

# Double the density, halve the land needed

This short report has been created as part of a joint Brownfield Project between CPRE London, CPRE Lancashire and CPRE's national office. The project aims to find ways to ensure local authorities do not allocate greenfield sites for development to meet their housing targets.

According to CPRE research the average density assumption on brownfield register sites in 2018 was 41 dwellings per hectare. This report shows why doubling that should be within the realms of possibility for all authorities across England and why it might in fact be preferable to building at low density. In fact, most developments could be planned at 100 dwellings per hectare or more.

In London, it is common to see relatively high density development but there is still huge pressure to build out into Green Belt and so CPRE London has needed to:

- Reassure suburban Londoners that building at high density does not need to mean tower blocks and high rise, that it can be attractive both to look at and to live in
- Remind London Boroughs and residents alike that high density living has both social and environmental benefits and is attractive to many
- Remind London Boroughs that, if you build in Green Belt, you are consigned to building low-density, high-carbon, car-dependent housing which is unlikely to be affordable and will undermine the Mayor's Transport Strategy which seeks to dramatically reduce car trips in the city
- Remind everyone that many people do not have access to a car and that planning development without cars is not only possible but potentially attractive to many, particularly older people, young people and people on lower incomes.

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## Double the density, halve the land needed

According to CPRE research the average density assumption on brownfield register sites in 2018 was 41 dwellings per hectare.<sup>1</sup> Though this has increased since the last report from 33dph it is still very low.

**Why do we need to be building at higher density?** “... it is generally considered that the reduced cost of servicing and the efficient use of public transport begin to take effect at densities as low as ... 62 dwellings per hectare.”<sup>2</sup> But the higher the density, the more benefits accrue, providing of course that the site is not isolated entirely from public transport, services and amenities.

**High density developments should be positive for communities**, do not need to involve high rise or ‘town cramming’ and can be visually extremely attractive.

## 10 reasons why higher density living is positive for communities

1. The higher the density, the more land is saved: space is used more efficiently.
2. The higher the density, the bigger range of shops and services that can be supported.
3. Of most significance is the cost of personal transport which diminishes rapidly as density increases.<sup>3</sup> Better transport means better access to jobs, amenities, leisure, etc. At high densities fast, frequent, reliable public transport systems become fully effective with dramatic reductions in energy & costs.
4. As density increases the per capita cost of providing services such as water, gas, electricity and waste disposal reduces.
5. The cost of transporting materials and goods also declines. As the costs go down so does the consumption of energy.
6. As density increases, isolation and social exclusion is reduced for people without a car.
7. Density can also impact on affordability as the cost of land is lower per dwelling, and space is not needed for parking cars, for instance.
8. Higher density creates more vitality and diversity. “Bigger concentrations of people stimulate and support the provision of more services and facilities making possible a wider choice of restaurants, theatres, cinemas and other recreational opportunities. They support specialist centres and services for minorities, which are not possible where such minorities are dispersed in low density sprawl. ...
9. “All this stimulates interdependent economic development that creates new employment opportunities and greater choice of employment.
10. “Above all, in higher density urban areas, all this diversity is within easy reach of where most people live. Ease of access is a key factor, which has critical implications for a sustainable quality of urban life.”<sup>4</sup>

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<sup>1</sup> <https://www.cpre.org.uk/resources/housing-and-planning/planning/item/5086-state-of-brownfield-2019>

<sup>2</sup> <http://www.irbnet.de/daten/iconda/CIB919.pdf> p150-151

<sup>3</sup> At low densities people are dependent on private cars for personal transport. As density increases public transport becomes increasingly necessary and viable. More and more trips can also be made on foot or by bicycle eliminating fuel consumption and pollution altogether.

