HISTORIC ENGLAND - HERITAGE PROTECTION & PLANNING:
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HISTORIC ENGLAND

LONDON'S LOCAL CHARACTER AND DENSITY

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August 2016

Historic England

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CONTEXT

A GROWING CITY

For the first real time in London's history we are seeing a major programme of densification of areas prompted by a lack of land for new homes. Over the centuries, London has progressively grown outwards up to (and over) the Green Belt. Whilst the second World War necessitated the replanning and rebuilding of large areas, this decade is the first time we are identifying growth areas in order to recycle existing neighbourhoods and land.

A number of factors have combined to lead us to the current challenge. Since the 1930s and the establishment of London's Green Belt, development density has become an increasing focus for planning. The Compact City approach actively encouraged denser development from the Millennium onwards, with brownfield land the focus for change. The London Plans overseen by Ken Livingstone put significant emphasis on sustainable development, and this meant accessibility became a major driver in identifying areas for growth. Under Boris Johnson, planning policy shifted towards diversifying economic growth and protecting London's suburbs by limiting major development to key sites and Opportunity Areas.

Whilst on the surface, the current approach supports multiple sustainability objectives, there are conflicts increasingly emerging on the ground. In Central London, the setting of highly valued heritage assets are changing significantly. Outside the Central Activities Zone, large Opportunity Areas are introducing new typologies and urban characters adjacent to long-established urban neighbourhoods. In some instances, the planned change in character looks to be abrupt and is taking relatively little reference from the existing adjacent areas.

This report explores the potential conflicts emerging at all scales of planning and development, with a view to establishing a common assessment framework to steer more contextually informed growth.

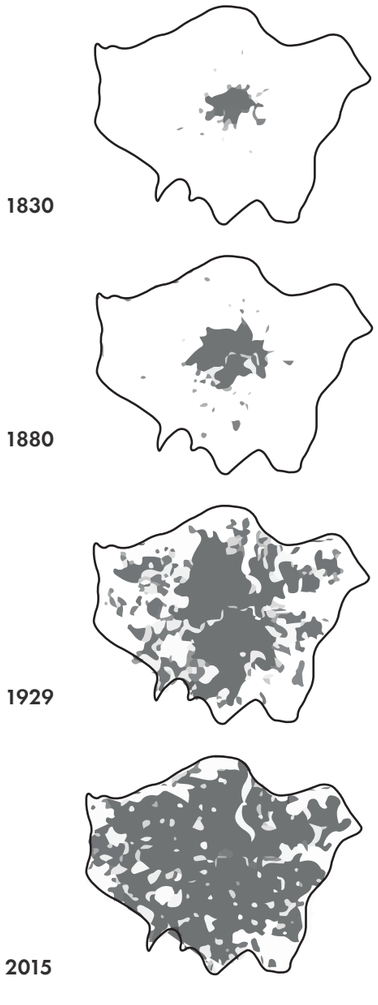
VIEW OF ST PAUL'S CATHEDRAL

CHANGING DENSITY

The density of development in London today is a product of its evolution, and of many layers of planning and growth. By the early 19th Century, the population density in central London was already very high, reflecting chronic overcrowding, especially in the inner city areas. These were chronicled in the late 19th Century in the poverty surveys of William Booth and others. By 1830 the influence of public transport and especially private cars has resulted in a much more dispersed pattern and lower densities, promoted by nascent town planning and the application of Garden City principles, that promised a rural idyll alongside factories and other places of work. By the 1920s and 40s, the combination of wartime bombing, slum clearance and the decline of traditional employment fuelled a flight to the suburbs, and in many instances out of London altogether. The early tower and slab blocks were commonly set in tranches of open space and were not therefore always much denser than the terraces or tenements they replaced.

At the same time, however, the Green Belt prevented the untrammelled sprawl of London and served to support a steady intensification of the capital. Demographic trends have resulted in a greater demand for smaller units.

Today, the intensity of development in Central London is comparable to many global cities, whilst the outer suburbs have been developed at a much lower density reflecting the demands of previous generations.



UNDERSTANDING LONDON

Understanding London's unique character is inseparable from studying the way it has grown. At a first glance, old maps might suggest that the city has evolved from a single nucleus on the Thames, Roman Londinium, and steadily sprawled in every direction. But this is a simplification. London is a scattered city, a constellation of hamlets, market towns, suburbs and industrial areas with many different characteristics and qualities that have merged and overlapped with one another.

An appreciation of the origins of each of these places and unpicking their complexities will be central to this study. The factors that have shaped London's districts are multiple; they include topography, geology, water courses and transport arteries, as well as social, cultural and economic drivers. The land holdings of the Church and the Crown and later, the great London estates, have had a profound influence. The rivalry of the London railway operators in the mid-19th century is another powerful legacy, driving the whole pattern of suburban growth. Open spaces such as the Royal Parks or the upper reaches of the tidal Thames are other elements in the anatomy of London.

London is famous as a seat of government and a cultural centre of world renown. Since the 14th century it has been one of the world's great mercantile cities but it is a less recognised cradle of the industrial revolution, with the factories of the Lea Valley and the city fringes supplying the capital, the nation and the British Empire.

Finally, there is the need to see London's heritage as a palimpsest, with layers of history reading though to the present day. These can be traced in the public realm and plot divisions, determining the grain and scale of historic places. In outer London, the residues of market gardens and orchards have made their mark. Looking at patterns of growth, it is clear that street patterns can long outlive buildings; the winding medieval courts of the Square Mile are an obvious example, but other places such as the lanes around Kingston Market Place, or the imprint of Croydon Old Palace and the Minster – may be less apparent.

The current demand for characterisation studies is an acknowledgment that an appreciation of London's character cannot be confined to designated heritage assets. A more holistic approach has shed light on the significance of London suburbs, from early retreats from the city such as Hackney through to the Span estates of Blackheath and Ham.

Intensification is not new to London; the mansion blocks of Kensington and Knightsbridge were a typological response to high demand for housing in the most fashionable part of town. The pioneering flats at Roehampton were a response to a different problem, namely housing shortages after the Second World War.

REGENT'S CANAL

London's historic areas have demonstrated their adaptability to change. However the current urgency for new development – housing most obviously, but also offices, shopping centres and employment are challenging the scale, function and character of the status quo as never before.

The Mayor's Design Advisory Group published Growing London, a collection of essays which is part of a broader narrative to define the "Good Growth Agenda" as a basis for the next London Plan and supporting strategies.

"*The capital has experienced periods of rapid growth before. The population grew from 1 million in 1800 to 6.5 million a century later - an increase of around 140 people a day. The result was a city of great grandeur but also one of squalor, overcrowding and poor health...So, how do we create a London of the future that we still want to live in? How do we make sure that growth delivers a high quality environment that does not feel alien to London or Londoners? What are the key design issues that must be addressed if we are not to emulate the rookeries of the Victorians, the sprawl of the 1930s or the monocultural estates of the post war era?*" (MDAG, Growing London, p.III to IV)

The historic environment needs to be given due weight alongside other legitimate drivers for sustainable development. Historic places are themselves models of sustainable development evidenced by their durability (saving embedded energy), walkability, mixed use, and sometimes surprisingly high density (as evidenced in many mansion block developments) and social cohesion.

KING'S CROSS MASTERPLAN

DENSITY IN LONDON

MEASURING DENSITY

There are multiple ways of measuring the density of places. In planning and development the most common indicators used are dwellings per hectare or habitable rooms per hectare. Density is a key focus for planning policy guidance in the London Plan including the sustainable residential quality (SRQ) density matrix (table 3.2). However, other methods look to understand the number of people in an area through people per hectare, population per square kilometre or even daytime vs. evening population per hectare. This report makes reference to people per hectare and floor to area ratio.

Dwellings or units per hectare has the obvious disadvantage of not reflecting the size of units. Habitable rooms per hectare provides a better reflection of potential occupancy and intensity. Both however, can be quite crude and depend on how tightly a site area is drawn. The measure of people per hectare provides a clearer reflection of the number of people living in an area. It also allows much easier comparisons to be made between new proposals and existing prevailing densities.

