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Royal Town Planning Institute

**RTPI
Research
Paper**

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THE LOCATION OF DEVELOPMENT

**Analysis of the location and
accessibility of approved
residential development in
England**

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The Royal Town Planning Institute (RTPI)

The Royal Town Planning Institute (RTPI) champions the power of planning in creating sustainable, prosperous places and vibrant communities. We have over 26,000 members in the private, public, academic and voluntary sectors. Using our expertise and research we bring evidence and thought leadership to shape planning policies and thinking, putting the profession at the heart of society's big debates. We set the standards of planning education and professional behaviour that give our members, wherever they work in the world, a unique ability to meet complex economic, social environmental and cultural challenges.

About this paper

This report expands on the [Location of Development series](#) of research examining the location of approved planning applications for major residential developments across England. Using new data sources, this research seeks to explore the accessibility of these new developments to a variety of different amenities.

Report authors

Samuel Spencer, RTPI Policy and Data Analyst

David Pendlebury, MSc

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Front and back cover image

Cover image: RTPI Awards for Planning Excellence 2021 Winner 'Great Kneighton' by Countryside.

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Executive Summary

This report builds on the Royal Town Planning Institute's [Location of Development work series](#) commenced in 2015. This third report analyses planning permissions granted between 2015-2019 in England.

The location of new development, defined in this report as recent planning permissions for new major residential housing, can significantly impact accessibility to key amenities for residents across England in several ways including:

- Access to amenities that support economic opportunities, healthcare services, and educational facilities varies widely by location and mode of transport or new planned developments.
- In locations with a major agglomeration of jobs such as London and the North West, reaching key amenities by public transport takes less than an hour. In other regions, a comparable journey can take nearly twice as long.
- This research highlights the stark differences across England. For example, in the 10% most accessible planned developments, access to jobs and educational facilities will be within a 30-minute walk. In the 10% least accessible planned developments, access to the same facilities will be over 90 minutes walking time away.
- We analysed new residential developments in England based on the location of planning permissions approved between 2015 and 2019. This showed that access to amenities from these locations is twice as fast by car compared to public transport, and nearly three times quicker than by walking. Average public transport travel times to hospitals or large employment centres were also comparable or slower than walking, which may not be a realistic option for all residents of these new developments.

The impacts of such diversity in the location of development are potentially severe and wide ranging. This report recognises that some individuals will make a personal choice to live in more isolated locations. However, there is a significant proportion of planned development and major housing sites which be poorly connected to key amenities by any modes, including the most sustainable, healthy and affordable transport options.

This impacts on those who live in the least accessible of new developments in multiple ways. They will have less access to economic opportunity, reduced access to - and choice of - healthcare and educational provision, and fewer options to choose their mode of travel.

Where there exists a positive link between accessibility to key services and house prices, a lack of accessibility will serve to widen economic and health inequalities. New communities with poor accessibility encourage private vehicle dependent travel, which undermines initiatives to encourage sustainable transport use in line with net zero objectives and promote healthy lifestyles.

1. Introduction

This report forms part of the RTPI's *Location of Development* series commenced in 2015. Two reports have been published previously covering the period from January 2012 - September 2015 and October 2015 - September 2017 respectively. Both these studies identified that a significant amount (74%) of approved new major developments were located within 10k of a major employment centre.¹ While the previous research also sought to explore distances to railway stations, straight line distances are unable to fully assess the accessibility of these new developments. This third report analyses planning permissions granted between 2015-2019 in England.

Published to support the *Location of Development* series, the 2018 RTPI research report, *Settlement Patterns, Urban Form & Sustainability* explored the relevant literature surrounding sustainable development. That report highlighted how a lack of spatial data on the location of new homes hampers the planning system's efforts to understand the extent to which new development is meeting wider social, environment and economic objectives.²

The planning system in England has three over-arching objectives, as set out in the National Planning Policy Framework (NPPF):

- **An economic objective** – to help build a strong, responsive and competitive economy
- **A social objective** – to support strong, vibrant and healthy communities
- **An environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment

¹ RTPI (2016, 2018) [Location of Development](#)

² RTPI (2018) [Settlement Patterns, Urban Form & Sustainability](#)

The location of development can have a significant impact on the ability of planning to achieve its objectives in each of these areas. The NPPF provides further direction as to how local plans should consider the location of development across a range of key topics, as follows:

Figure 1: Key, summarised NPPF considerations of the location of development

NPPF Category	NPPF key location of development considerations. Policies should:
Identifying land for homes	<ul style="list-style-type: none"> ensure that (a site's) size and location will support a sustainable community, with sufficient access to services and employment opportunities within the development itself
Building a strong, competitive economy	<ul style="list-style-type: none"> seek to address potential barriers to investment, such as inadequate infrastructure, services
Ensuring the vitality of town centres	<ul style="list-style-type: none"> recognise that residential development often plays an important role in ensuring the vitality of centres and encourage residential development on appropriate sites
Promoting healthy and safe communities	<ul style="list-style-type: none"> Aim to achieve healthy, inclusive and safe places which are safe and accessible, Enable and support healthy lifestyles, Plan positively for the provision and use of shared spaces, community facilities, and other local services Ensure an integrated approach to considering the location of housing, economic uses, and community facilities and services
Promoting sustainable transport	<ul style="list-style-type: none"> Opportunities to promote walking, cycling and public transport are identified and pursued Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places
Making effective use of land	<ul style="list-style-type: none"> Give substantial weight to the value of using suitable brownfield land within settlements for homes Promote the development of under-utilised land and buildings
Achieving well-designed places	<ul style="list-style-type: none"> Optimise the potential (of sites) to accommodate and sustain an appropriate amount and mix of development and support local facilities and transport networks
Planning for climate change	<ul style="list-style-type: none"> Ensure that new development is planned in ways that can help to reduce greenhouse gas emissions,, such as through location, orientation and design Take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption

Monitoring the effectiveness of planning system in meeting these objectives can be difficult. Identifying the accessibility of new residential development to key amenities therefore provides a useful indication of the extent to which local plans, Local Planning Authorities, and partners in the development community, are likely to be effectively meeting the overarching objectives of the NPPF to deliver economically, socially sustainable development. The United Nations Sustainable Development Goals (UN SDGs) were added to the NPPF and offer similar objectives to strive towards in creating better built environments.

In our ***Measuring What Matters: Measuring Planning Outcomes*** research report, we explore ways of measuring the impact of planning towards these ambitions as well as towards high-level goals outlined in the NPPF or the UN SDGs. That report identifies an interest among professional planners to use measured outputs to assess the “impacts of planning over time on place quality and wider societal goals” and emphasises the importance of developing an outcomes-focused planning model.³

The ***Location of Development*** series seeks to provide insight on outcomes of the planning process by examining how new development achieves economic, social, and environmental objectives.

The previous reports looked at the **physical distance** of new **permitted** housing sites in **12 city-region** areas in England from specific amenities (major employment clusters, railway stations) and categorised the geographic nature of the sites according to whether they were Green Belt, or within or without existing built-up areas.

This report seeks to build on the previous Location of Development research, by looking across major housing sites with **approved planning permission**, across **England**, and analysing

³ RTPI (2020) **Measuring What Matters: Planning Outcomes Research**

average **journey times** by **different modes of transportation** from developments to amenities.

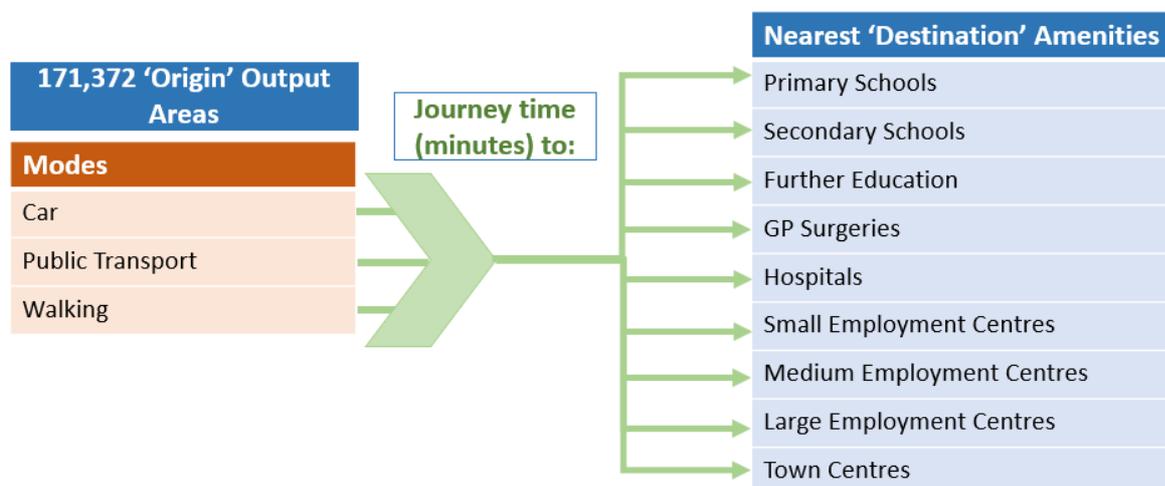
It will seek to shed new light on how well-located new developments are to services and amenities, the ease of access to which supports standard of living and opportunity. Crucially, it will also help to identify how well amenities are accessible by sustainable and affordable transport options, including public transport and walking.