<sup>4</sup> <http://www.irbnet.de/daten/iconda/CIB919.pdf> p151

## High density in history

**Victorian era housing.** Terraced houses have been a popular form of mid-density housing in the UK since the 17th century, and they were first designed for the wealthiest families, like the townhouses for the nobility surrounding Regent's Park. During the Victorian era (1837-1901), it became a popular means of accommodating the rise of working-class migration to urban areas driven by the Industrial Revolution.



Image: [fet.uwe.ac.uk/conweb/house\\_ages/flypast/section1.htm](http://fet.uwe.ac.uk/conweb/house_ages/flypast/section1.htm)

**Post war suburban development** was much lower density at around 30 dwellings per hectare. "...after World War II urban planning largely centered around the use of municipal zoning ordinances to segregate residential from commercial and industrial development, and focused on the construction of low-density single-family detached houses as the preferred housing format for the growing middle class." The physical separation of where people live from where they work, shop and frequently spend their recreational time, together with low housing density, which often drastically reduced population density relative to historical norms, made cars indispensable for practical transportation and contributed to the emergence of a culture of car dependency.<sup>5</sup>

The **housing estates of the 60s and 70s** were relatively high density, though interestingly were often no higher in density than the Victorian terraces which were taken down to accommodate them. They did however cause distrust in high density development, particularly high rise.



Image: [www.powerpointltd.co.uk/project/communal-lighting-design-installation-14-storey-tower-block-lincoln/](http://www.powerpointltd.co.uk/project/communal-lighting-design-installation-14-storey-tower-block-lincoln/)

<sup>5</sup> [https://en.wikipedia.org/wiki/New\\_Urbanism#Defining\\_elements](https://en.wikipedia.org/wiki/New_Urbanism#Defining_elements)

## What do different densities look like?

**Note on accuracy:** Densities can be misleading because it is not clear whether open spaces are included in the calculation. The density of a *site* is different to the density of an *area* as the latter calculation may include land given to roads, open or green spaces. The densities given here are a guide.

### 100 dwellings per hectare



(context) Image: <https://medium.com/land-buildings-identity-and-values/can-great-design-help-solve-the-housing-crisis-c70a078d409d>

### 111 dwellings per hectare



Donnybrook Quarter - Peter Barber Architects. 2618 sqm. Hackney east London. Low-rise high density street based city quarter. The scheme is laid out around two new tree lined streets which cross the site creating strong spatial connections with adjacent neighbourhoods. Completed in January 2006. Won the innovation in housing awards. <http://www.peterbarberarchitects.com/donnybrook-quarter>



**84 dwellings per hectare**



Hannibal Road Gardens - Beveridge Mews - Tower Hamlet London. Peter Barber Architects. 950 m<sup>2</sup>. 100% affordable housing. Includes community garden and playground. <http://www.peterbarberarchitects.com/hannibal-road-gardens>

**84 dwellings per hectare**



Brook Valley Gardens - Barnet Borough. Countryside Properties and L&Q. Masterplan includes 5 phases from 2013 (start of phase 1) to 2025 (expiration of phase 5). 631 new homes over 7,5 hectares. <http://www.dollisvalley.co.uk/media/Dollis-Valley-exhibition-boards.pdf>



**160 dwellings per hectare.**



Springhead Park, Ebbsfleet, Kent. Mixed use residential development, to be finished in 2020. Architects: CHBC Architects. Approximately 50 000 sqm. 800 dwellings planned. <https://www.kentdesign.org/developments/springhead-park-ebbsfleet-carden-city/>

**Dwellings per hectare approx. 200**



Cometa High Wycombe. Richard Clark Chartered Architects. 600 sqm. 12 new apartments. <https://webarchive.nationalarchives.gov.uk/20110118121646/http://www.cabe.org.uk/case-studies/cometa/info>