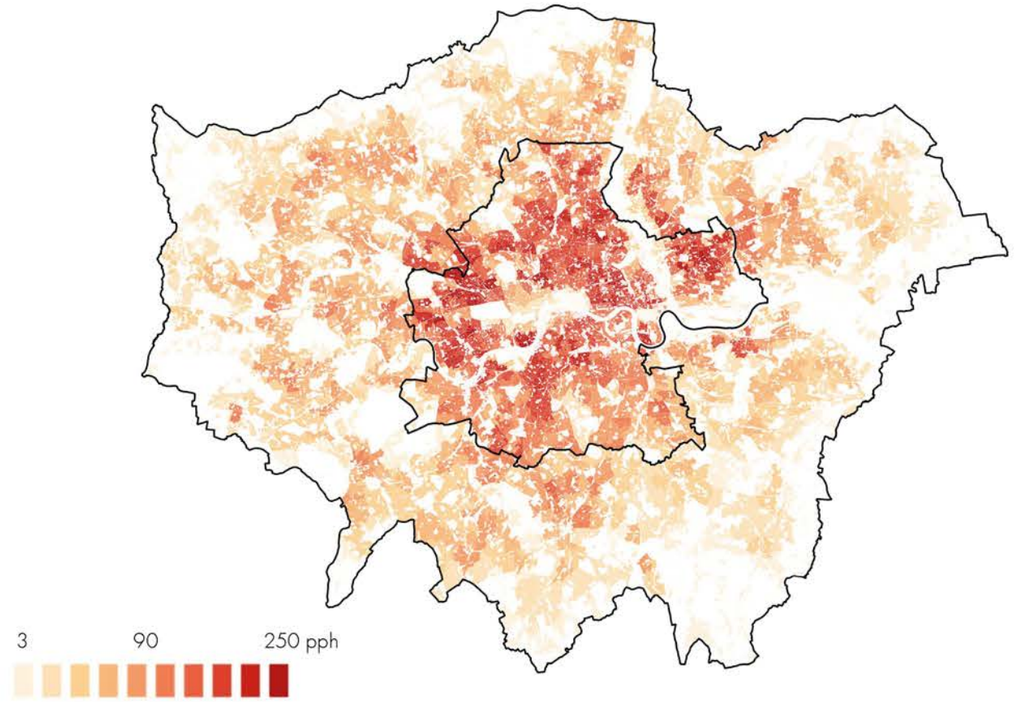
All have their roles. In considering the pressure for homes and housing targets measuring the number of dwellings is clearly appropriate. But to understand the intensity of land use and activity it is more appropriate to consider daytime and evening populations. For the purposes of this study we have used people per hectare as a common measurement. This method allows much easier comparison across areas and a clearer impression of the daily intensity of land use.

It is important to understand how density varies across London and why. A simple map of density by area provides part of the picture, but a very simplified one. When considering homes however, it is more appropriate to look at residential density specifically, removing the non-residential areas of land.

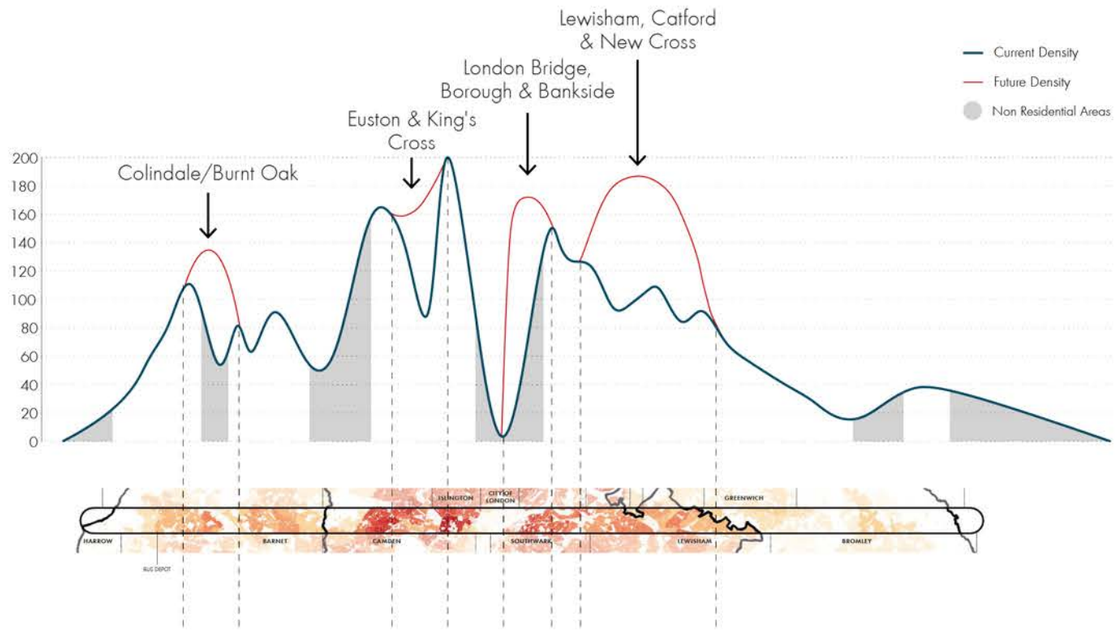
It is clear that it is an oversimplification to understand London as having the highest density in the centre which then drops as one moves out. The adjacent graph illustrates that rather there are a number of peaks in density reflecting dense historic centres, areas of past intensification such as post-war housing estates and then troughs in commercial areas where it is more appropriate to consider job density.

Non-residential development makes a significant contribution to the overall massing of buildings in an area, and crucially the daytime vs evening population. There is no easier way to calculate their population contribution on an area basis, however, a very useful indicator of density across all land uses is floor to area ratio (FAR). The FAR is the ratio of a building's total (gross) floor area to the size of the piece of land upon which it is built. This indicator has been used throughout this report as a way to make comparisons across character areas regardless of land use.

In general, there is merit in using different measures of density to enable a broader understanding of the debate.



DENSITY BY RESIDENTIAL LAND AREA (EXCLUDING NON-RESIDENTIAL LAND)



DENSITY DIAGRAM (pph)