2. Method

The data used to produce this report comes from two sources. The Origin-destination journey time data for all 171,372 Output Areas (OA) in England was provided by the National Audit Office (NAO) which was adapted from original data produced by the Department for Transport (DfT) in 2017. Data on approved planning permissions for major residential development sites across England from 2015-2019 was provided by LandTech at the OA level.

The NAO/DfT data shows journey times from each ‘origin’ OA, by a range of transport modes, to a set of nearest ‘destination’ amenities, as set out in the following diagram. The journey times were estimated over the same period in 2017 to reflect a typical ‘morning peak’ from 7AM to 10AM, according to both the DfT⁴ and NAO⁵ methodologies and definitions.

Figure 2: Diagrammatic representation of journey time mapping of origin OAs to destination amenities by various modes.



Definitions

Most ‘destination’ amenity-categories are self-explanatory. However, in relation to the Employment Centre destinations:

⁴ DfT (2017): [Journey Time Statistics: Notes and Definitions \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

⁵ NAO (2020): [Transport Accessibility to Local Services: A Journey Time Tool](#)

- Small Employment Centres: A single Output Area with 100-499 jobs
- Medium Employment Centres: A single Output Area with 500-4999 jobs
- Large Employment Centres: A single Output Area with at least 5000 jobs⁶

The LandTech data reflects the number of residential planning approvals and grouping based on number of units to be delivered at the OA level between 2015 and 2019. These developments are based on LandTech's analysis of English Local Authority granted planning permissions for housing development. These are therefore only proposed, rather than completed developments.

Combining these data sources allows us to map proposed housing development in England by OA with the origin-destination journey time from these Areas to the nearest amenities by public transport, car, and walking options.

The OAs are further collated by their locations to provide a regional breakdown of this data.

As with the earlier papers in the Location of Development series, this project limits its analysis of planning permissions to those on sites of 50 or more units, for which, planning approval data is most consistent. Therefore, our analysis focuses on the consideration of 'major' planned residential sites only.

3. Analysis

3.1 The Location of Development – where is development planned in England?

Across England there is a significant difference in where new residential development has been approved, both across the regions, and within Local Authorities.

According to the dataset used in this report, 2,743 new major residential developments were approved between 2015 – 2019. The tables and graphs below show the variance in planned development of major housing sites across England and highlight the regions with the highest amount of major planned housing sites.

⁶ For the purposes of analysis in this report, small and medium employment centres are considered to be small and medium sized high streets respectively. Large employment sites are considered to be city centres and provide a key focus in this report given they are likely to be the hubs of functional economic geographies across England and a major source of jobs and economic opportunity for planned development sites.

Figure 3: Number of major (50+ unit) housing sites approved in England between 2015 – 2019

Major Residential Developments Approved, by Region	
Region	Number of major (+ 50 unit) sites with planning approval
East Midlands	199
East of England	317
London	462
North East	114
North West	477
South East	447
South West	242
West Midlands	198
Yorkshire and the Humber	287

Figure 4: Bar graph representation of above data table

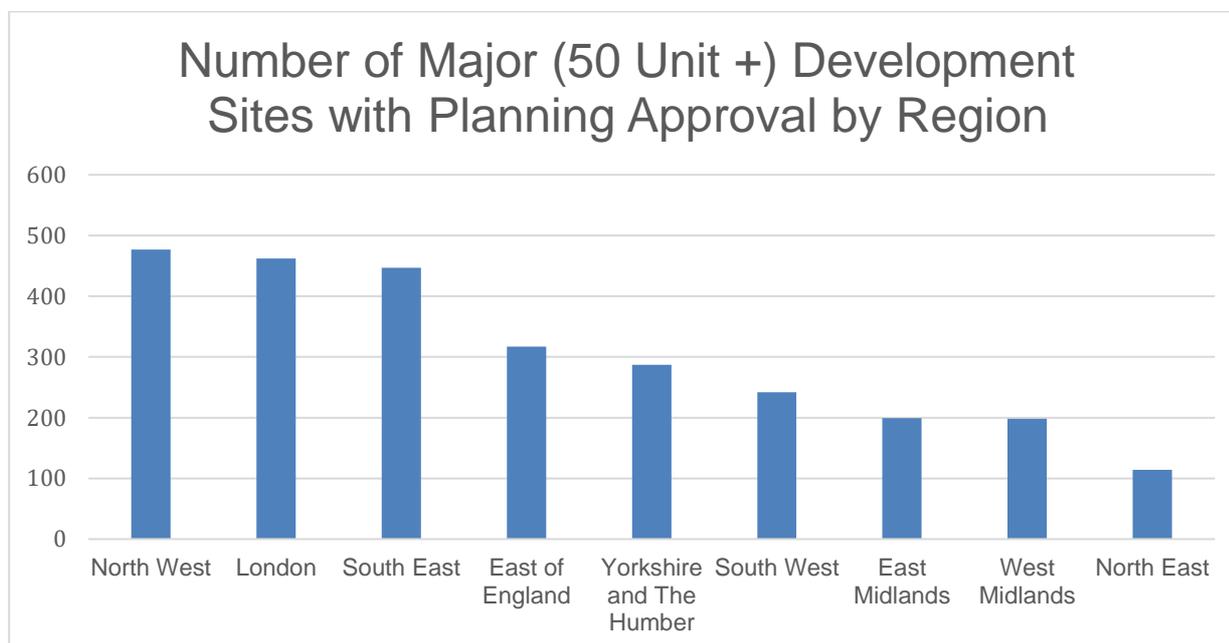
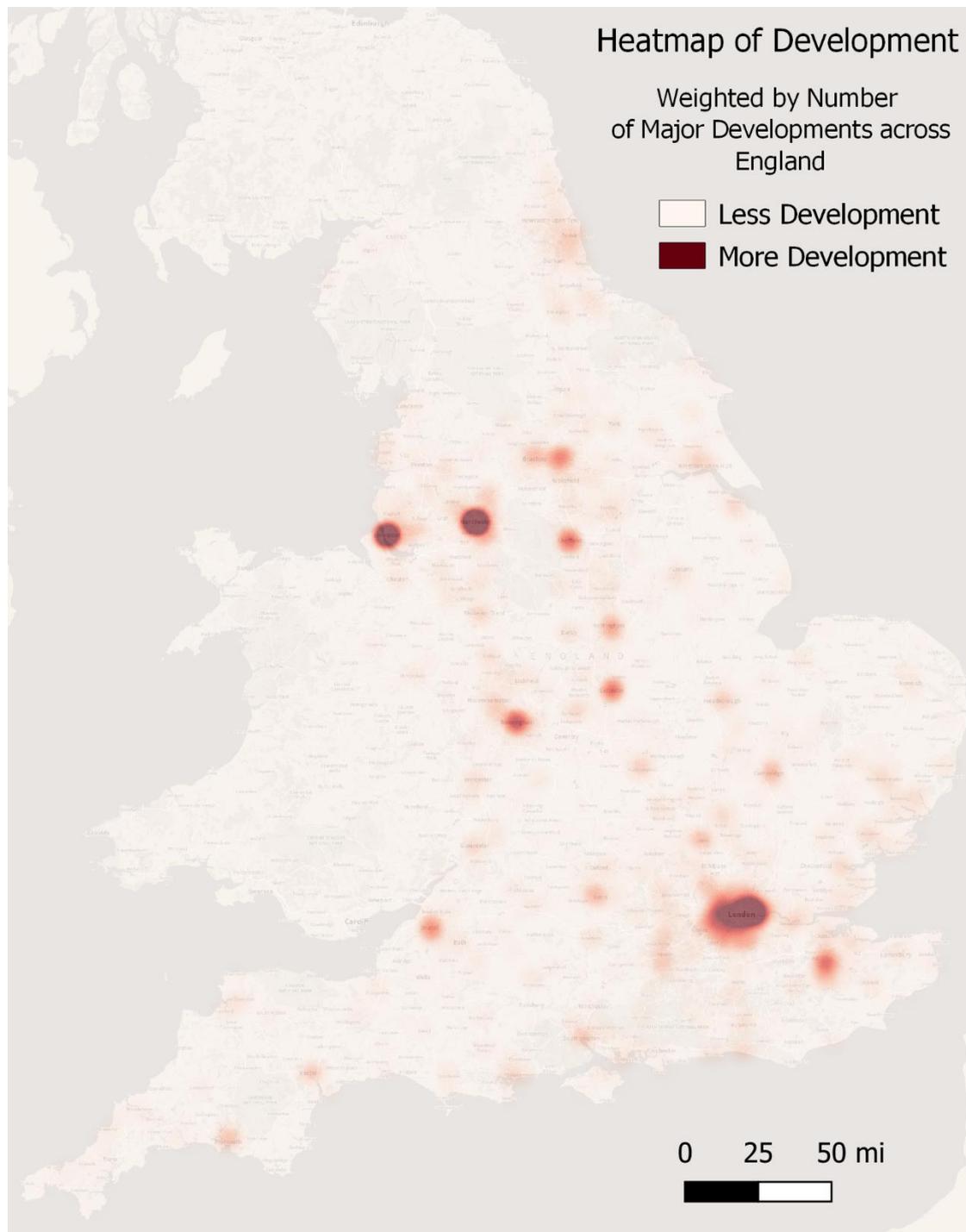


