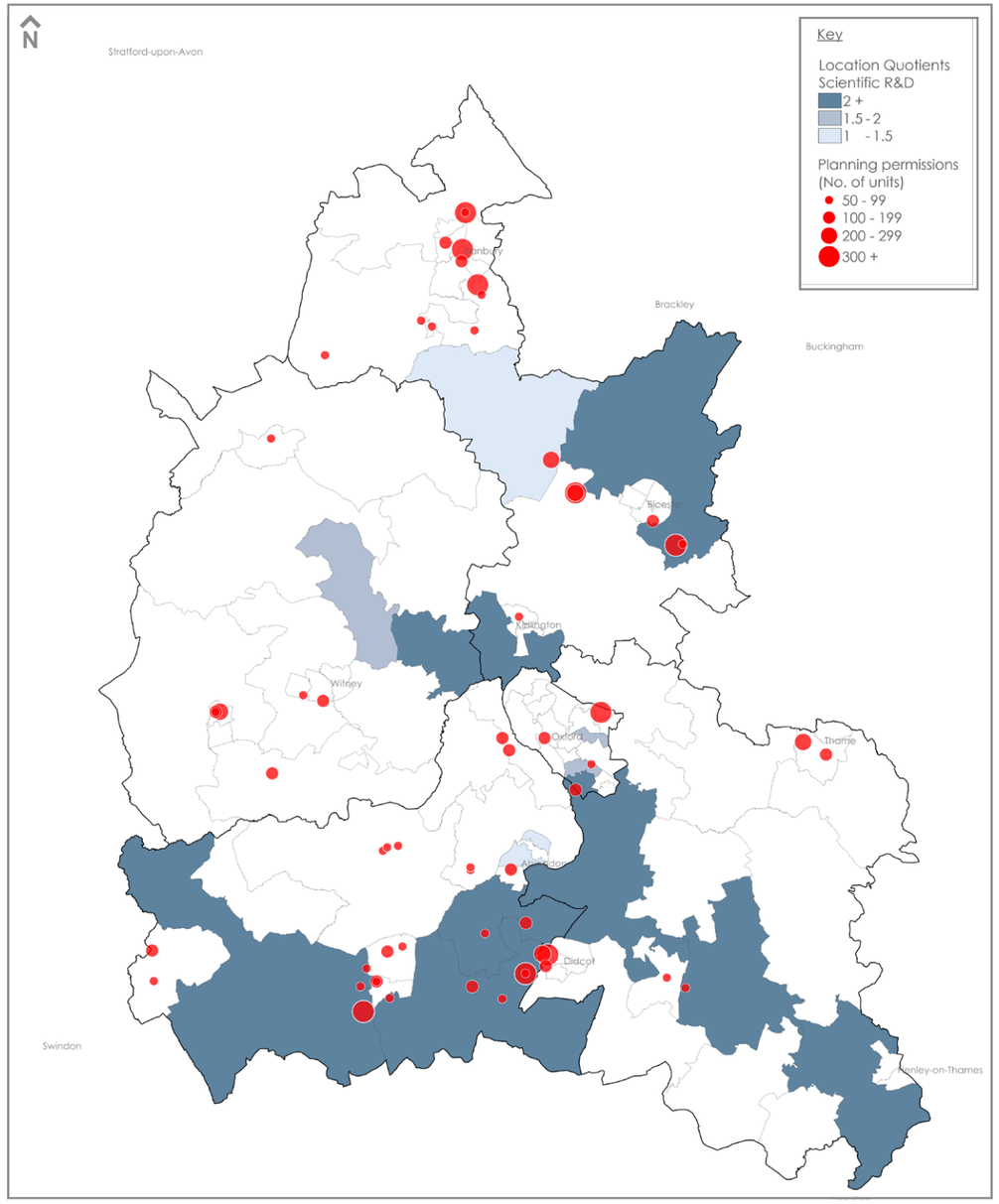

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Fig 12. Map of planning permissions and telecommunications (2012-2015)