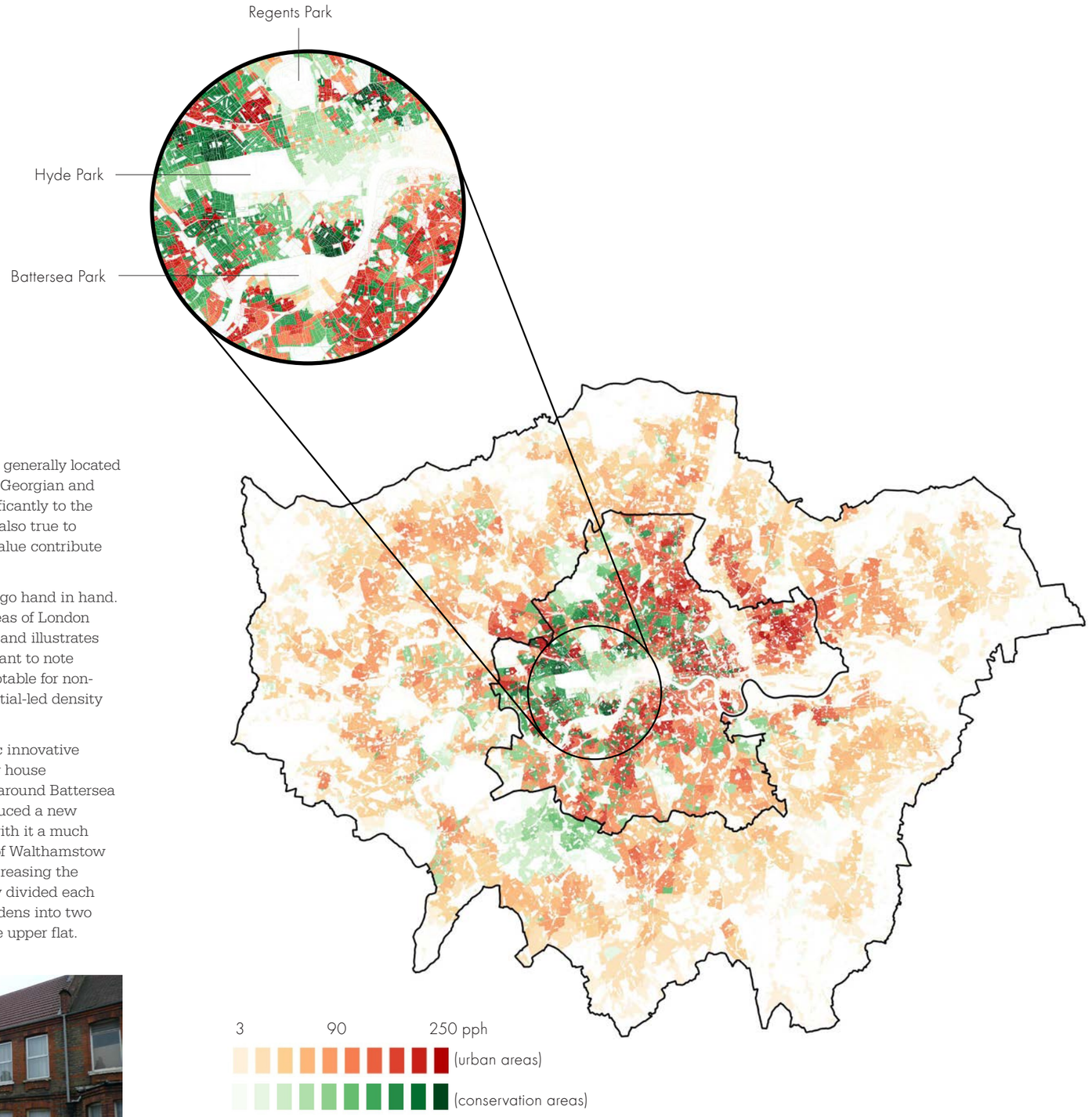
DENSITY AND HERITAGE

The areas of highest residential density are generally located in "inner" rather than "central" London. The Georgian and Victorian residential areas contribute significantly to the stock of high density homes. It is therefore also true to say that areas of historic importance and value contribute significantly to density.

Historic character and efficient use of land go hand in hand. The adjacent plan shows the residential areas of London covered by conservation area designations and illustrates their relative high density. It is also important to note that historic buildings are often easily adaptable for non-residential uses over and above the residential-led density data on the adjacent diagram.

Examples abound across London of historic innovative typologies created as a means to efficiently house Londoners. The Victorian mansion blocks around Battersea Park, Knightsbridge and Maida Vale introduced a new building height for residential blocks and with it a much denser typology. The Warner half houses of Walthamstow are one example of many approaches to increasing the density of the terraced form. This typology divided each terrace unit into two flats, and the rear gardens into two pieces with a connecting stairway from the upper flat.

WARNER HALF HOUSES, WALTHAMSTOW



DENSITY FOR RESIDENTIAL AREAS HIGHLIGHTING CONSERVATION AREAS

Note: residential conservation area information is based on available data

LONDON IS ITS STREETS

The streets of the City of London, Southwark and their older satellites have been rebuilt many times. Buildings have been relatively impermanent, prone to the ravages of fire and decay, as well as change driven by building technology, fashion or simply the demand for more space. Yet the streets themselves have endured. Even in the Square Mile, where change has been almost continuous since the 11th century, the medieval street pattern of roads, passages and yards has endured on the ground supported in many instances by the old names, like Cheapside or Cowcross Street reflecting former activities or trading.

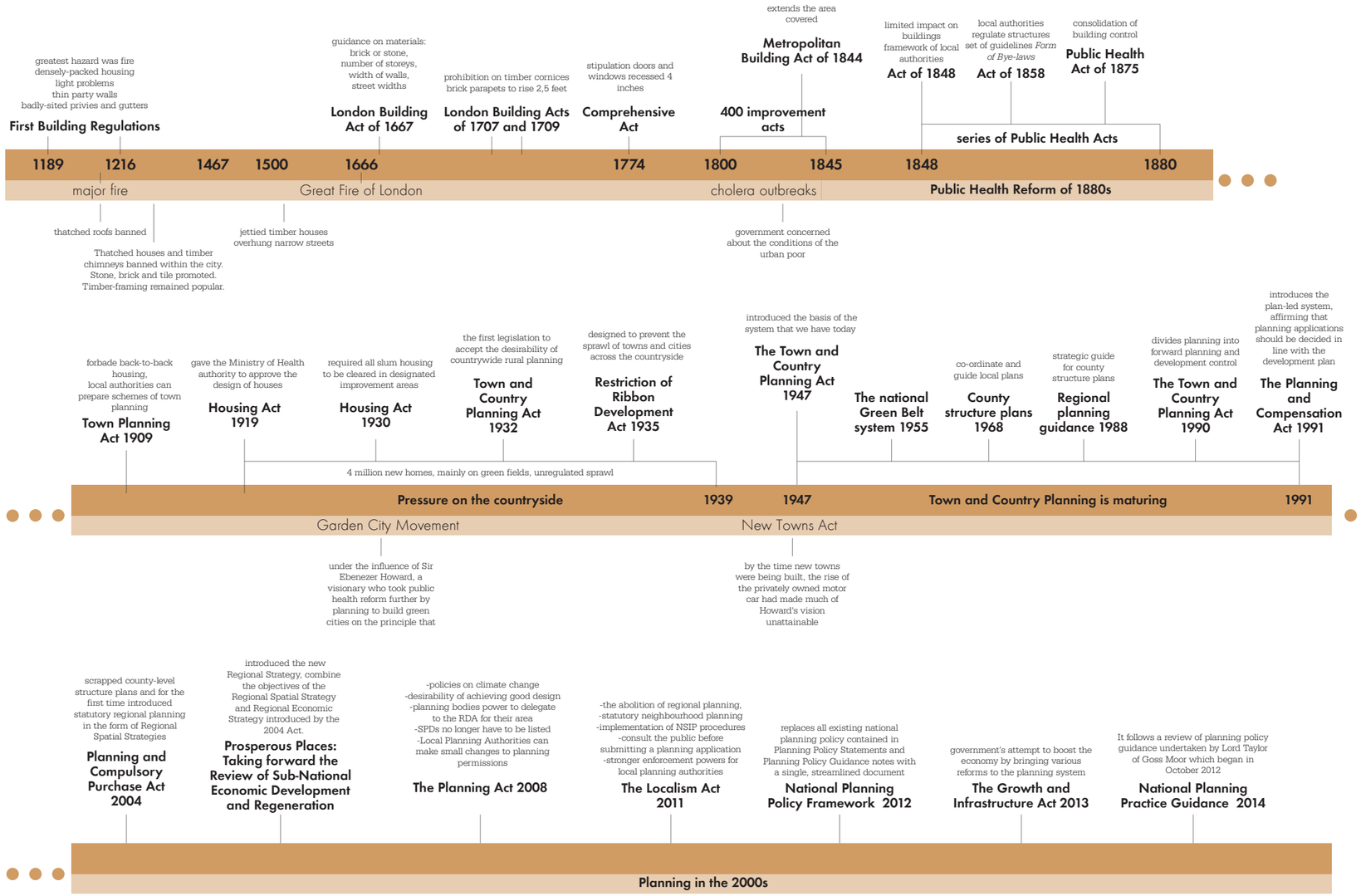
In outer London, the ancient field patterns, religious holdings and manorial lands can still be seen in the lines of streets and open spaces. The marks of an industrialised society including market gardens, railway sidings, prisons and workhouses – can also be read in the urban footprint. The courses of old rivers can also be found, such as the Fleet river (now Farringdon Street). The Regents Park Estate at Euston was built around the former canal basin and market squares on the Regent's Canal.