Figure 5: Heatmap of major developments (50+ units) with planning approval granted between 2015 - 2019 across England. Produced by RTPI using OS Maps as a base layer and LandTech data for approved major developments at the OA level.



The regional analysis in figure 3 shows that 17.4% of major planned housing developments between 2015 and 2019 were located in the North West, followed closely by London (16.8%) and the South East (16.3%). The North East had the smallest number of approved major housing sites, representing only 3.5% of total major developments.

The heatmap in figure 5 has been produced to exaggerate the size of the OAs—due to their small

geography—to illustrate the location and intensity of new development in England. In addition to the major cities that appear on the map, many of the others listed contain growth initiatives of national prominence, such as Bedford and South Northamptonshire in the Ox-Cam corridor, Cheshire East and the Constellation Partnership.

Figure 6: Bubble chart of Local Authorities with 20 or more approved major developments. Bubble size is representative of the number of major developments in the Local Authority. Produced by RTPI using plotly.

Local Authorities with a Significant Number (20+) of Approved Major Developments (50+ Units)

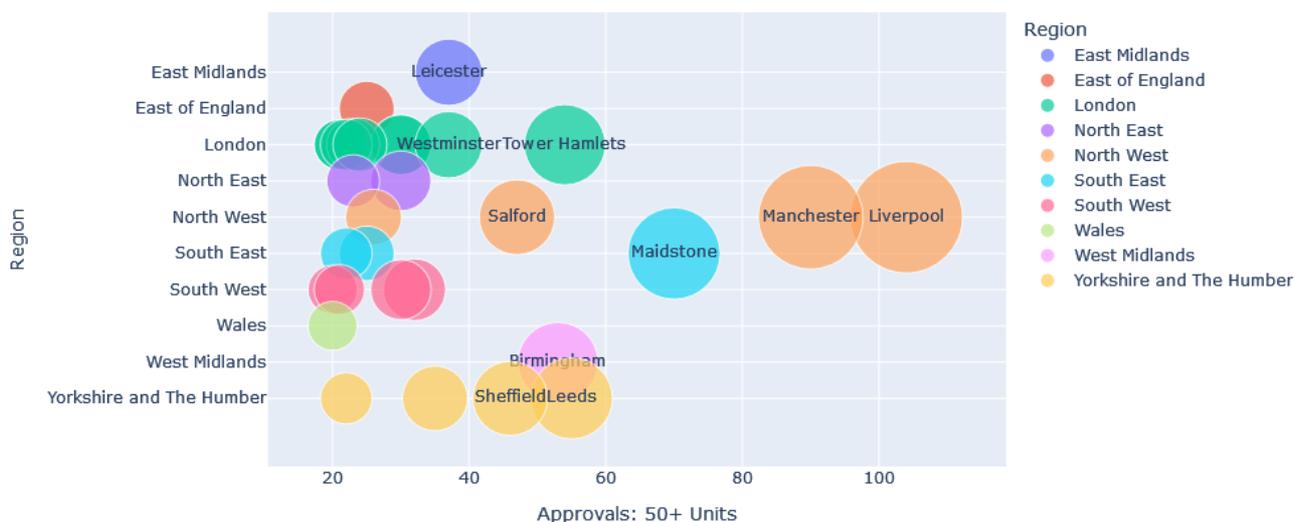


Figure 6 illustrates the Local Authorities with the largest volume of major developments that contribute to a region’s total. Although most developments are predictably in a region’s largest urban areas, population size isn’t perfectly correlated to the number of developments. Maidstone is a prominent example of a high number of developments relative to population. The urban areas shown above, with 20 or more approved major developments, reflect 39% of all major developments reflected in this report.

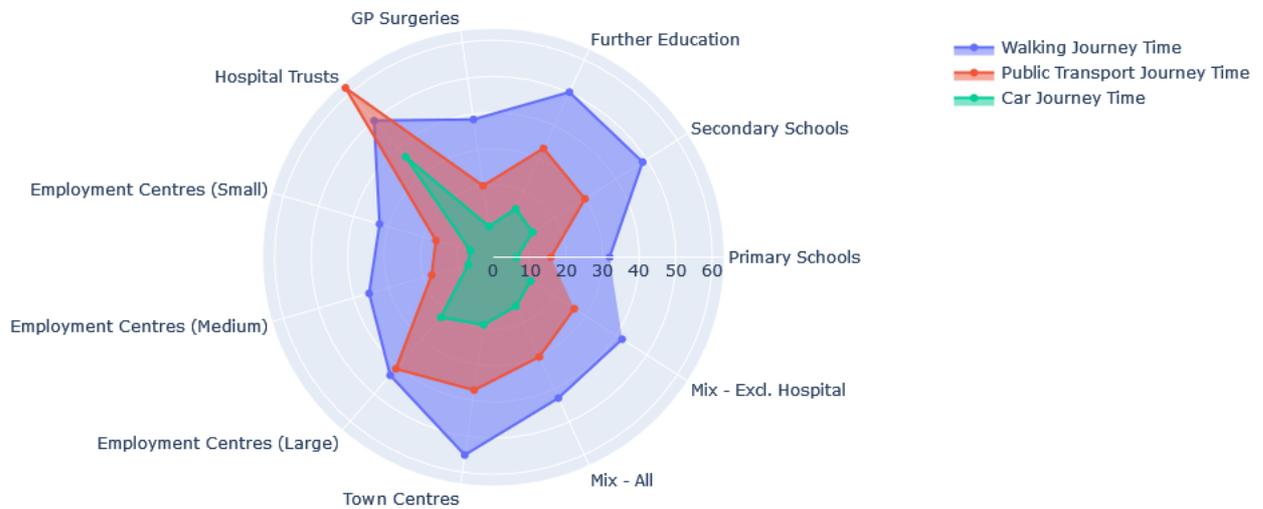
3.2 How accessible is new development in England?

The table and bar graph below shows the average expected journey time from English OAs with major (50+ unit sites) approved applications to a range of existing amenities. Journey times are set out for three modes: car, public transport, and walking. The accessibility, measured by the mean journey time to each amenity, has been weighted by the estimated volume of development (number of units) in each measured output areas and only reflects the values of OAs where there is approved major residential development.

Figure 7: Average journey times in England from OAs with major (50+ unit) planned development sites to a range of key amenities, for permissions granted between 2015-2019. Journey times in minutes provided for car, public transport, and walking modes, rounded to the nearest whole minute.

England Average Journey Times (minutes)			
Amenity	Car Journey Time	Public Transport Journey Time	Walking Journey Time
Primary Schools	6	16	32
Secondary Schools	13	30	49
Further Education	15	33	50
GP Surgeries	9	20	38
Hospital Trusts	37	62	50
Employment Centres (Small)	7	16	33
Employment Centres (Medium)	7	18	36
Employment Centres (Large)	22	41	43
Town Centres	19	37	55
Mix - All	15	30	43
Mix - Excl. Hospital	12	26	42

Figure 8: Radar chart of above table data. Produced by RTPI using Plotly.



The average car journey time from a new large (50+ units) development site to an averaged mix of all assessed amenities is 15 minutes. This is half the expected journey time by public transport at 30 mins, and nearly a third of the expected journey time by walking of 43 minutes.