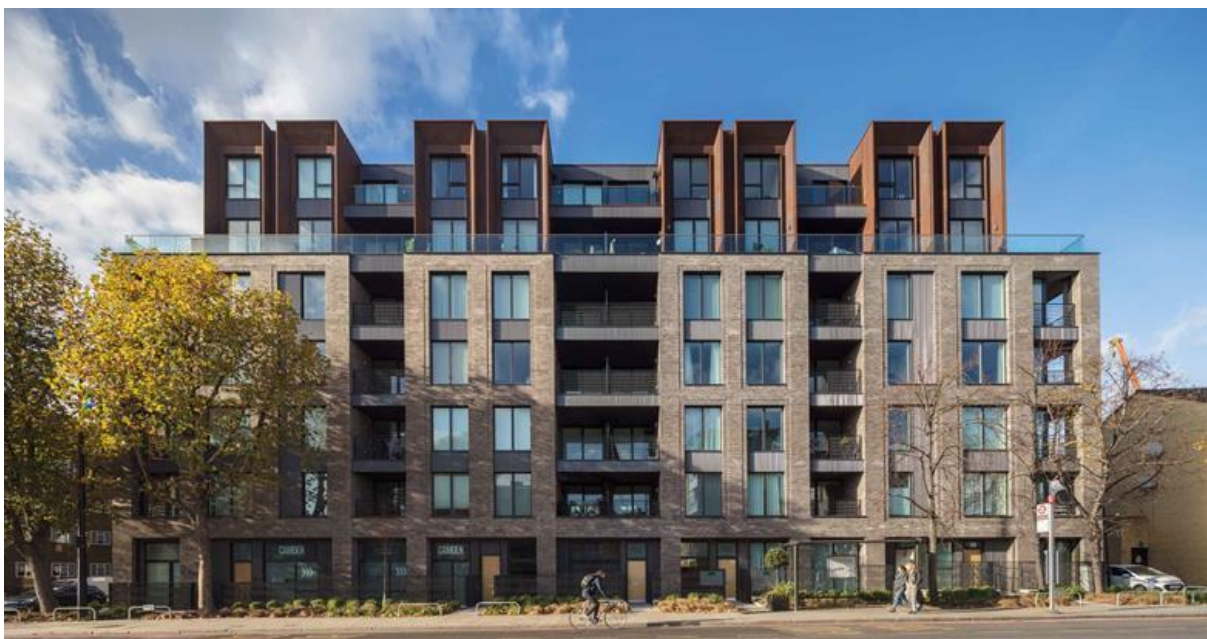


**321 dwellings per hectare**



St Andrew's Complex - Bromley-by-Bow, London. Architects: Allies and Morrison. 964 new homes. 3 ha. Brick Awards - Best Housing Development (2010). Building for Life Award (2010). <http://www.alliesandmorrison.com/project/st-andrews-masterplan/>

**410 dwellings per hectare**



Camden Courtyards, Camden, London (2018), Architect: Sheppard Robson, Developer: Barratt London, Units: 164, Affordable: 50%, Storeys: 7  
<https://www.building.co.uk/technical-case-studies/housing-density-does-it-stack-up/5092832.article>

## High density, mixed-use

400 dwellings per hectare



Proposals for mixed-use development at Colosseum Retail Park - Enfield, London. NEAT Developments' Masterplan proposes 'up to' 1,800 new homes. Area 4.5 hectares. Site would include 1.5 hectares of

open space (a third of the site), as well as a business hub, cafes and restaurant, and a nursery. <https://www.colosseumretailpark.co.uk/wp-content/uploads/2018/11/NEAT-Colosseum-Retail-Park-Exhibition-Boards-v24.pdf>

## 120 to 160 dwellings per hectare



Image [www.thesantongroup.com/projects/new-england-quarter-brighton/](http://www.thesantongroup.com/projects/new-england-quarter-brighton/)