The means of transport have also governed the street patterns – linear development along the former arterial Roman streets, then later along the turnpike roads. The Thames itself has exerted the strongest influence, with villages and hamlets strung out along the tidal river and beyond, to Kingston.

In the twentieth century, motorised transport has made a significant mark. Bypasses, dual carriageways and urban motorways have been carved around, and sometimes through, historic centres. Entire suburbs have been planned around the motor car having a dramatic effect on the resulting character and density.

RULES AND REGULATIONS

For over 800 years, the design of buildings in London has been regulated and subject to a set of rules. The scope of these rules has grown and the level of detail, and arguably prescription, multiplied. The typologies that have emerged over this period have therefore not just responded to circumstance and context, but also an increasingly detailed set of parameters and regulations.



TIMELINE OF BUILDING REGULATIONS

LONDON IS SHAPED BY PRESCRIPTION

London's growth has largely been organic, polycentric, speculative and unplanned, responding to a multitude of circumstances. From the Romans onwards, these circumstances have been administrative, civic, economic and defensive. Lines of travel, whether by water, road and rail, and social and cultural norms have also conditioned the nature of the city. Later, Victorian streets carved through the ancient grain. With notable exceptions, like John Nash's Regency re-casting of the West End, London has not been a planned city and comprehensive plans or grand gestures have failed to take root.

And yet for centuries, London has also been conditioned by regulations, often motivated by public safety but also serving to protect the amenity of private landowners. It is these controls that have shaped the nature of the capital more than formal plans.

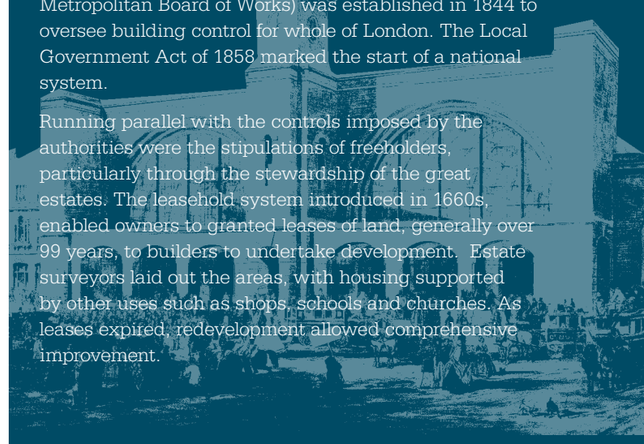
According to City tradition, 1189 marked the first efforts to meet concerns about the spread of fire. After a serious fire in 1212, thatch roofs were outlawed by mayoral decree.

The Assize of Nuisance from the 14th century onwards provided a forum for neighbours to appeal to the Mayor and Aldermen, who in turn were advised by skilled craftsmen. The Assize tackled party wall disputes and overhanging of properties, ruinous walls and controls on encroachment onto streets.

Timber frame construction was banned after the Great Fire in 1666. The London Building Act 1667 provided the City's first effective controls, with surveyors appointed to enforce the new regulations. Timber gave way to less combustible brick or stone, and controls were introduced over the number of storeys and width of walls, with streets wide enough to provide a fire break. Later, party walls were raised between roofs and windows were recessed.

London Building Acts have been reviewed and revised many times, with concerns extending to sanitation, water supply, sewerage and air quality. The Metropolitan Building Office (later replaced by the Metropolitan Board of Works) was established in 1844 to oversee building control for whole of London. The Local Government Act of 1858 marked the start of a national system.

Running parallel with the controls imposed by the authorities were the stipulations of freeholders, particularly through the stewardship of the great estates. The leasehold system introduced in 1660s, enabled owners to granted leases of land, generally over 99 years, to builders to undertake development. Estate surveyors laid out the areas, with housing supported by other uses such as shops, schools and churches. As leases expired, redevelopment allowed comprehensive improvement.



COMPARING GLOBAL CITIES

APPLES WITH APPLES

London is a global city and must compete on a global stage. To continue to be successful the city must deliver homes and jobs for the communities that make London what it is.

Each global city has its own character. Overall London has one of the lowest densities. Many are have suggested that London should learn from its competitors and implement densities as found in New York, Paris, Barcelona and Hong Kong.

These comparisons illustrate the potential for intensifying London and suggest perhaps that achieving the homes target should be relatively easy. What the comparisons mask, however, is the innate character of each city. London is reknowned as the green city, a global city with a fantastic environment and a rich historical fabric. In many ways, it is the low density of outer London which reduces its overall figure.

Districts in central Paris characterised with Haussman mansion blocks achieve densities of between 250 and 300 people per hectare. By comparison, areas with mansion blocks in London typically achieve 200 people per hectare. Generally, this difference is due to building height with the Parisian examples one to two storeys higher, however there are other factors at play including size of units, building to plot ratio and green space.

DON'T REPLICATE WITHOUT LEARNING FROM MISTAKES

Every global city is dealing with the same housing challenge, albeit at different scales. Interestingly, other global cities such as New York are looking to London for answers. New York is much denser, but developed without the green infrastructure network London boasts. Today, retrofitting green spaces into New York is of paramount importance to improving the quality of life. Applying the densities of New York and other cities to London should not be undertaken without learning from the mistakes made in these cities. If we are going to intensify to these levels we need to do it a way appropriate to our characterful city, and with a clear understanding of the pitfalls.

THE GREEN CITY

Nearly half of the land area in London is green, and over a third of the land area is classified as open space. In New York the figure is 14% and in Paris it is under 10%.

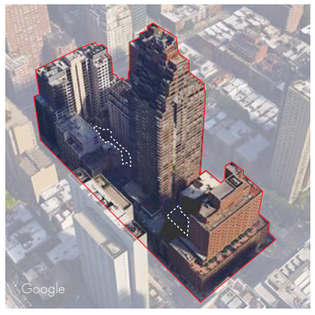
London's green character is no accident. Ever since the Great Fire, parks and street trees have formed a fundamental element of London's distinctive neighbourhoods.

Analysing London's green infrastructure has produced an interesting statistic. Rather than proportion of open space rising as one moves out from central London, the reverse is true. Central London has more green open space than Inner London, and Inner London more than Outer London. In suburbia, it is clear that private gardens have taken priority over large planned parks. In central and inner London, however, it is the planned parks and garden squares which contribute significantly to each neighbourhood's image.

STREET CHARACTER

A comparison across global cities also highlights the very different urban grain and character of streets. In New York wide streets and a regimented grid maximise the potential for tall buildings. In Barcelona, narrow streets by virtue of car-free neighbourhoods, allow a much denser set of street blocks. In London, the historic street pattern has proved flexible to intensification, but there are limits.

MANHATTAN, DISTRICT 8, BLOCK 4001



PLOT AREA
1.8HA

DENSITY
569DU/HA

FAR
8.00

STREET WIDTH
10-20m

AVERAGE BUILDING HEIGHT
17 storeys

PARKING
-

OPEN SPACE
0

PRIVATE OPEN SPACE
898m²

BROOKLYN, GATES & TOMPKINS AVENUE

PLOT AREA
1.44HA

DENSITY
308DU/HA

FAR
2.16

STREET WIDTH
10m

AVERAGE BUILDING HEIGHT
3 storeys

PARKING
On street

OPEN SPACE
0

PRIVATE OPEN SPACE
4,021m²

PLAINE MONCEAU, PARIS

PLOT AREA
1.8HA

DENSITY
225DU/HA

FAR
3.8

STREET WIDTH
7-20m

AVERAGE BUILDING HEIGHT
5 storeys

PARKING
on street

OPEN SPACE
0

PRIVATE OPEN SPACE
1,170m²

CITES DE FLEURS, PARIS

PLOT AREA
2.2HA

DENSITY
74DU/HA

FAR
1.50

STREET WIDTH
7-20m

AVERAGE BUILDING HEIGHT
6 storeys

PARKING
On street

OPEN SPACE
0.8HA (Cite des fleurs)