The most accessible amenities across all modes of transport are primary schools with a walking time of 32 minutes, a public transport journey of 16 minutes, and only a 6-minute drive away on average. Close behind are small employment centres, which both have the shortest walking times of any amenity at 33 minutes, public transport 16 mins, and car 7 mins. The third closest amenities across all modes are medium employment centres, which along with small employment centres, represent local and major high streets. High streets are likely to contain job opportunities but typically not the highest gross value added (GVA) jobs within the functional economic geography. The travel times to large employment centres are significantly longer by car or public transport when compared to small and medium sized centres

For every type of amenity, the average walking times are all over 30 minutes, with 5 of the 9 amenities taking over 40 minutes. Town centres appeared to be the most inaccessible by walking with an average travel time of 55 minutes. Hospitals are the only mode where walking is faster than public transport. For most amenities, average public transport times are roughly twice the time taken by car travel. Apart from hospitals and large employment centres, no amenities are greater than 20 minutes travel time on average for car journeys.

Figure 9: Overlapping histograms of averaged travel times to a mix of amenities by individual output areas. Produced by RTPi using Plotly.

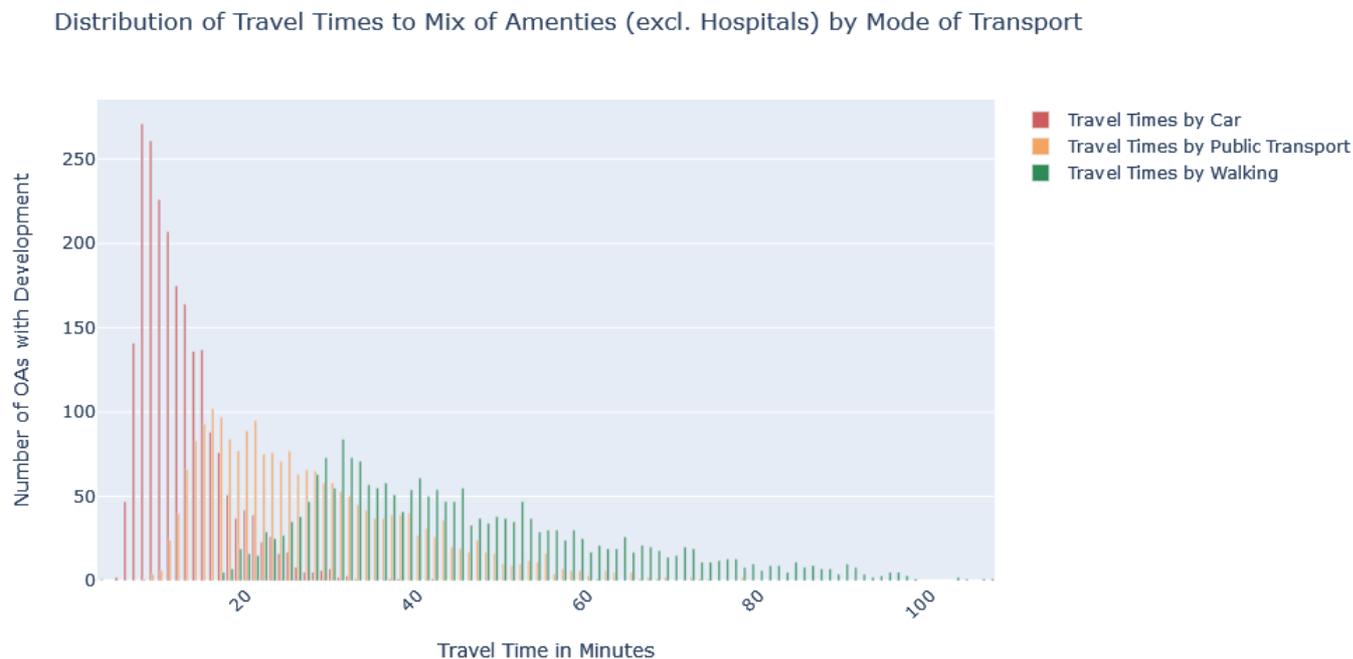


Figure 9 demonstrates the difference in the distribution of travel times across all three modes of travel that would otherwise be obfuscated by average travel times. Very few new developments will have a car journey to the mix of amenities lasting more than 20 minutes, while travel times by public transport or walking are more evenly distributed with a wider range of travel times. A more even distribution is not ideal; This means that many travel times extend well beyond a comparable journey by car which discourages more sustainable modes of transport.

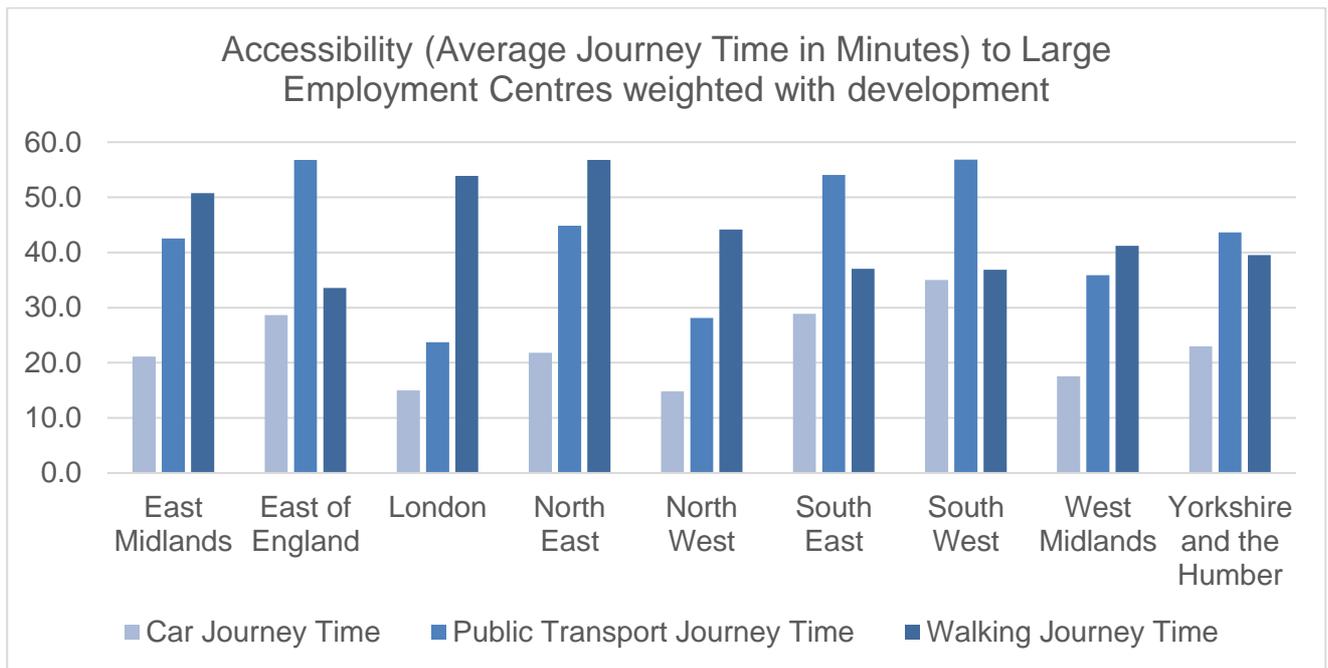
3.3 Regional Variance

The graphs below show average accessibility from new development sites, broken down at a regional level, to three key amenities: large employment centres, secondary schools and hospitals as well as an average mix of accessibility to all amenities. Large employment centres are defined as contained areas of at least 5,000 jobs, which will generally equate to the main economic hub of a functional economic geography.

Figure 10: Average journey times in minutes in the English Regions, calculated from OAs with major (50+ unit) planned development sites to the nearest Large Employment Centre (i.e. an OA location with greater than 5000 jobs) weighted by estimated number of units.