New England Quarter - Brighton. Masterplanner: URBED. Mixed-use development: incorporates a supermarket into the base of a residential block. Includes 261 residential units, a language school with accommodation for up to 400 students, a four-star and three-star hotel, a training

centre, a health and fitness club, offices, workspace, and community uses. Site size: 8.9ha. <http://urbed.coop/projects/brighton-new-england-quarter> [http://urbed.coop/sites/default/files/IPL%20Final%20Design%20%26%20Access%20Statement\\_2.pdf](http://urbed.coop/sites/default/files/IPL%20Final%20Design%20%26%20Access%20Statement_2.pdf) (p.31)



## Further reading

**Residents experience of high density housing in London (2018)**

[https://www.london.gov.uk/sites/default/files/residents\\_experience\\_of\\_high-density\\_housing\\_in\\_london\\_lse\\_-\\_final\\_report\\_july\\_2018.pdf](https://www.london.gov.uk/sites/default/files/residents_experience_of_high-density_housing_in_london_lse_-_final_report_july_2018.pdf)

**Why else is density important (2016).**

LSE. <http://www.lse.ac.uk/business-and-consultancy/consulting/assets/document/s/greater-london-plan-project-5.pdf>

**Lessons from higher density development: report to the GLA (September 2016).**

[https://www.london.gov.uk/sites/default/files/project\\_2\\_3\\_lessons\\_from\\_higher\\_density\\_development.pdf](https://www.london.gov.uk/sites/default/files/project_2_3_lessons_from_higher_density_development.pdf)

**Linking active travel and public transport to housing growth and planning (Sustrans 2017)**

[https://www.sustrans.org.uk/sites/default/files/activetraveltoolbox\\_housinggrowth\\_handplanning\\_part2v4.pdf](https://www.sustrans.org.uk/sites/default/files/activetraveltoolbox_housinggrowth_handplanning_part2v4.pdf)

**Family Housing: the Power of Concentration. CPRE London and CPRE Kent October 2009**

<http://www.cprelondon.org.uk/resource/s/item/2196-family-housing-the-power-of-concentration>

“..the public in general are still sceptical that attractive housing can be built at a significantly higher concentration than the suburban norm of about 30 dwellings per hectare.” This publication seeks to address the skepticism by looking at a number high density developments with family housing.

**Better neighbourhoods: making higher densities work (CABE 2005)**

<https://webarchive.nationalarchives.gov.uk/20110118185901/http://www.cabe.org.uk/files/better-neighbourhoods.pdf>

“Higher density housing in existing urban areas creates vibrant, successful neighbourhoods, and the number and variety of people who live there support local shops, transport and community facilities”

**Building houses or creating communities? Sustainable Development Commission 2007**

[http://www.sd-commission.org.uk/data/files/publications/scp\\_leaflet.pdf](http://www.sd-commission.org.uk/data/files/publications/scp_leaflet.pdf)

p8 “... at least 50 homes per hectare, is needed to help to support local services like frequent buses, and can reduce environmental impacts. Getting people out of their cars and into the streets maximises individuals’ opportunities to get to know their neighbours and to use local shops. Walking and cycling improve fitness levels and good public transport reduces congestion and CO2 emissions.

**GetLiving: Millennial living in 2018:**

insights for the UK build-to-rent sector

[https://corporate.getliving.com/pdfs/get\\_living\\_millennial\\_living\\_in\\_2018\\_report\\_first\\_look.pdf](https://corporate.getliving.com/pdfs/get_living_millennial_living_in_2018_report_first_look.pdf)

**Is increasing density the answer to the land-squeeze in successful cities?**

**Centre for Cities 2018**

<https://www.centreforcities.org/blog/increasing-density-answer-land-squeeze-successful-cities/>

References for history section

[https://en.wikipedia.org/wiki/Terraced\\_houses\\_in\\_the\\_United\\_Kingdom](https://en.wikipedia.org/wiki/Terraced_houses_in_the_United_Kingdom)

[https://en.wikipedia.org/wiki/New\\_Urbanism#Defining\\_elements](https://en.wikipedia.org/wiki/New_Urbanism#Defining_elements)