PRIVATE OPEN SPACE
4,400m²

TYPICAL BARCELONA BLOCK

PLOT AREA
1.31HA

DENSITY
230DU/HA

FAR
4.70

STREET WIDTH
10m

AVERAGE BUILDING HEIGHT
6 storeys

PARKING
on street

OPEN SPACE
0

PRIVATE OPEN SPACE
2,760 - 1,241m²

GOTHIC QUARTER, BARCELONA

PLOT AREA
0.47HA

DENSITY
400DU/HA

FAR
4.41

STREET WIDTH
3-5m

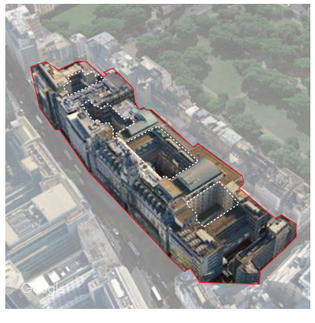
AVERAGE BUILDING HEIGHT
5 storeys

PARKING
outside of the area

OPEN SPACE
0

PRIVATE OPEN SPACE
550m²

BLOOMSBURY, LONDON



PLOT AREA
0.74HA

DENSITY
150DU/HA

FAR
6.5

STREET WIDTH
9-16m

AVERAGE BUILDING HEIGHT
8 storeys

PARKING
on street and underground

OPEN SPACE
3.5HA (Lincoln's Inn Fields)

PRIVATE OPEN SPACE
1,500m²

GUILFORD STREET, LONDON

PLOT AREA
0.6HA

DENSITY
70DU/HA

FAR
2.5

STREET WIDTH
6-10m

AVERAGE BUILDING HEIGHT
3.5 storeys

PARKING
on street

OPEN SPACE
5.7HA (Coram's Fields)

PRIVATE OPEN SPACE
1,700m²

METHODOLOGY

The methodology behind the mapping process involves a multilayering of spatial data. In order to make sense of this complex image of London the data has been simplified and key areas highlighted, creating a diagram for interpretation at a wider scale.
In order to give a sense of the key issues in more detail, a "transect" illustrating the finer grain of the original data has been chosen as an example. This represents the depth of information that can be produced for any defined area within London.

1. HISTORICAL SPRAWL

The first step is to map the development and sprawl of london, mapping the urban footprint of key character areas. This drawing forms a basemap which gives a simplified version of a more complex reality in terms of historic development and character.

SOURCES:
HOEFNAGEL'S MAP OF LONDON, 1572
DAVIES, 1847
STANDFORD, 1884

2. LAND USES

The second layer adds greater detail to represent unique characteristics such as green spaces, the Green Belt, 19th century industry, infrastructure, waterways, high roads and Heathrow airport.

SOURCES:
LAND USE DATA
ANCIENT / ROMAN ROADS
GREEN SPACE LAND USE DATA
DESIGNATED GREEN BELT
STANDFORD, 1884

3. TOWN CENTRES

"London's Town Centre Network" is mapped in relation to its historic development and distinctive character and urban structure. This layer includes the following categories in chronological order - high road, former medieval market, historic, railway, industrial and 20th Century town centres.

SOURCES:
LONDON'S TOWN CENTRE NETWORK
ROCQUE, 1762
OS SIX INCH MAP SERIES 1863-1870
LIST OF MARKET TOWNS WITH ROYAL CHARTER
OS ONE INCH TO THE MILE SERIES 1896
OS SIX INCH MAP 1913-1915

LONDON'S DIVERSE CHARACTER

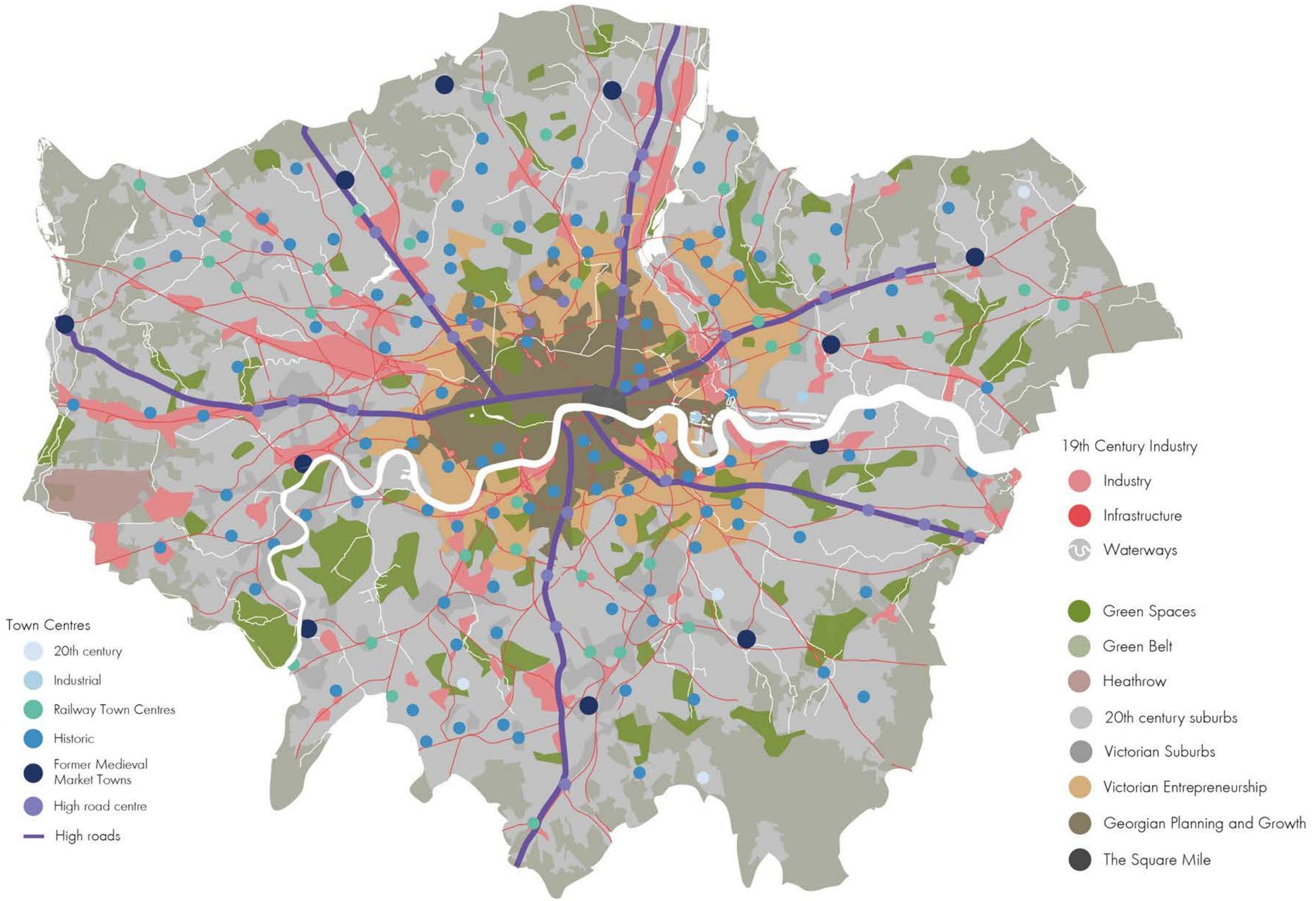
ENDURING CHARACTER TYPES

Understanding the underlying character of different parts of London is fundamental to setting out a strategy for future growth. This study has established a broad characterisation of Greater London as a proactive contribution to the debate around the residential density matrix and its application alongside a wider consideration of land uses.

The character areas have been defined using a series of detailed information layers, including historic maps, historic and current land use, street structure, transport infrastructure, existing densities and heritage designations. This resulting map is set at a broad enough scale to be useful to strategic planning, but is supported by detailed information to allow for more area specific interrogation.

The historic evolution of London has been used as the primary factor in the definition of character areas. The areas start with the original outline of Londinium and then move out with each period of growth. Information about land use, density, infrastructure and street morphology has then been used to establish a more nuanced interpretation of character.