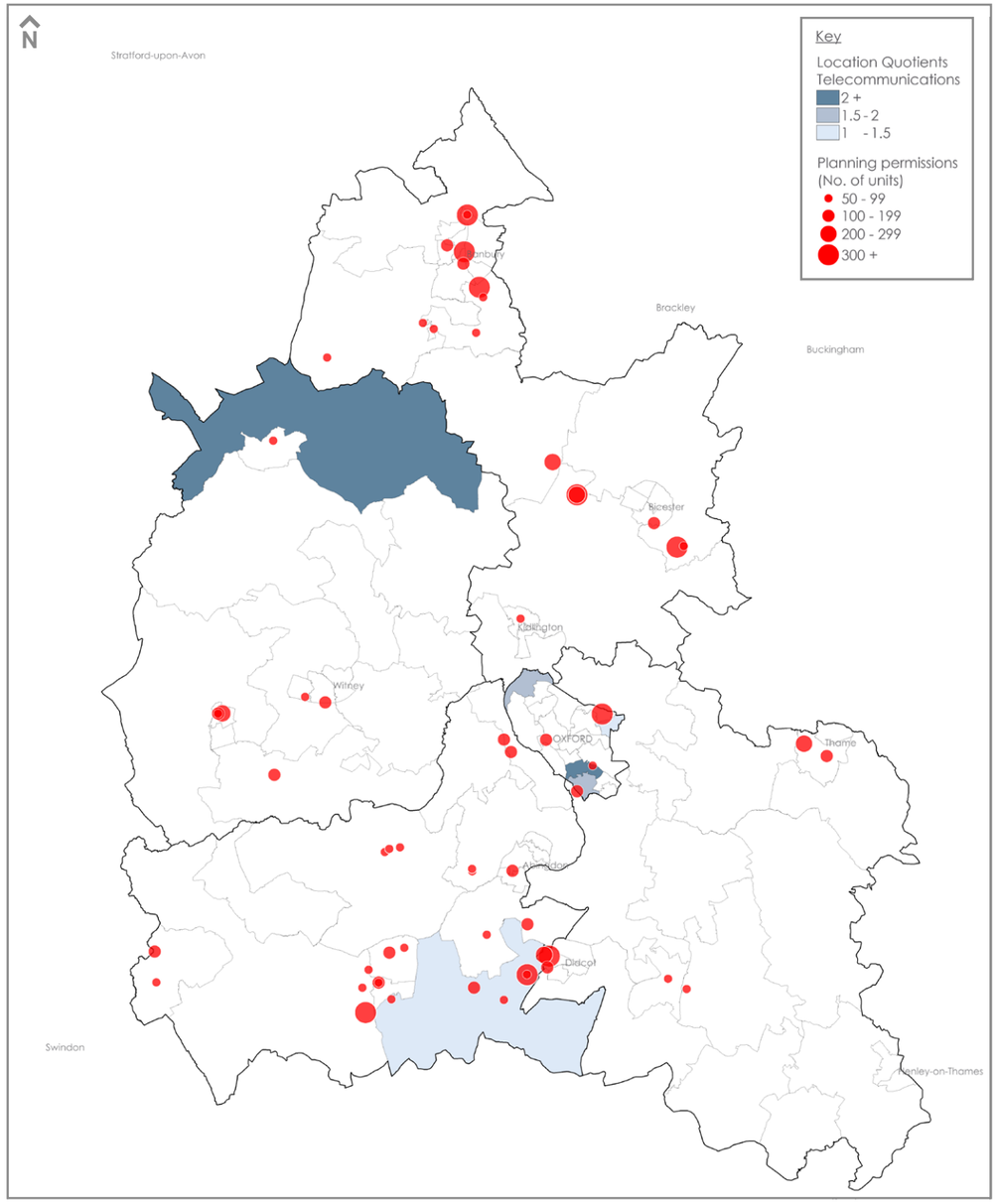

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Figure 13 shows the rail network in Oxfordshire, including routes which are currently managed by First Great Western, CrossCountry and Chiltern Railways. Stopping services connect Oxford, Didcot, Banbury, Bicester and several smaller settlements, while direct services connect Oxford to Coventry, Reading and London.

The relationship between planning permissions and rail stations shows that only 1% of units are within a 10 minute walk of a rail station. The vast majority of units are located over 2km from the nearest railway station.

Percentage of housing units by proximity to railway stations

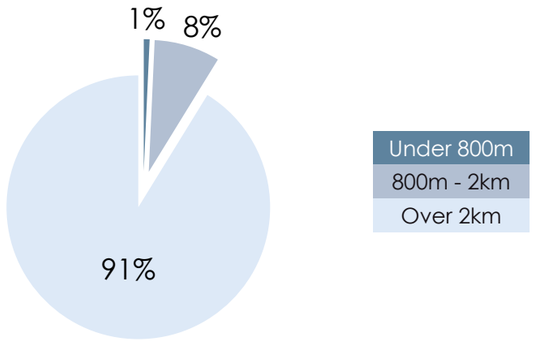
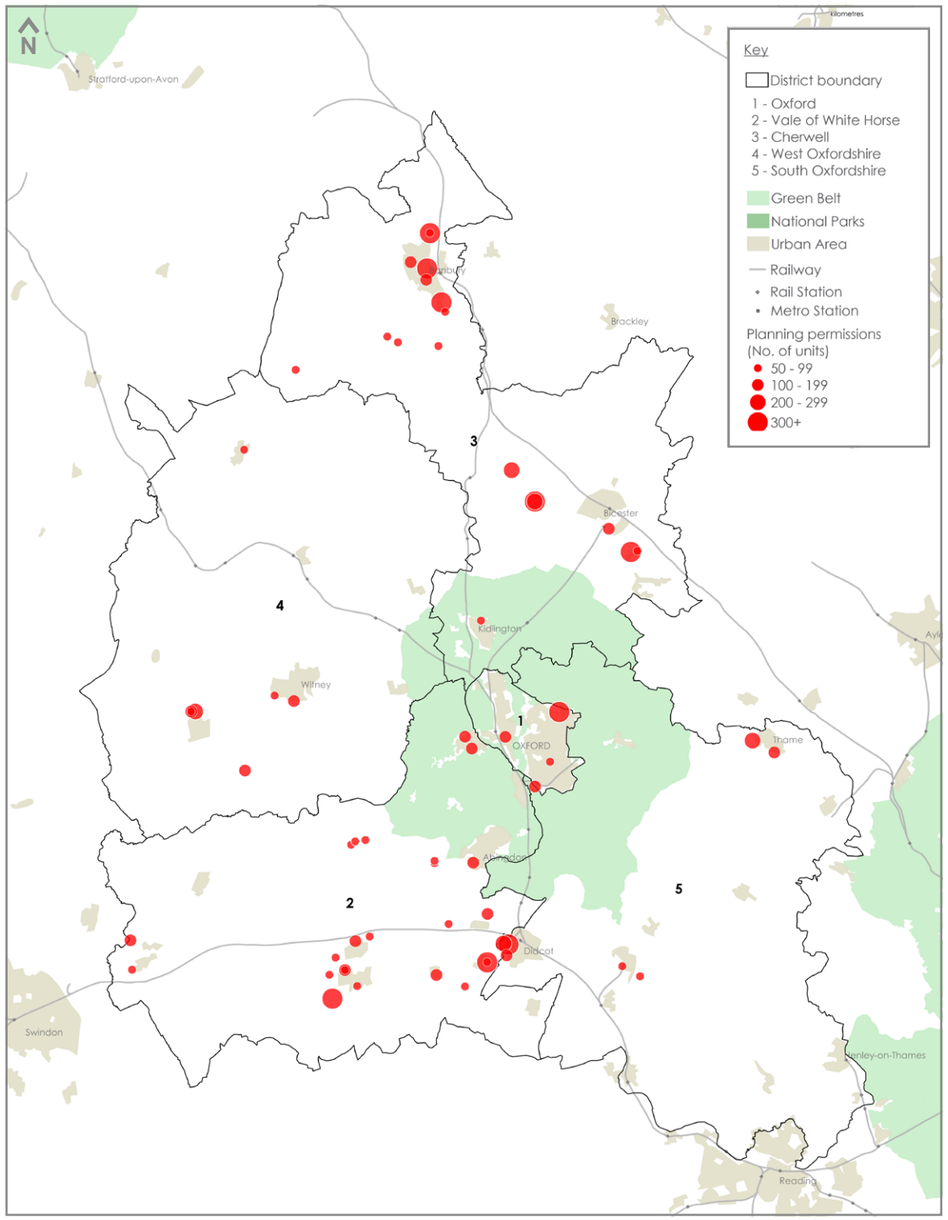