Regional Journey Time (minutes) to Large Employment Centres			
Region	Car Journey Time	Public Transport Journey Time	Walking Journey Time
East Midlands	21.1	42.6	50.8
East of England	28.7	56.8	33.6
London	15.0	23.7	53.9
North East	21.8	44.9	56.8
North West	14.8	28.1	44.2
South East	28.9	54.1	37.0
South West	35.0	56.8	36.8
West Midlands	17.5	35.9	41.2
Yorkshire and the Humber	23.0	43.7	39.5

Figure 11: Bar graph of above table data



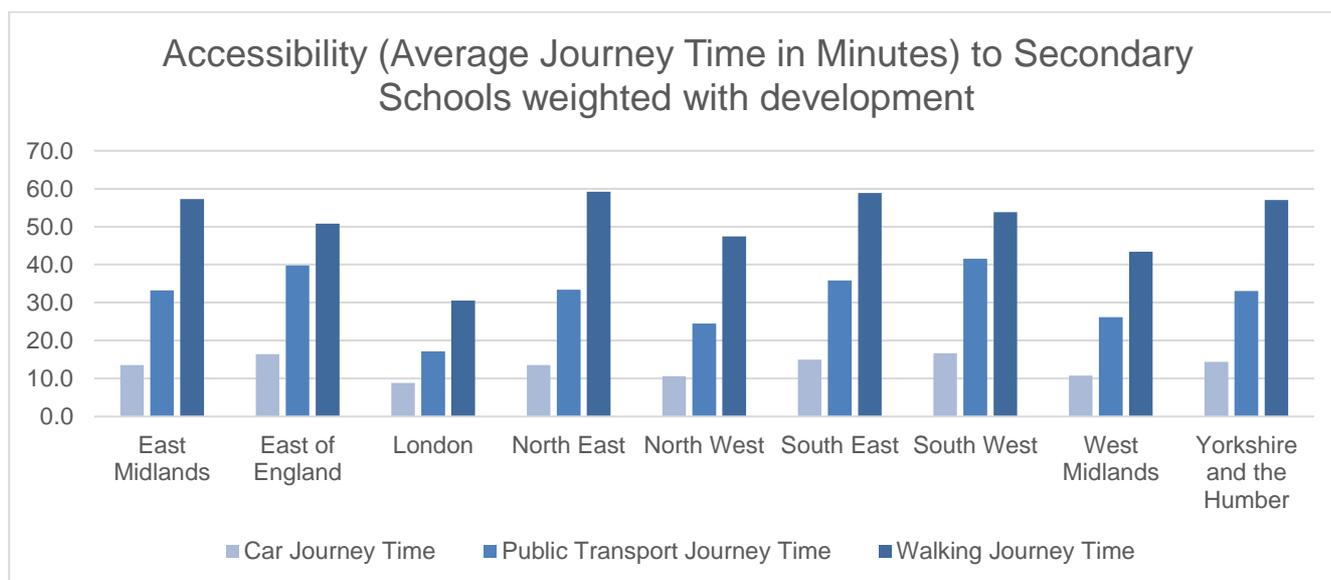
Significant variance exists across the regions for accessibility to large employment centres across all modes of transport. In London, the average public transport journey time from large, planned developments to large employment sites is 23.7 minutes. The only other region with an average public transport journey to a large employment centre under half an hour is the North West at around 28 minutes.

Figure 12: Average journey times in minutes in the English Regions, calculated from OAs with major (50+ unit) planned development sites to the nearest existing Secondary Schools⁷ weighted by estimated number of units.

Regional Journey Time (minutes) to Secondary Schools			
Region	Car Journey Time	Public Transport Journey Time	Walking Journey Time
East Midlands	13.5	33.3	57.2
East of England	16.4	39.8	50.8
London	8.8	17.2	30.6
North East	13.6	33.4	59.2
North West	10.6	24.5	47.4
South East	15.0	35.8	58.9
South West	16.7	41.5	53.8
West Midlands	10.8	26.2	43.4
Yorkshire and the Humber	14.4	33.1	57.0

⁷ Methodological note: The data will not capture any cases where new secondary schools are being developed within new developments, for example as part of planning conditions. However, it is not considered typical for new secondary schools to be developed in this way.

Figure 136: Bar graph of above table data



In all regions except London, the public transport journey time to existing secondary schools from new planned developments is at least twice the expected journey time of car travel. In all regions, journey time by walking is more than 3 times that of car. In the North East it is more than 4 times, and in all regions except London is the average walking time over 40 minutes.

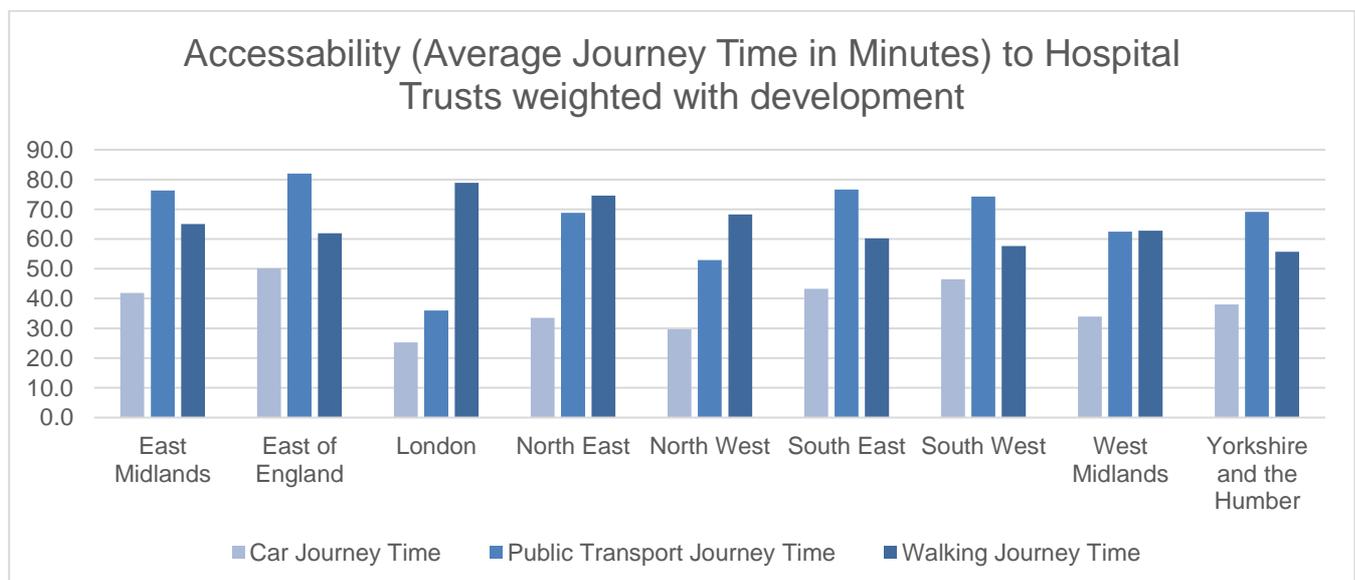
The South West has the least accessible existing secondary schools by public transport at 41.5 minutes journey time on average from new major planned developments, whilst the South East and North East tie for the least accessible journey time by walking of around 59 minutes.

Excluding London, all regions were within a 3-minute variance from the mean of 14 minutes for car journeys. This compared to a 9-minute variance from the mean for public transport journeys and a 10-minute variance for walking journey times.

Figure 14: Average journey times in minutes in the English Regions, calculated from OAs with major (50+ unit) planned development sites to the nearest existing Hospital Trust weighted by estimated number of units.

Regional Journey Time (minutes) to Hospital Trusts			
Region	Car Journey Time	Public Transport Journey Time	Walking Journey Time
East Midlands	41.9	76.3	65.1
East of England	50.2	82.0	62.0
London	25.3	36.0	78.9
North East	33.6	68.8	74.6
North West	29.7	53.0	68.3
South East	43.2	76.6	60.2
South West	46.5	74.3	57.6
West Midlands	33.9	62.5	62.8
Yorkshire and the Humber	38.0	69.1	55.7

Figure 15: Bar graph of above table data



Regional travel times to hospitals by car or public transport are notably longer on average than other amenities. The average travel time to hospitals by public transport for approved sites in London is roughly half the travel time in other regions. Excluding London, the average travel time by public transport from new developments is around 70 minutes.

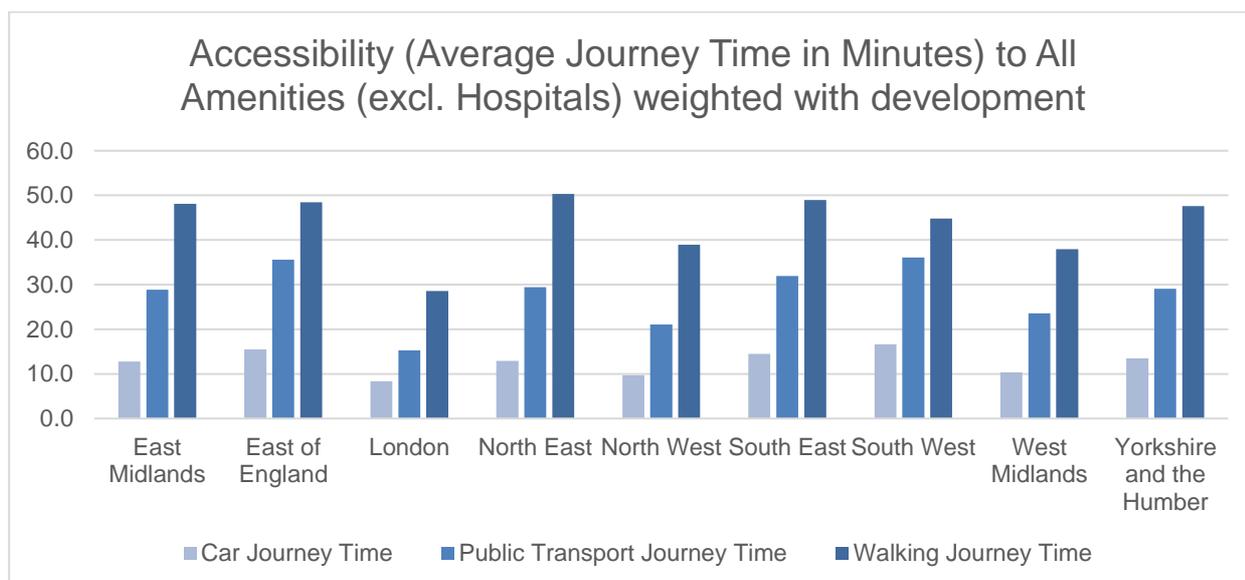
In some regions the average travel time by walking from new development is slightly lower than the travel time by public transport. Regardless of whether this is due to a lack of public transport options to hospitals, the travel times by walking are all about an hour or longer and unlikely to be an attractive option for most.