The larger green spaces have been identified and defined as their own character area, albeit the map illustrates just how fundamental green infrastructure is throughout London. At the outer edges, the Green Belt takes up nearly 20% of London's land area.



TAKING A TRANSECT THROUGH LONDON

The diversity of London is illustrated by taking a transect right through the city. The shift from Green Belt and relative countryside at its outer limits through to the dense city core and metropolitan centres is clear. Four areas have been highlighted to illustrate typical characteristics.

EDGWARE

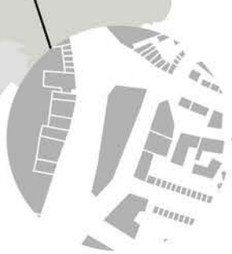
Town centre historically established on the Edgware Road, but which grew as a result of railway development. Clear and cohesive high street surrounded by Victorian residential streets.

CITY OF LONDON

Historic street pattern with fine grain, high density built fabric. Narrow streets with generally medium rise development. Clusters of taller buildings have emerged within the street blocks over the last decades.

OLD KENT ROAD

Ancient high road into London, with mix of residential neighbourhoods and industrial areas juxtaposed.

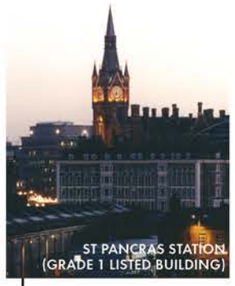


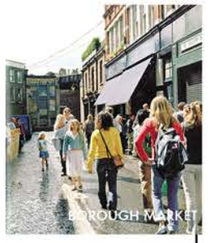
LEWISHAM

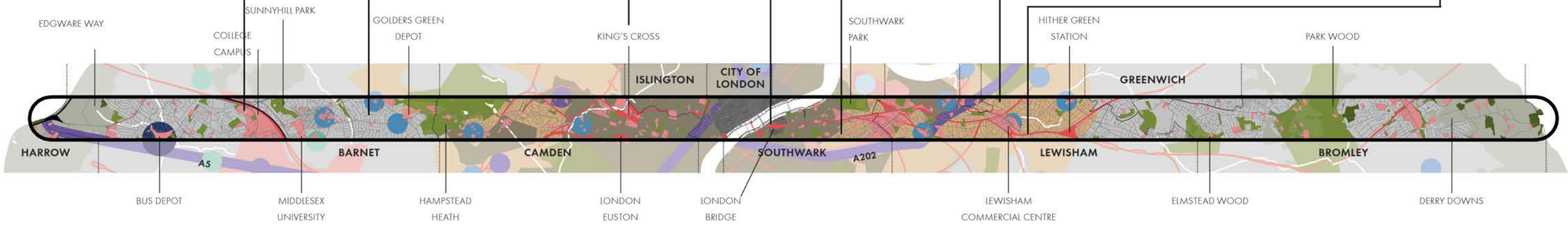
Historic town centre which has experienced waves of redevelopment and recent intensification.

HERITAGE ASSETS

Each of the character areas contain heritage assets, and taking any transect through London will reveal a multitude of listed buildings, conservation areas and other valued assets. These heritage assets contribute significantly to the character of each area and neighbourhood.







Town Centres
- 20th century
- Industrial
- Railway Town Centres
- Historic
- Former Medieval Market Towns
- High road centre
- High roads

19th Century Industry
- Industry
- Infrastructure
- Waterways

- Forest
- Green Spaces
- Green Belt
- Heathrow
- Borough Boundary

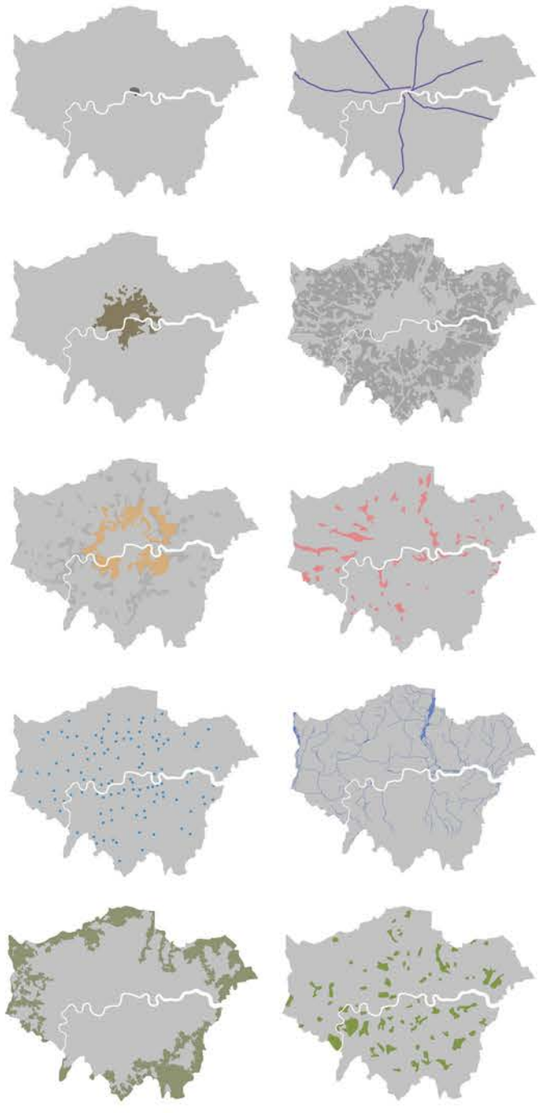
- 20th century suburbs
- Victorian Suburbs
- Victorian Entrepreneurship
- Georgian Planning and Growth
- The Square Mile

INTRODUCTION

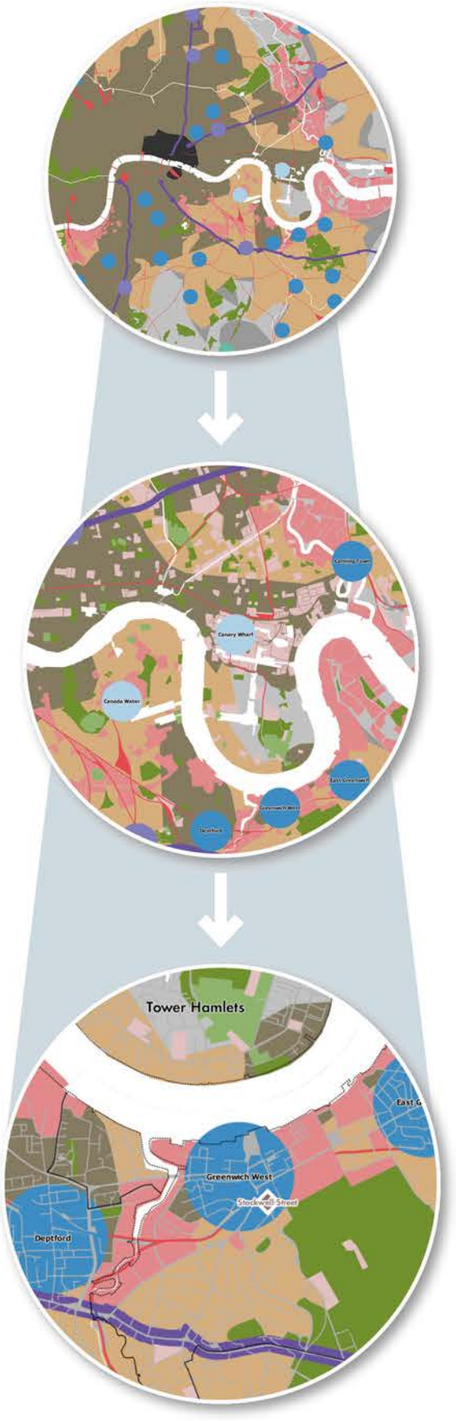
The research has identified 15 character areas / types. The following pages summarise the character of each of these, exploring street pattern and structure, block dimensions, public realm, prevailing densities. The common heritage assets of each character type are outlined alongside commentary on the trends identified and the capacity of these areas to accomodate growth.