Fig 13. Map of planning permissions and railway stations



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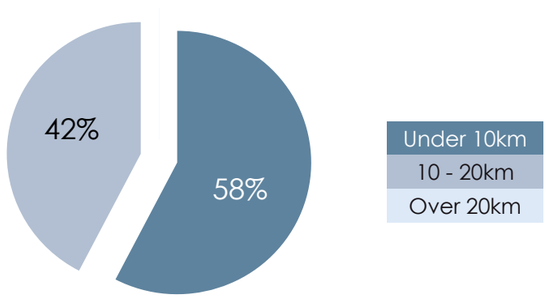
Brighton

Proximity to major employment clusters

Brighton is a relatively low growth city-region for private sector jobs when compared to the twelve city-regions included in this study. Between 2011 and 2014 there was an increase of 6.4% in private sector jobs, which off-set the loss of public sector jobs as shown by the overall growth rate of 4.5% for both the public and private sectors.

Figure 14 shows a single employment cluster of 10,000+ jobs in the centre of Brighton. When schemes of 50+ units were mapped by proximity to this cluster it was found that 58% of housing units were located within 10km, and 42% were located between 10-20km.

Percentage of housing units by proximity to major employment clusters



Overlap with specialist employment clusters

Figures 14-18 show Medium Super Output Areas (MSOAs) in the Brighton city-region with concentrations of employment in four specialist sectors which are above the average levels in the South West. These maps indicate areas of potential employment growth in relation to the location of planning permissions.

% of schemes located within MSOAs with specialist sector job growth	
Manufacturing	30%
Computer programming	0%
Science and R&D	0%
Telecommunications	20%

Fig 14. Map of planning permissions and major employment clusters (2012-2015)