Figure 16: Average journey times in minutes in the English Regions, calculated from OAs with major (50+ unit) planned development sites to an average amenity-mix⁸

Regional Journey Time (minutes) to Amenity Mix (excl. Hospital Trusts)			
Region	Car Journey Time	Public Transport Journey Time	Walking Journey Time
East Midlands	12.7	28.9	48.1
East of England	15.5	35.6	48.4
London	8.3	15.3	28.6
North East	12.9	29.4	50.3
North West	9.7	21.1	39.0
South East	14.5	31.9	48.9
South West	16.6	36.1	44.8
West Midlands	10.4	23.5	37.9
Yorkshire and the Humber	13.5	29.0	47.6

⁸ The amenity mix is an average accessibility to the full list of analysed amenities (Figure 2), across all development-weighted OAs in a region. In this instance, hospitals are excluded from the average.

Figure 17: Bar graph of above table data



For the average journey time to all amenities (excluding hospitals⁹), London has the most accessible new development locations across all modes. Public transport journey times from new developments in London are about 6 minutes faster than the second-best performing region, the North West (at 15 minutes compared to 21). Public transport journey times in London to the range of amenities are on average expected to be 42% of the time of journey times by public transport in the region with the lowest accessibility score by public transport (South West, 36.1 minutes).

The West Midlands and the North West have the fastest walking times from new developments outside of London across the amenity mix with 38 and 39 minutes respectively while the other regions come much closer to the 50 minute mark. Interestingly, the difference between average journey times by walking and public transport is smallest in the East of England and the South West where journey times by all modes, including car travel, are relatively long. This suggests that some of this new development may be situated further afield than in other regions. While the variation in journey times by car travel is relatively small, the impacts on journey times by the other modes is more profound.

3.4 Range of Accessibility

Development in most/least accessible Output Areas

The tables below show the average accessibility (in journey time minutes) for the top (most accessible) and bottom (least accessible) 10th percentiles of all Output Areas in England across different modes of travel, along with the amount of development taking place in these percentiles. The percentiles are assigned based on the average travel time to all amenities for each transport type and only includes OAs with approved major developments.

⁹ Generally, hospitals may occupy idiosyncratic sites within regions and therefore have been excluded from 'average' accessibility data as they will be likely to skew accessibility data for many sites.

Figure 18: Journey times (minutes) in the 10% most accessible (shortest average journey times across modes to average of all amenities for each transport mode) OAs with major housing sites granted planning permission between 2015-2019, along with the proportion of total development planned in these OAs.

Most Accessible 10% of OAs with Development			
Amenity	Car Journey Time	Public Transport Journey Time	Walking Journey Time
Employment Centres (Large)	10.7	19.1	28.0
Employment Centres (Medium)	4.7	10.3	18.1
Employment Centres (Small)	4.9	10.9	20.6
Further Education	8.8	17.3	29.9
GP Surgeries	5.0	10.3	18.7
Hospital Trusts	24.9	36.9	52.9
Primary Schools	4.9	10.7	19.8
Secondary Schools	8.4	16.7	30.4
Town Centres	12.2	19.9	36.5
% of Major Housing Developments (Approvals)	18.7	22.2	14.7

Figure 19: Journey times (minutes) in the 10% least accessible (longest average journey times across modes to average of all amenities for each transport mode) OAs with major housing sites granted planning permission between 2015-2019, along with the proportion of total development planned in these OAs.

Least Accessible 10% of OAs with Development			
Amenity	Car Journey Time	Public Transport Journey Time	Walking Journey Time
Employment Centres (Large)	50.4	83.1	96.9
Employment Centres (Medium)	12.5	34.4	78.0
Employment Centres (Small)	11.0	31.6	71.4
Further Education	29.6	66.2	95.2
GP Surgeries	16.7	42.7	83.8
Hospital Trusts	59.8	89.8	98.7
Primary Schools	9.6	28.2	67.6
Secondary Schools	23.4	59.9	90.9
Town Centres	32.6	71.6	94.9
% of Major Housing Developments (Approvals)	9.2	10.5	8.5

Figures 18 and 19 above show the range of accessibility for housing sites in England varies considerably. An impressive 22.2% of new approvals for large sites were granted on OAs within the top 10% of journey times for travel by public transport where average travel times to large employment centres and secondary schools is around 19 minutes and 17 minutes respectively. When ranked for accessibility by car, 18.7% new major developments can be identified at the top 10% most accessible OAs. At these sites, average journey times to all amenities are far shorter than the top decile for other modes and even a drive to the nearest hospital trust is only about 25 minutes. Finally, the most walking-accessible OAs claim nearly 15% of new major developments where both large employment centres and secondary schools are both, on average, just a 30-minute walk away.

A smaller portion of development was approved in the least accessible 10% of OAs in England across all modes of transport. The largest portion is the 10.5% of approved major developments on

sites in OAs with the worst 10% of accessibility by public transport. In these OAs, a trip to the GP by public transport would take around 43 minutes and commuting to a large employment centre 83 minutes. In the least accessible OAs for car travel, average travel time to small and medium employment centres is only 11 and 12 minutes respectively, however, for large employment centres this jumps to 50 minutes. Nearly 9% of new development is approved in OAs where the average travel time by walking to every amenity is over an hour.

The proportion of development approved in each top/bottom decile for each mode of transport shows that there is a significant preference for new development that is well placed to make use of existing public transport links in the OA. While there is still some development approved for OAs in the least accessible deciles, weighing the pros and cons of any individual development remains out of the scope of this report.

Access to employment centres by sustainable transport

Following the above analysis, the tables below show the proportion of development with both a high and low degree of accessibility by sustainable transport (walking and public transport options) to all three sizes of employment centres. The data is displayed for each region.

The 15-minute cut off for these tables refers to the concept of a '15-minute city'. The premise is that most daily services can be accessed within a 15-minute walk and the benefit for planning for these types of neighbourhoods can be profound, ranging from the obvious shifting of transport modes to more sustainable modes to improving social cohesion.¹⁰¹¹

¹⁰ Moreno, Carlos, Zaheer Allam, Didier Chabaud, Catherine Gall, and Florent Pratlong (2021): [Introducing the "15-Minute City": Sustainability, Resilience and Place Identity in Future Post-Pandemic Cities](#)

¹¹ RTPI (2020): [20 Minute Neighbourhoods](#)

Figure 20: Proportion of development in each region planned to take place in OAs with either high accessibility (less than 15 minutes) or low accessibility (greater than 60 minutes) to the nearest large employment centre by public transport as a mode

Public Transport to Employment Centres						
Region	Percent of Approvals where Journey Time <= 15 minutes			Percent of Approvals where Journey Time >= 60 minutes		
	Large	Medium	Small	Large	Medium	Small
East Midlands	6.0%	34.2%	48.2%	19.2%	0.0%	0.3%
East of England	0.0%	15.9%	27.2%	36.5%	0.0%	0.5%
London	15.1%	90.8%	93.7%	0.0%	0.0%	0.0%
North East	0.0%	10.2%	50.8%	11.8%	0.0%	0.0%
North West	22.9%	67.1%	52.2%	5.4%	0.0%	0.0%
South East	0.0%	26.2%	32.4%	30.6%	0.0%	0.0%
South West	5.2%	30.9%	34.4%	48.4%	0.3%	1.1%
West Midlands	19.0%	54.8%	54.3%	13.7%	0.0%	0.0%
Yorkshire and the Humber	11.4%	35.1%	48.8%	28.9%	0.4%	0.0%

The tables above show that there were no approvals for large sites within 15 minutes public transport journey time to large employment centres in the North East, South East or East of England, whereas in the North West and West Midlands there were considerable higher amounts, 23% and 19% respectively. Although the North East has relatively few approvals within 15 minutes of large and medium sized employment centres, it closely follows the North West and West in the higher proportion of approvals near small employment centres.