1. The square mile / Londinium
2. Georgian planning and growth
3. Victorian entrepreneurship / suburbs
4. Historic villages
5. Former medieval market towns
6. High roads
7. Railway town centres
8. 20th century centres
9. 20th century suburbs
10. 19th century industry
11. Waterways
12. River Thames
13. Green Belt
14. Green spaces
15. Heathrow

In each case, the report identifies the proportion of London covered on the character and the amount which is currently designated for growth. It is important to note that town centres have been represented diagrammatically, rather than the detailed extents.



EXAMPLES OF LAND COVERAGE OF CHARACTER TYPES



The mapping tool is underpinned by detailed land use and character information can be examined at a finer grain depending on the scale of interest.

SCALE 1 - CITY

1:350,000 - 1:60,000

A simplified version of London's reality, at its base the historical growth overlayed by a generalised selection of important land uses.

SCALE 2 - REGION

1:60,000 - 1:30,000

A more refined version of the land uses reveals a more realistic representation of space. Smaller scale open spaces, retail uses and industrial areas are included.

SCALE 3 - URBAN

1:30,000 and smaller

The last tier of detail includes a detailed road network, annotated areas and their boundaries and handpicked development examples that represent each character.

KING WILLIAM STREET

CITY OF LONDON

FAR
5.3-10

TYPICAL BLOCK DIMENSIONS
90X40M
45X50M
40X70M
90X85M

TYPICAL STREET WIDTHS

KING WILLIAM STREET	16M
CANNON STREET	15-18M
FENCHURCH STREET	11-13M
LOMBARD STREET	7-9M
MILK STREET	7-9M

PUBLIC SPACES

GUILDHALL YARD	0.2HA
ST. PAUL'S	1HA
POSTMAN'S PARK	0.25HA
FINSBURY CIRCUS	0.85HA

EXCEPTIONS
BARBICAN
SMITHFIELD
MARKET
BISHOPSGATE

1. THE SQUARE MILE / LONDINIUM

This character area takes in pre-Georgian London, or Londinium - the original heart of London within the city walls. This area includes the City of London and crosses the river to include a small part of the Southwark Thames waterfront. This character area is the financial heart of the capital and, as its oldest piece, contains a high incidence of designated historic assets.

Map starting point: Hoefnagel's map of London, 1572

Key characteristics:

- Fine and tight urban grain
- Narrow streets in the main
- Rarely recti-linear blocks
- Historic street pattern is a key determinant
- Set pieces of larger public realm such as St Pauls/ Guildhall
- Smaller spaces associated with churchyards
- Historic courtyards survive
- Roof spaces increasingly important
- Primarily office, commercial and civic uses

Heritage assets:

- Relative comprehensive coverage of heritage designations
- Area includes a World Heritage site and some of the most photographed and internationally significant historic buildings and monuments

Trends:

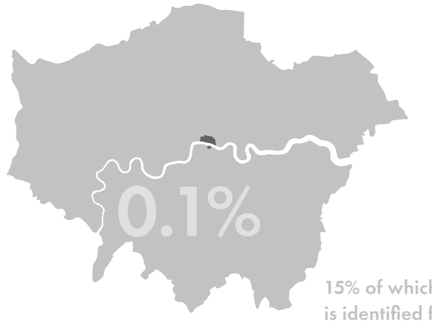
- Building footprints becoming larger
- Buildings becoming taller
- New public realm delivered at height
- Re-introduction of residential uses

Prevailing density:

- FAR ranges from 5 to 10
- 56ppha or 25dph (average)
- Prevailing building height of 4-5 storeys, with clusters of much taller buildings
- Street widths range from 7-18m

Capacity commentary:

The Square Mile has shown its flexibility over the centuries to accommodate high densities and a range of uses. The historic street pattern has endured and has allowed the buildings to churn within this structure within certain limits. Further intensification will need to maintain the grain, street structure, and therefore sunlight/daylight limitations will largely determine the level of intensification on any plot. Tall buildings will be limited by the setting of heritage assets and key views, as well as the prevailing building heights along streets. The provision of green infrastructure is limited and the introduction of residential development into this already high density environment will require the planning of private and communal open space on site.



15% of which is identified for growth

LEADENHALL MARKET

LIME STREET

CANNON STREET AND QUEEN VICTORIA STREET

THE GHERKIN

ST. PAUL'S CATHEDRAL

MARYLEBONE STATION

MARYLEBONE

FAR
3.15-5.8

TYPICAL BLOCK DIMENSIONS
90X80M (45X80M TO MEWS)
70X220M (40X220M TO MEWS)
125X55M (45X55M TO MEWS)
90X55M

TYPICAL STREET WIDTHS
PORTLAND PLACE 31M
UPPER WIMPOLE STREET 10M
YORK TERRACE EAST 9M
HARLEY STREET 10M
ALBANY STREET 13M

PUBLIC SPACES
BRYANSTON SQUARE 0.85HA
PORTMAN SQUARE 1.25HA
DORSET SQUARE 0.4HA

EXCEPTIONS
HAREWOOD AVENUE
ST. GEORGE'S FIELDS

NOTTING HILL

FAR
1.5-3

TYPICAL BLOCK DIMENSIONS
80X200M
115X180M

TYPICAL STREET WIDTHS
LADBROKE GROVE 30-34M
PORTOBELLO ROAD 11M
DENBIGH CLOSE (MEWS) 5M

PUBLIC SPACES
LADBROKE SQUARE GDNS 2.65HA
HOLLAND PARK 22.5HA
PEMBRIDGE SQUARE GDNS 0.55HA

EXCEPTIONS
PORTOBELLO COURT
SHELDRAKE PLACE

2. GEORGIAN PLANNING AND GROWTH

This character area covers the growth built in the Georgian period (including Regency development) and some development which occurred in the early Victorian period but which was planned and built in the same vein as the Georgian era (c. 1680-1840). It includes the Great Estates of Marylebone, Bloomsbury and Regents Park. It also includes the Palace of Westminster and Whitehall as the development around these world reknowned areas has more in common in terms of character with Georgian growth.

Map starting point: Davies, 1847

Key characteristics:

- Strong recti-linear grid of blocks
- Blocks commonly cut in half by mews
- Strong hierarchy of streets
- Grand gestures such as crescents
- Generous parks form centre pieces

Heritage assets:

- Most of this character area is covered by conservation areas with a high incidence of listed buildings
- Royal Parks, royal/aristocracy residences and grand civic buildings are common and have an important influence on local character

Trends:

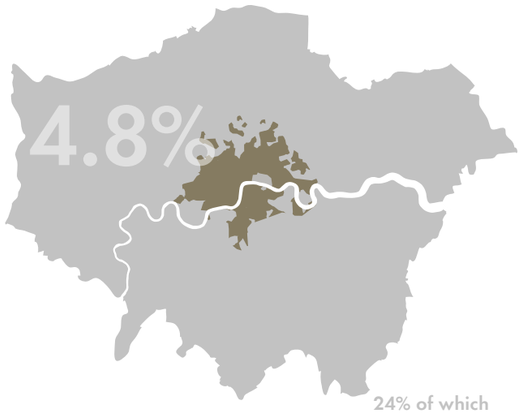
- Lack of scope for extensions has resulted in demand for basement development
- Non-residential sites are being redeveloped as residential/residential mixed use
- New private gated developments of 5-6 storey blocks around courtyard

Prevailing density

- FAR ranges from 1.5 to 6
- 137ppha or 62dph (average)
- Prevailing building height of 3-4 storeys
- Street widths range from 5-34m

Capacity commentary:

The strong planned grain and street pattern determines the scope for intensification, with the street character uniformity limiting increases in building height or variation in block form. A common opportunity for intensification is the conversion or redevelopment of single residences into multiple apartments.