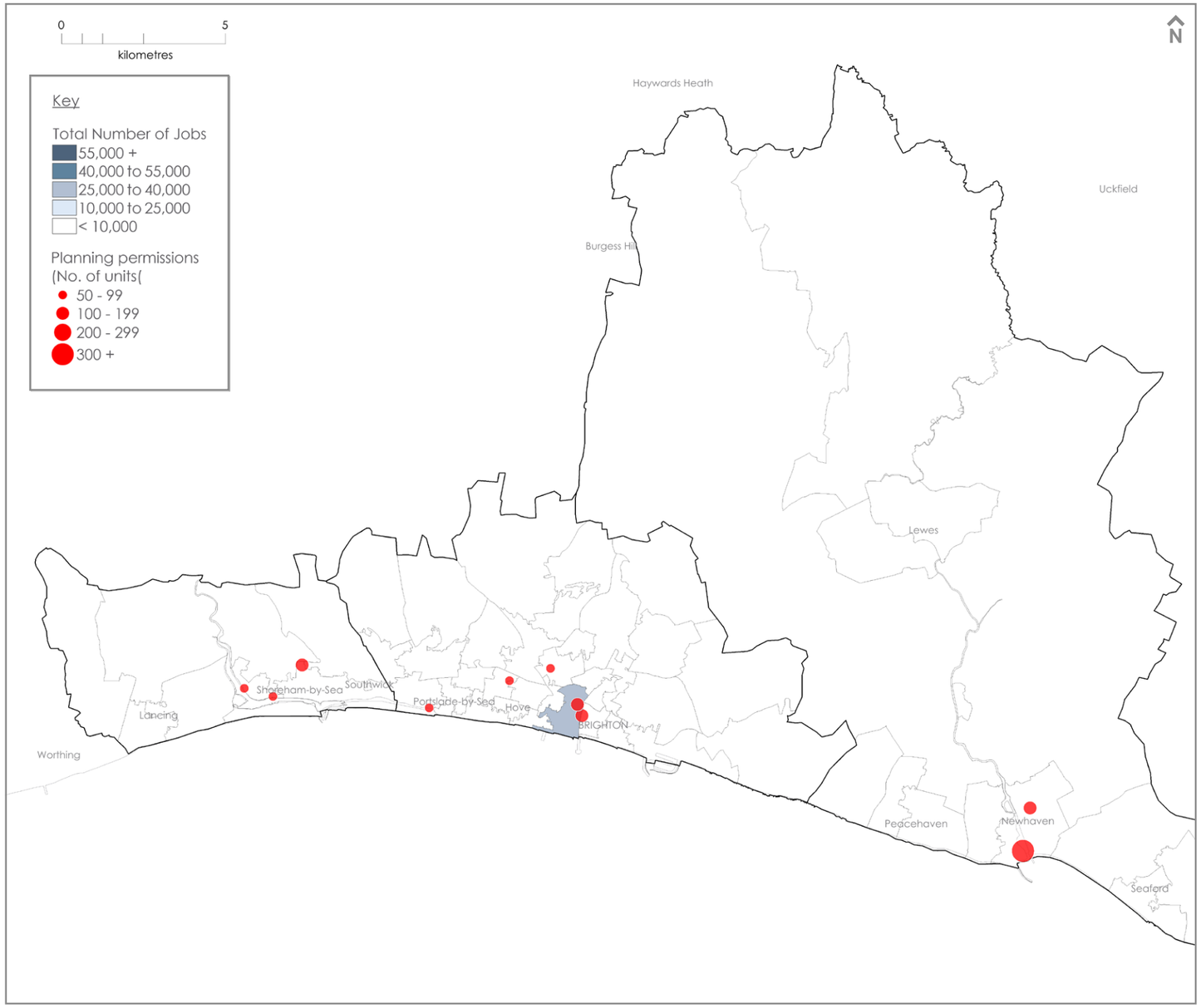


Fig 15. Map of planning permissions and manufacturing clusters (2012-2015)

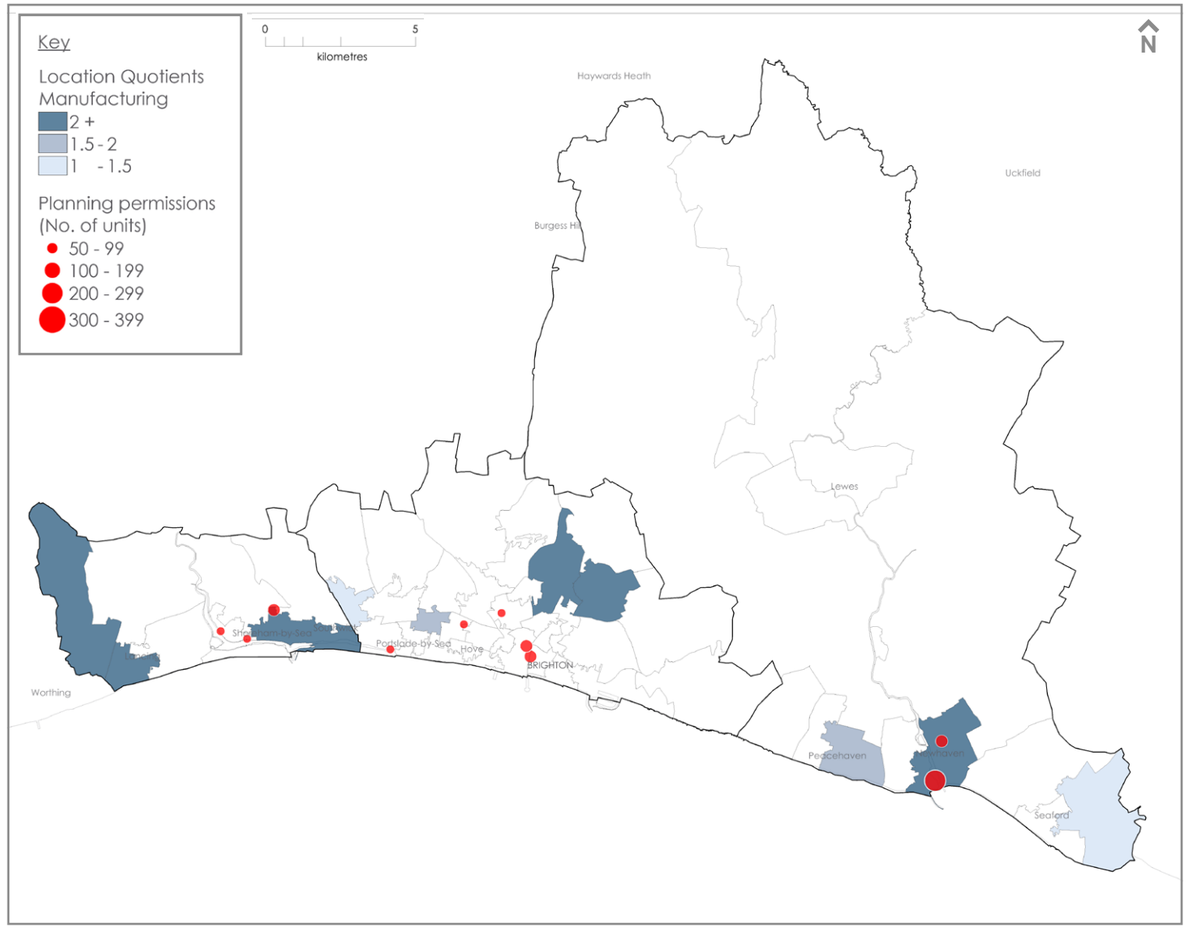


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Fig 16. Map of planning permissions and computer programming (2012-2015)