Conversely, in London there were no new major developments planned with greater than 60 minutes public transport journey time to a large, medium, or small employment centres. Other regions had very little or no new approved development with longer than a 60-minute journey time to either small or medium sized employment centres. The proportion of new developments with a public transport travel time above 60 minutes to a large employment centre varies significantly by

region. In the South West, nearly half of the major developments observed in this study will be at least a 60 minute trip on public transport while this is only the case for 5.4% of new developments in the North West.

Figure 21: Proportion of development in each region planned to take place in OAs with either high accessibility (less than 15 minutes) or low accessibility (greater than 60 minutes) to the nearest large employment centre by walking as a mode

Walking to Employment Centres						
Region	Percent of Approvals where Journey Time <= 15 minutes			Percent of Approvals where Journey Time >= 60 minutes		
	Large	Medium	Small	Large	Medium	Small
East Midlands	0.0%	7.7%	3.6%	50.7%	21.3%	13.4%
East of England	0.6%	2.3%	1.1%	51.1%	47.6%	41.3%
London	7.0%	37.3%	49.1%	44.0%	0.0%	0.0%
North East	0.0%	0.0%	0.0%	65.5%	35.5%	16.8%
North West	4.8%	19.8%	6.0%	29.1%	4.5%	3.3%
South East	4.5%	3.0%	3.0%	38.2%	34.2%	23.3%
South West	3.2%	3.8%	5.2%	38.2%	25.0%	18.4%
West Midlands	10.2%	1.3%	4.5%	27.8%	6.8%	6.8%
Yorkshire and the Humber	1.5%	3.0%	5.1%	43.0%	22.5%	15.8%

Conventional wisdom might suggest that the proportion of development highly accessible to employment centres by public transport will be somewhat related to the proportion accessible by walking, but this isn't always the case. Take the South East for example: according to the data used in this report, there were no approved new developments within a 15 minute public transport trip to a large employment centre, but 4.5% of new developments are within a 15 minute walk of the same sites. This shows that the accessibility in the OAs with approved development may vary significantly between modes of transport.

The West Midlands provided a significantly higher proportion of permissions within 15-minute walking time to large employment centres than the other regions, 10% compared to an average of around 2-3% in the remaining regions. London and the North West also show a far higher proportion of development with a 15 minute walk of medium sized employment centres. The fact that so many regions lack a significant amount of development within a 15-minute walk of any sized employment centre suggests the difficulty in finding sites near existing centres. While roads or bus routes can be improved, little can be done to cut travel time by walking in the same manner.

In three regions, East of England (51.1%), East Midlands (50.7%) and the North East (65.5%), more than half of planned developments were located more than 60 minutes walking time from the nearest large employment centre. The East of England also leads in the highest proportion of development with more than a 60-minute walk from medium and small employment centres.

Access to education

The three amenities in this dataset related to education allow us to explore accessibility through different stages of schooling. Primary schools have the shortest travel times from new development in England across all modes of transport, while average travel times increase comparably for secondary schools and further education locations.

Figure 22: Percent of approvals by grouped travel times to educational facilities across all three modes of transport. Produced by RTPI using Plotly.



Figure 22 illustrates the difference in travel times between primary schools and later educational opportunities. Although very few new developments are within a 15-minute walk to any of these amenities, more than half of new developments are within a 15–30-minute walk to primary schools. Around 32% and 38% of new development is located more than a 60-minute walk to secondary schools and further education amenities respectively. By public transport, most new development falls within the 15–30 minute grouping for these two amenities, but there still many developments where travel times come close to or more than an hour. Only a very small proportion of new development is more than a 30-minute drive from any of these educational amenities.

Access to healthcare

As noted in Figure 7, accessibility to amenities related to healthcare (GP surgeries and Hospital Trusts) are very different. By car, driving to a hospital trust takes around 28 minutes longer than driving to a GP surgery from new development, but by public transport the gap is more profound with a 42-minute gap in the travel times between the two amenities. A detailed view of the distribution of travel times to these amenities is even more revealing.

Figure 23: Distribution of major planned residential sites by travel time from individual OAs to GP Surgeries across all three modes of transport. Produced by RTPI using Plotly.

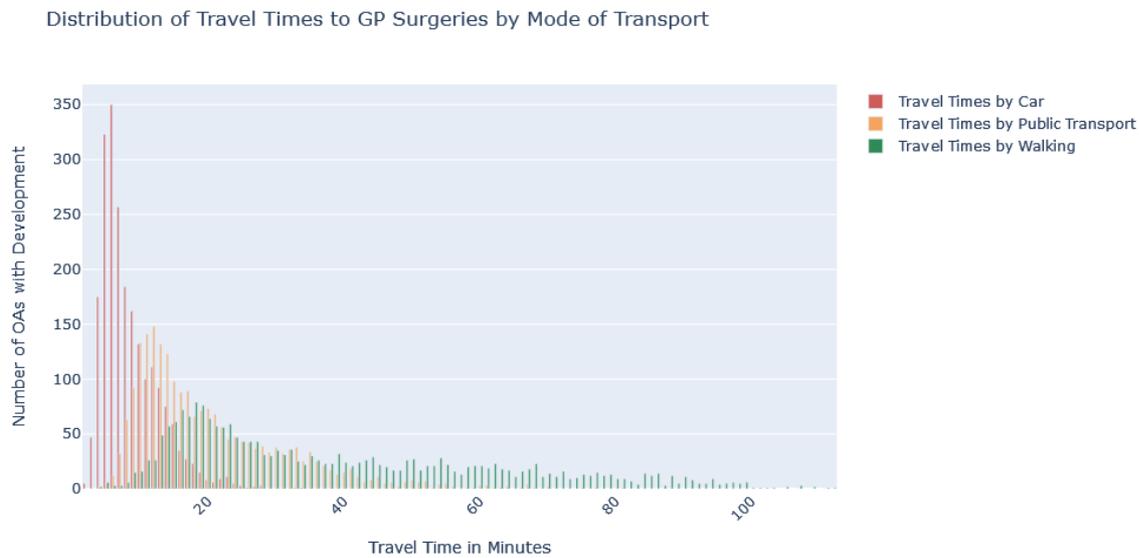
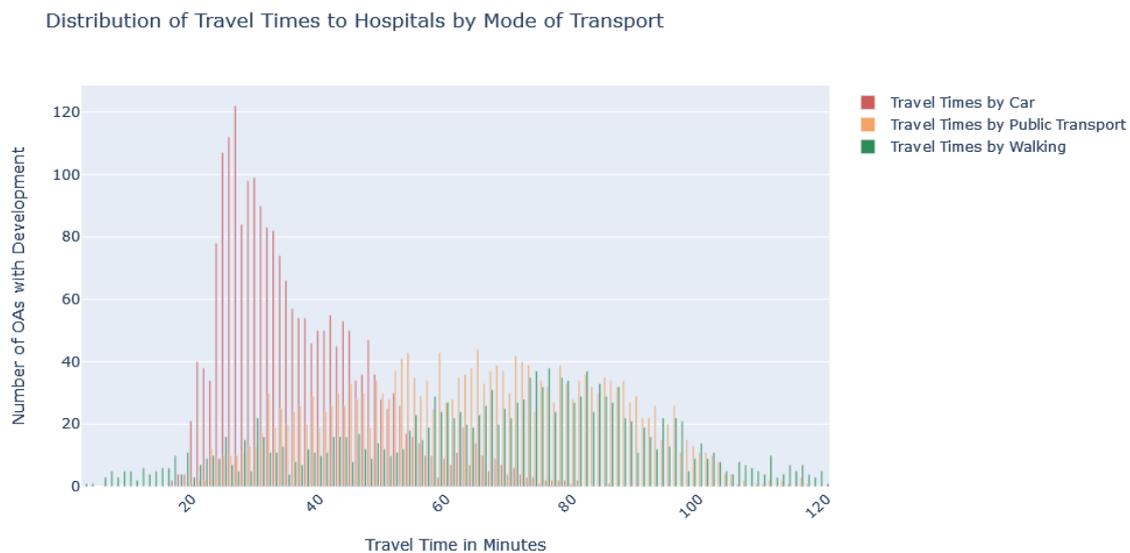


Figure 24: Distribution of major planned residential sites by travel time from individual OAs to Hospital Trusts across all three modes of transport. Produced by RTPI using Plotly.



As illustrated by the above distributions, new development is largely accessible to GP surgeries by public transport, with most sites falling within a 30-minute travel time. Although the average travel time by walking is 38 minutes, Figure 19 shows that 48% of sites may find their local GP within a 30-minute walk. The 21% of OAs with development have a travel time more than 1 hour skew this average. However, between walking and public transport, this is one of the most accessible amenities to car-free households.