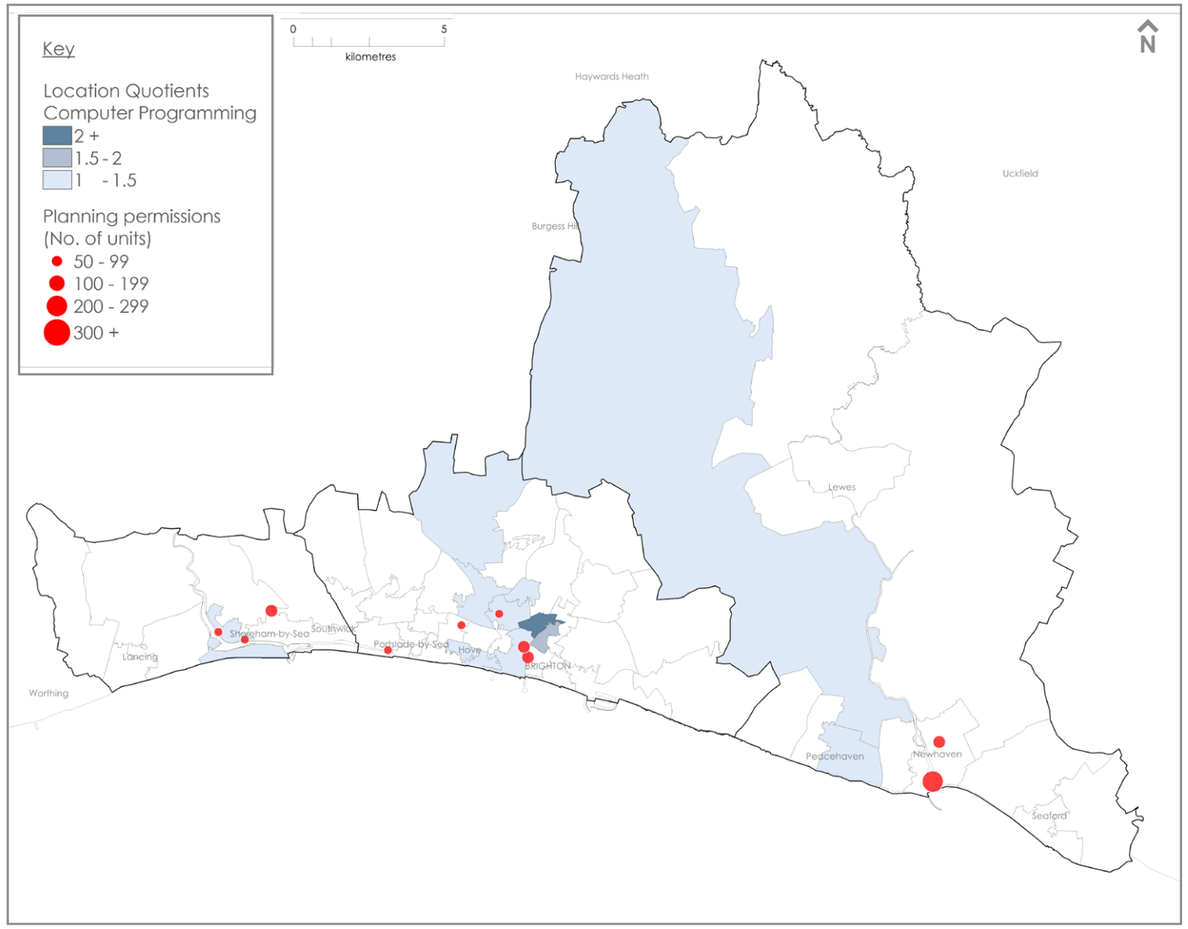

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Fig 17. Map of planning permissions and science/R&D clusters (2012-2015)

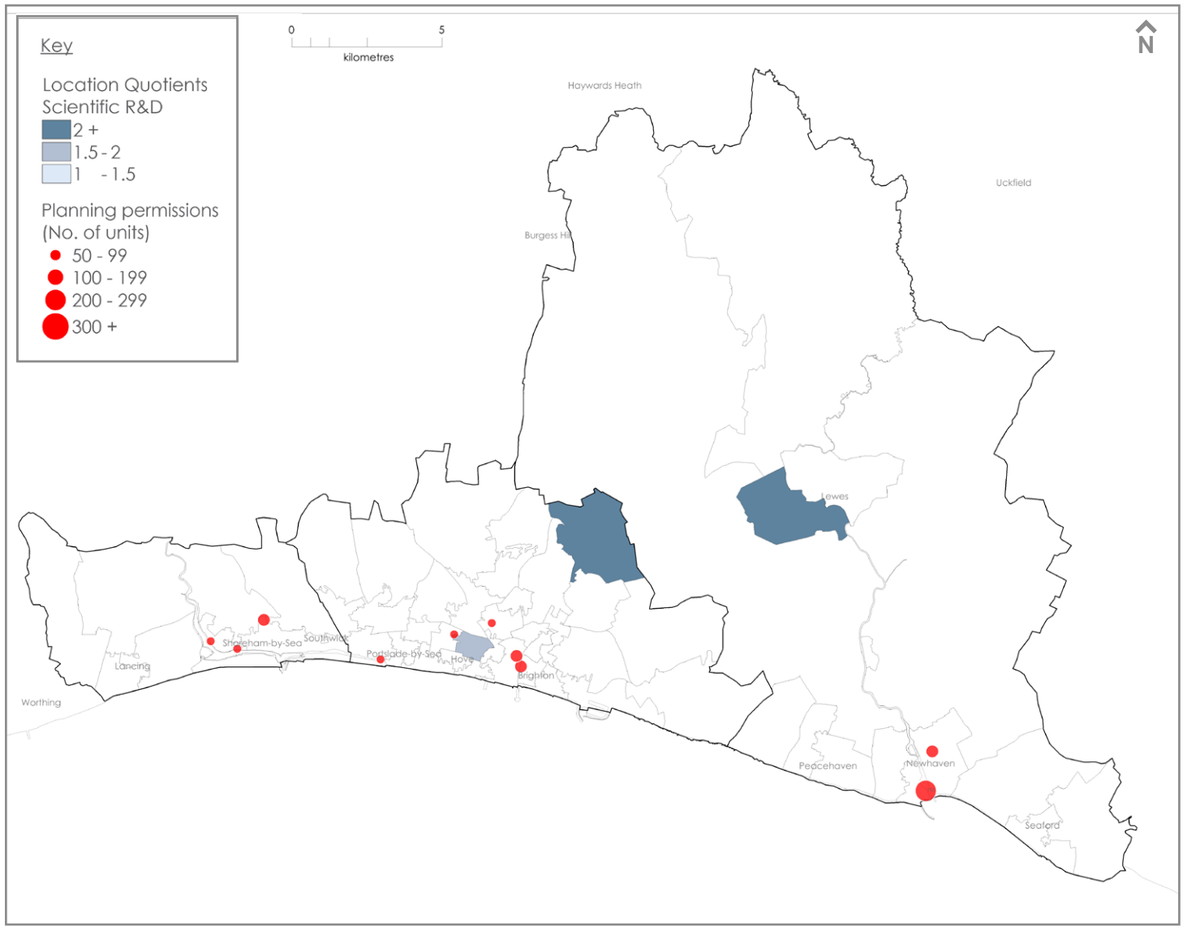

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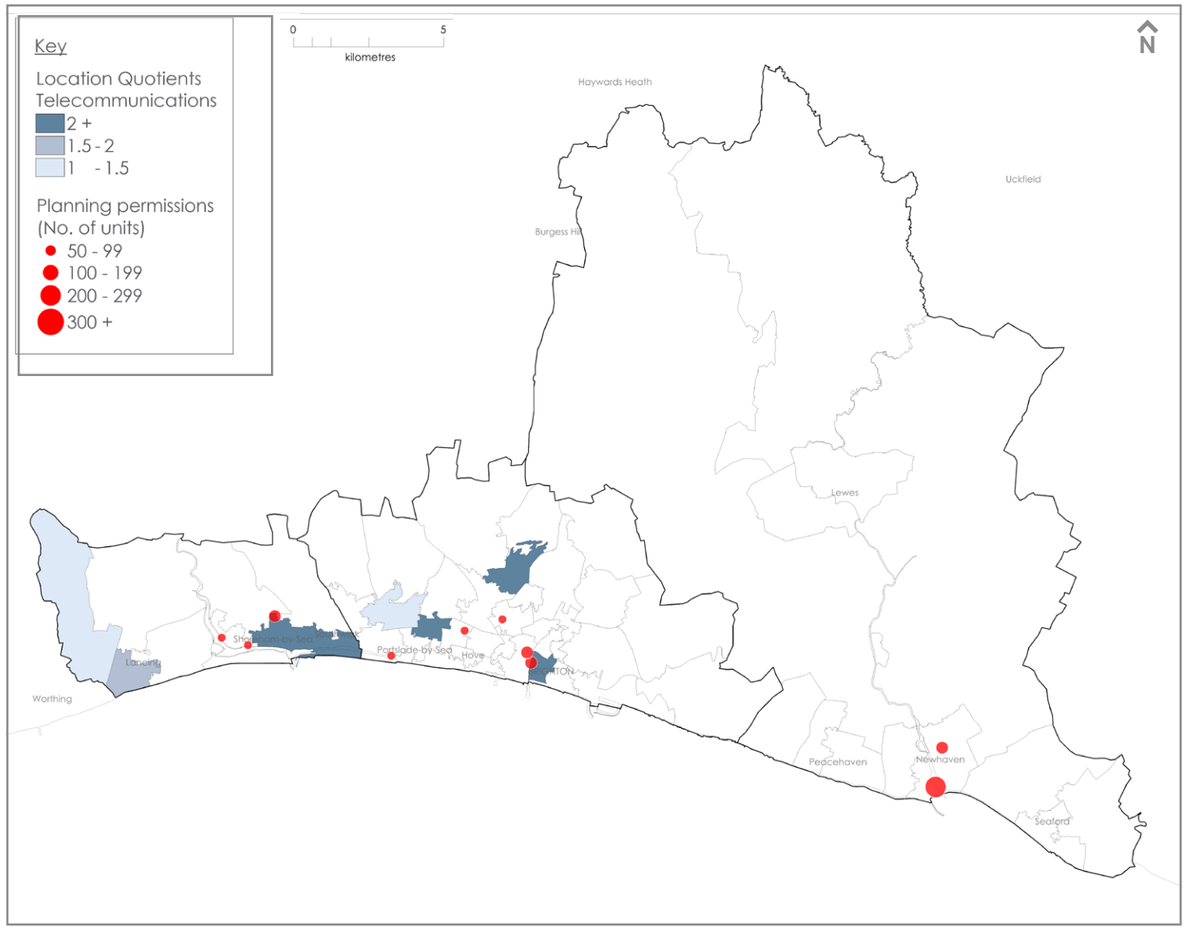
Fig 18. Map of planning permissions and telecommunications (2012-2015)



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Proximity to railway stations

Figure 19 shows the railway network in the Brighton city-region. This includes the Southern-operated route between the smaller stations which run east-west along the coast, and from Brighton to the neighouring settlements of Lewes and Newhaven. GWR, Southern, Gatwick Express and Thameslink run services from Brighton to Gatwick Airport and London, most of which stop at the smaller settlements of Burgess Hill, Hassocks and Haywards Heath (which were not included in the analysis).