Accessibility to hospital trusts is a different picture. Travel times by public transport are especially poor with an average journey time of 62 minutes. For comparison, journeys to large employment centres, the second longest travel time by public transport, take only 41 minutes. While hospital trusts are examples of ‘secondary care’ and may not be visited frequently, individual needs will vary. Comparing the accessibility of hospitals to GP surgeries is complicated given the limited

number of hospitals trusts that exist; However, it is concerning that 58% percent of sites approved for new development are more than an hour away from the nearest hospital trust by public transport.

3.5 Sustainable Communities

The table below shows the proportion of development where walking or public transport is the fastest mode to across the range of amenities.

Figure 25: Proportion of major planned residential sites in the English regions (granted 2015-2019) where on average walking or public transport is the fastest transport option to a mix of amenities.

Travel to All Amenities (excl. Hospitals) Where Walking or Public Transport is Fastest Mode			
Region	Percent of All OAs	Percent of Approvals	Percent of Estimated Units
All of England	0.9%	0.4%	0.2%
East Midlands	1.2%	0.5%	0.3%
East of England	0.9%	0.3%	0.2%
London	0.0%	0.6%	0.4%
North East	1.5%	0.0%	0.0%
North West	1.2%	0.2%	0.2%
South East	0.4%	0.9%	0.4%
South West	2.2%	0.4%	0.3%
West Midlands	0.5%	0.0%	0.0%
Yorkshire and The Humber	1.2%	0.0%	0.0%

In all regions car travel is on average significantly faster than other modes to the key amenity mix, as shown in Figure 19, the above analysis shows that many regions were able to grant a few new permissions for large sites where sustainable transport options are the fastest mode. These are likely to be planned city centre development sites. The lower proportion in London is likely to reflect a former approach to reserve the core of the Central Activity Zone (CAZ) for commercial development to maximise agglomeration economies.¹² Assumptions made for each mode of transportation also impact these calculations.

¹² Greater London Authority (2016): [Central Activities Zone: Supplemental Planning Guidance](#)

Figure 26: Proportion of major planned residential sites in the English regions (granted 2015-2019) where walking or public transport is the fastest transport option to the average mix of amenities.

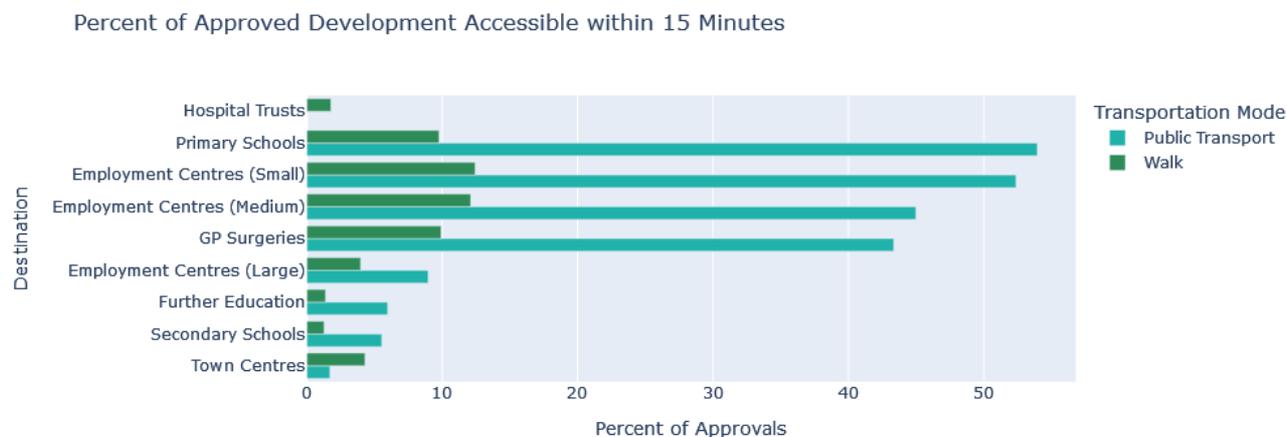
Travel to All Amenities (excl. Hospitals) Where Walking or Public Transport is Within 5 Minutes of Car Journey Time			
Region	Percent of All OAs	Percent of Approvals	Percent of Estimated Units
All of England	3.0%	4.7%	4.7%
East Midlands	2.4%	3.5%	2.4%
East of England	2.3%	0.9%	0.5%
London	8.3%	19.3%	17.5%
North East	1.9%	0.9%	1.0%
North West	2.0%	0.6%	0.4%
South East	1.1%	0.9%	0.4%
South West	4.0%	4.1%	3.8%
West Midlands	0.9%	3.5%	7.3%
Yorkshire and The Humber	2.6%	1.4%	1.0%

In the original DfT analysis of OA travel times in England, a 5-minute penalty was added to car travel times to compensate for parking¹³; However, the NAO data used in this report does not include this penalty.¹⁴ Therefore, figure 26 analyses the proportion of planned development where the average journey time by public transport or walking is less than or equal to the journey time by car with five minutes added, which could be considered a reasonable equivalence to compensate for parking and other costs associated with car travel. Across all of England, only about 5% of the approved major developments in this study are within 5 minutes journey time of car travel by either public transport or walking.

¹³ Travel times by public transport also included a 5-minute penalty for waiting, but this has not been added in this analysis.

¹⁴ NAO (2020): [Transport Accessibility Tool: Tech Guide](#)

Figure 27: Proportion of major planned residential sites in the English regions (granted 2015-2019) where walking or public transport is within 15 minutes to a given amenity. Produced by RTPI using Plotly.



Examining the accessibility to each individual amenity in Figure 27 shows significant differences in what is accessible within 15 minutes by public transport or walking to approved developments. Four amenities—primary schools, small and medium employment centres, and GP surgeries—are highly accessible by public transport to a significant proportion of new developments. Small and medium employment centres are also likely to contain other amenities not explicitly measured in this study. However, only around 10% of new developments are approved within a 15-minute walk to these four amenities.

Accessibility by walking or public transport is worse for the other amenities. Less than 10% of new developments are within 15 minutes of secondary schools or further education by public transport, which is a noted contrast to the proportion accessible to primary schools. Town centres and hospital trusts both show that a larger proportion of new developments are within a 15-minute walk, rather than a 15-minute trip on public transport, but both these proportions are very low.

Achieving accessibility to some amenities is easier than others. The nature of hospitals, town centres, and educational facilities results in trade-offs in accessibility for new developments nearby. While some new developments come close to embracing the ambitions of a ‘15-minute city’, the data suggests that there are still sizeable shortcomings in accessibility to these amenities by walking or public transport. Where walking or taking public transport to any amenity is too time consuming, travel by car becomes less of a choice and more of a necessity for an individual to visit the amenities discussed in this report.

4. Conclusion

While the volume of planning approvals at the local or regional level is published by the Department for Levelling Up, Housing and Communities, the critical issue of location is not easy to assess. However, a key role of any planning system is to guide development to the most sustainable locations. Planners working in individual local authorities will be aware of the scope and scale of development and how it links with existing local amenities. This report has sought to shed light on the accessibility of new residential development at the regional and national level.

Access to amenities is not equal. The inherent sparsity of hospital trusts and large employment centres means that the potential residents of the approved major developments may struggle to access medical care or seek new job opportunities simply due to the location of development. Conversely, some residents may find themselves well suited for a 15-minute trip to work in a large employment centre and only a 10-minute walk from a nearby GP surgery.

There is a relatively large variance in average journey times to amenities at the regional level for both public transport and walking, whereas for car travel, this variance is smaller. This suggests a potential difficulty in siting new development near existing amenities in some regions as well as the additional challenge of ensuring that these new developments are integrated into a robust public transport system.

A significant amount of new development is approved in OAs with the top 10% of public transport travel times to all amenities showing a clear priority for building in these areas. This is a reassuring metric and shows that there are many areas of new development across England where residents will have a good option of utilising public transport to travel to nearby amenities. The travel times may not be as fast as travelling by car but begin to come close while offering a sustainable alternative.

There are, however, still many areas across England where development is occurring in relatively inaccessible locations. In these areas, owning a car increasingly becomes a necessity as travel times by other modes cannot compete. While the proportion of development with more than an hour travel by public transport or walking to a town centre of major employment centre is low, the impact of these developments and their potential carbon footprint have long-term consequences.



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RTPI - Royal Town Planning Institute

research@rtpi.org.uk

Tel: 020 7929 9494

Report contact

Samuel Spencer

Royal Town Planning Institute,
41 Botolph Lane, London EC3R 8DL.
Registered Charity in England (262865) & Scotland (SC037841)