The relationship between planning permissions and rail stations shows that 79% of units are within 800m or roughly a 10 minute walk of a rail station.

Percentage of housing units by proximity to railway stations

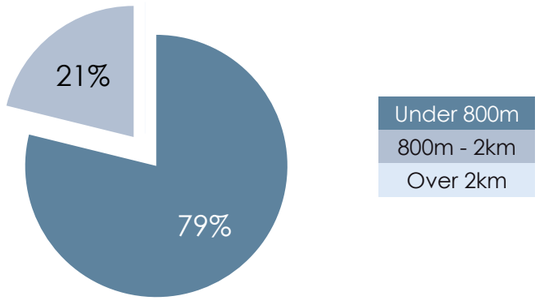
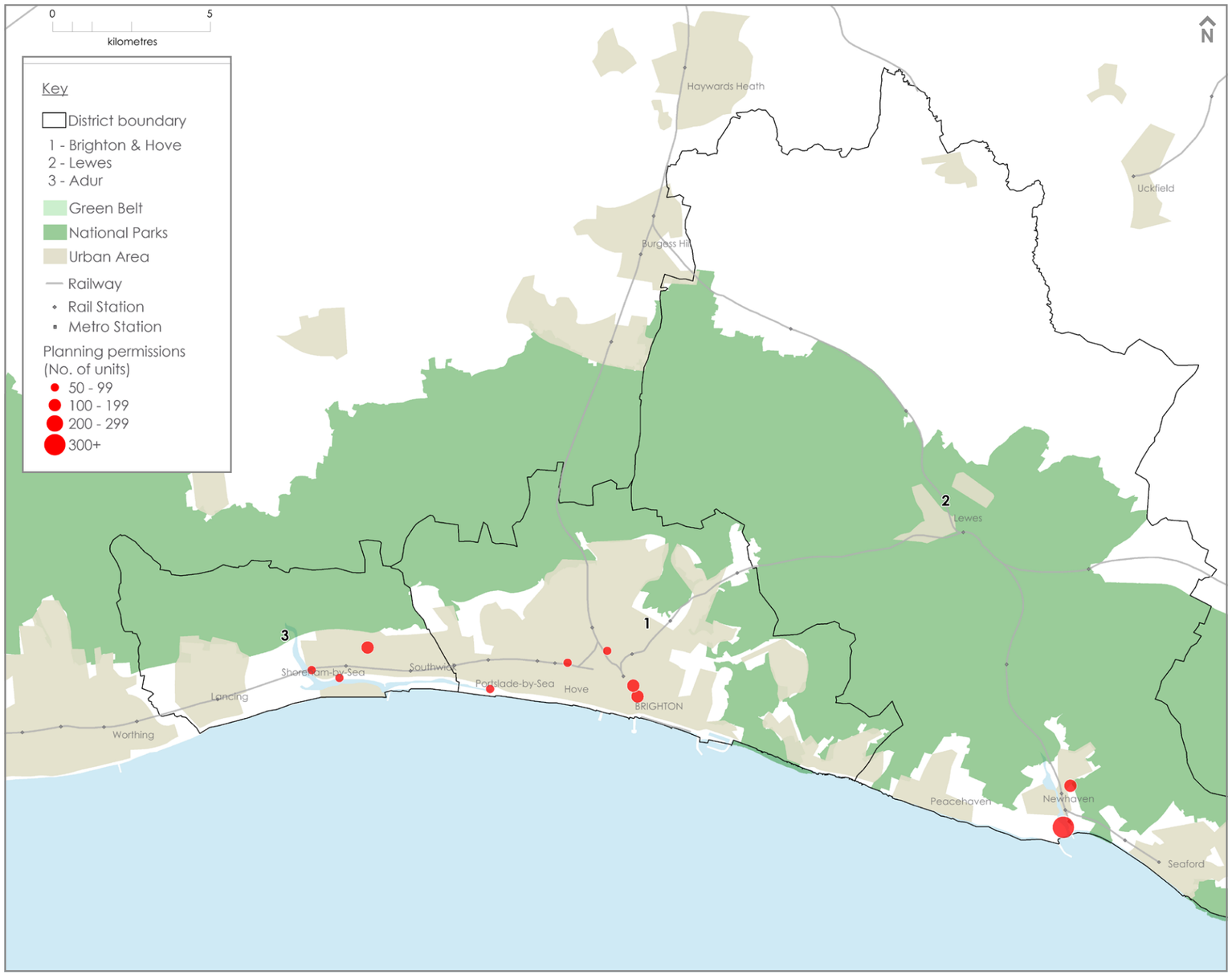


Fig 19. Map of planning permissions and railway stations



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Notes from the roundtable: what does this analysis suggest?

Patterns of growth in Oxfordshire were generally viewed as unsustainable, with a disconnect between housing, public transport and jobs which is hindering economic productivity and creating social and environmental problems. Car dependency, long commutes, road congestion and pollution were repeatedly raised as critical issues for the city-region to address, alongside with the rising cost of housing.

Delegates criticised the closure of local railway stations during the 1960s, which was seen as having reduced opportunities for new transit-oriented developments across the city-region, and shifted rail use towards less frequent medium and long-distance journeys. This had in turn limited the ability of the country towns to accommodate sustainable growth, with delegates noting that places like Didcot and Bicester had grown to the point where peripheral housing developments are no longer within easy walking or cycling distance of the railway station (a fact reflected in the analysis, which shows that 91% of recent permissions granted in the city-region are over 2km from a railway station). They said that even when new housing is located in close proximity to areas of employment, as in the Science Vale, residents would often drive short distances to work due to a lack of public transport options. Delegates also noted that while Oxford itself is compact enough to promote walking, cycling and public transport, some of its major employment areas (such as Cowley and Blackbird Leys) were difficult to access by public transport from settlements beyond the green belt.

The result of these factors, delegates said, is that commuting journeys across the city-region are predominantly made by car, with many travelling through and across the green belt to get to work. The fact that many of these roads are also used for long-distance journeys (such as the A34, A40 and A44) exacerbates congestion during peak times.

However, delegates mentioned that the city-region has benefitted from the development of a strategic 'premium' bus network and Park & Ride facilities, which connected Oxford to the larger surrounding towns. They noted that this enabled development along the routes to benefit from similar levels of public transport accessibility to those on the outskirts of the city, but that these routes could be similarly affected by road congestion, and that the volume of buses and cars in the city centre had again led to congestion and pollution at peak times.

Delegates then discussed the challenges of accommodating future growth. They described how, in line with the duty to cooperate, the Oxfordshire Growth Board was currently engaged in positive discussion between the various local authorities on where to accommodate Oxford's unmet housing need. They also noted that several local authorities in Oxfordshire were considering options for new and extended settlements. Some of these settlements benefitted from a rail connection to Oxford, but delegates noted that local communities were often opposed to major new developments that might change the character of the area.

Also mentioned was Oxford Council's proposed growth strategy, which makes the case for a strategic review of green belt boundaries followed by new urban extensions. Delegates noted that this would be a more sustainable approach, but that it had been met with some opposition from local residents and neighbouring local authorities. They also raised the challenges for the Council in demonstrating the 'exceptional circumstances' which justify a green belt review. However, they saw that a continuation of the current approach – the further growth of the country towns, and speculative development – would be likely to exacerbate car dependency and place additional strain on the city-region's transport infrastructure.

Delegates did also note that several local authorities in Oxfordshire, including Cherwell and South Oxfordshire, were trying to address these problems by increasing levels of self-containment. They saw value in policies which promoted the co-location of housing and employment growth, but were aware that this approach offers no guarantee that residents would find employment options near to their home. At a broader level, they thought that more needed to be done to align the aspirational economic projections of the Oxfordshire Local Enterprise Partnership (LEP) with plans for housing and infrastructure - making sure that employment growth was sustainable in the long-term.

More positively, delegates thought that the city-region would benefit from the proposed plans for a Bus Rapid Transport System, and improved connections from to the city from the new Oxford Parkway Station. However, they believed that all options needed to be reviewed in order to address the fundamental constraints on infrastructure capacity in the city-region. This included remote working and flexible working hours, solutions for shift workers with limited public transport options, and ways to relieve the congestion caused during school runs.

They also saw potential in the recently established National Infrastructure Commission, which has singled out the Oxford-Cambridge corridor for analysis. This new level of strategic infrastructure planning offers the potential to incentivise cooperation between local authorities on the location of housing growth, and provide more certainty on where infrastructure will be delivered. The sustainability of settlement patterns in the Brighton city-region were viewed fairly positively. Delegates noted that the South Downs National Park had effectively directed growth to within the existing built-up area, supporting regeneration and maintaining a closer proximity between housing, jobs and services. This had been coupled with a well-developed transport network which allowed for a relatively high proportion of journeys to be made by bus, walking and cycling. The city-region was also seen to benefit from having retained many of its smaller railway stations, allowing for rail commuting along with coast, and from the city to smaller settlements like Lewes and Burgess Hill.

However, delegates noted that the city had limited options for outward expansion and a decreasing amount of brownfield land. They said that strategic discussions on where to accommodate growth were taking place between the local authorities in the city-region and beyond, facilitated by the Coastal West Sussex and Greater Brighton Strategic Planning Board. However, this had yet to result in sites being identified for additional housing, as other local authorities were also having trouble meeting their own needs.

7. Further information

Who was at the roundtable?

Eleanor Gingell: *Principle Planner, Bidwells*
Peter Headicar: *Reader in Transport Planning, Oxford Brookes University*
Lyndsey Beveridge: *Senior Planner, Oxford City Council*
Martin Small: *Principle Adviser - Historic Environment Planning, Historic England*
Lois Partridge: *Senior Planner, Carter Jonas*
Hatem Nabih: *Advisor, Design Council*
Nick Woolfenden: *Head of Policy Coordination, South East England Councils*
Kieran Devine: *RTPI Member*
Tony Chadwick: *Principle Planning Officer, Gravesham Borough Council*
Brian Whiteley: *Planning Advisor, RTPI Planning Aid England*
Gareth Giles: *Principle Planning Officer, Brighton & Hove City Council*
David Jarman: *Consultant, Hobbs Parker*
Stephen Harness: *Town Planner, Defence Infrastructure Organisation*
James Harris: *Policy and Networks Manager, RTPI*
Richa Joshi: *Consultant, Bilfinger GVA*

Next steps

This research programme is kindly sponsored by the RTPI South West, South East and North West regions.

These regional reports will be followed by a final report on the spatial dimensions of sustainability. This will continue to look beyond the simple metrics of proximity to employment and rail to consider the much broader range of factors which contribute to our notion of a 'sustainable location'.

In the meantime we encourage our members and other organisations to use our maps and analysis to explore the spatial dimensions of other significant issues. This could include, for example, a comparison of our maps against the location of major bus and cycle routes, patterns of housing affordability, smaller clusters of employment, or areas of current and future environmental risk.

You can stay informed with all the developments in this work programme, and download high-resolution of the maps, by visiting our website:

www.rtpi.org.uk/knowledge/research/projects/location-of-development

Credits

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