24% of which is identified for growth

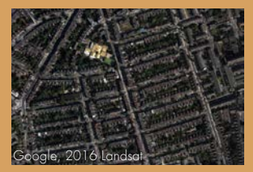
PALACE OF WESTMINSTER

BEDFORD SQUARE

BRITISH MUSEUM

BELGRAVIA

HOLLAND PARK



LOWER CLAPTON

FAR
1.5-2

TYPICAL BLOCK DIMENSIONS
120X50M
200X55M
115X60M

TYPICAL STREET WIDTHS
GLENARM ROAD 14-16M
CLIFDEN ROAD 15-18M
ELDERFIELD ROAD 16M

PUBLIC SPACES
MILLFIELDS PARK 22HA

FEW SPACES WITHIN TERRACED SECTION

EXCEPTIONS
SCHOOL SITES

FULHAM

FAR
2-3

TYPICAL BLOCK DIMENSIONS
50X235M
45X160M
200X50M

TYPICAL STREET WIDTHS
COLEHILL LANE 14M
FULHAM ROAD 15M
PARSONS GREEN LANE 10M

PUBLIC SPACES
PARSON GREEN 1.2HA
SOUTH PARK 7.9HA
MOAT GARDENS 1.4HA

EXCEPTIONS
HURLINGHAM PARK
CLEM ATTLEE COURT

3. VICTORIAN ENTREPRENEURSHIP / SUBURBS

This area takes in the growth which extended out from Georgian London and includes a mix of uses. Essentially this is city fringe and includes the band of residential Victorian terraced streets which encircles the city. The development of the railways was instrumental to this period of growth. This area includes a wide range of Victorian housing from the villas of Bedford Park through to classic two up two down terraced streets.

Map starting point: Standford, 1884

Key characteristics:

- Strong rectilinear grid
- Consistent block and street widths, varying lengths
- Consistent building height (higher elements relate to more important streets)
- Rear gardens and tree lined streets
- Green infrastructure tends to be in single larger pieces rather than pocket parks

Heritage assets:

- Extensive conservation areas
- Public houses
- Churches, town halls and civic buildings
- Cemeteries

Trends:

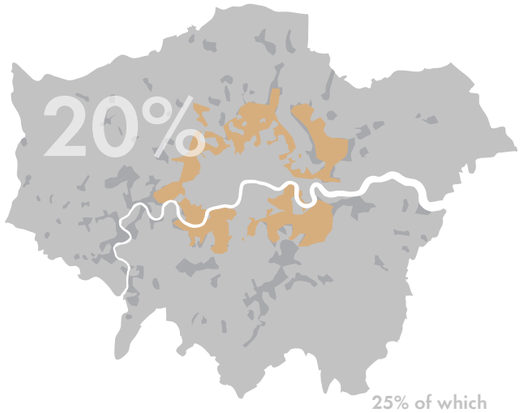
- Rear extensions
- Division into flats
- Flexibility of the format has allowed changes of use primarily at ground level but also upper floors in some instances

Prevailing density

- 70-150 dwellings per ha
- 155-330 ppha or 70-150dph
- FAR ranges from 1.5 to 3
- Prevailing building height of 2-3 storeys
- Street widths range from

Capacity commentary:

The Victorian street block has proved enduring and flexible to changing demands. Within key parameters there is scope for redevelopment and intensification. The building line and prevailing building height are important parameters. Opportunities exist to introduce flatted typologies into the street block with deeper footprints and differing models of private open space. The block dimensions allow for a range of uses to be inserted sensitively.



25% of which is identified for growth


LEYTON


TEDDINGTON (THE PARK HOTEL)


CONINGHAM ROAD (SHEPHERD'S BUSH)


NOEL PARK


STAMFORD STREET

HIGHGATE

FAR
1-2.5

TYPICAL BLOCK DIMENSIONS
25X40M
60X55M
115X80M

TYPICAL STREET WIDTHS

HIGH STREET	9-18M
TOWNSEND YARD	4-5M
HAMPSTEAD LANE	13-15M
SOUTHWOOD LANE	8-12M

PUBLIC SPACES

POND SQUARE	0.25HA
WATERLOW PARK	0.25HA

EXCEPTIONS
HIGHFIELDS GROVE

CROUCH END

FAR
2-3

TYPICAL BLOCK DIMENSIONS
50X100M
65X180M
70X185M

TYPICAL STREET WIDTHS

THE BROADWAY	16-25M
MIDDLE LANE	13-18M
COLERIDGE ROAD	16-19M

PUBLIC SPACES
TOWN HALL SQUARE
0.07HA
PRIORY PARK
6.5HA

EXCEPTIONS
CIVIC QUARTER (20TH C)

4. HISTORIC VILLAGES

London is a city of villages. Successive waves of urbanisation have taken in rings of villages into the capital. The high street and market square is retained, the village green or park stays, and the core historic fabric survives. All around it new, largely suburban, development takes place, swelling the catchment population and putting increased pressure on the village centre.

These villages pre-date the arrival of the railways. Common characteristics include a junction or former turnpike with village green/church.

Map starting point: Rocque, 1762 and OS Six Inch Map series 1863-1870

Key characteristics:

- Strong frontage on to main route and around historic junctions
- Fine grain and layered character
- Historic landmarks are tallest elements
- High Street can form a funnel to approaching routes – topography is often a factor determining this characteristic
- Historic centre has few recti-linear blocks, whilst the Victorian growth is typically recti-linear in pattern

Heritage assets:

- These centres are usually conservation areas and include a number of listed structures
- Village greens
- Historic churches
- Former estates and grand houses
- Ancient / veteran trees
- Historic shop frontages

Trends:

- The heritage of these centres has protected them from extensive redevelopment except where bomb damage required this.
- Rear extensions
- Conversion of civic or non-residential buildings to mixed use / residential.

Prevailing density

- 30-120ppha or 14-54dph
- FAR ranges from 1 to 2.5
- Building height generally 2-3 storeys
- Street widths range from 4-25m

Capacity commentary:

A desire to protect these historic centres has meant relatively little major development has taken place. This attitude will endure and the importance of the heritage assets in these centres will continue to limit the scope for intensification. That said, some centres have seen less sensitive development inserted over the last decade which could offer opportunities for redevelopment and intensification.


GREENWICH


CROUCH END


HARMONDSWORTH


RAINHAM

UXBRIDGE

FAR
1.5 - 2

TYPICAL BLOCK DIMENSIONS
80X110M
65X130M
40X80M
175X250M (SHOPPING CENTRE)
170X75M (RESIDENTIAL AREA)

TYPICAL STREET WIDTHS

HIGH STREET	12-18M
WINDSOR STREET	7-10M
HILLINGDON RING ROAD	35M
HILTON ROAD	15M

PUBLIC SPACES

HIGH STREET SQUARE	0.08HA
FASSNIDGE PARK	3.1HA
ROCKINGHAM REC GD	3.6HA
CIVIC CENTRE SQUARE	0.2HA

EXCEPTIONS
CAPITAL COURT

ROMFORD

FAR
1.4 - 2

TYPICAL BLOCK DIMENSIONS
120X85M
45X150M
70X130M
125X65M

TYPICAL STREET WIDTHS

SOUTH STREET	13-23M
MARKET PLACE	38-46M
ST EDWARDS WAY (RING ROAD)	26-37M
REGARTH AV	17M

PUBLIC SPACES

MARKET PLACE	0.5HA
COTTONS PARK	5.7HA

EXCEPTIONS
QUEEN'S HOSPITAL

5. FORMER MEDIEVAL MARKET TOWNS

This character area includes those historic centres that are Market towns dating from the Medieval period with a charter. These centres are now much large town centres, with most now "metropolitan town centres" such as Croydon and Uxbridge.

Map starting point: List of market towns with Royal Charter

Key characteristics:

- Market space – whether a market square, wide market street or market hall
- Historic high street with key civic buildings
- Often positioned on a river
- Majority are now bypassed and therefore have a ring road around the centre
- Bomb damage or economic shift resulted in large scale redevelopment, often retail based

Heritage assets:

- Market space and surrounding structures
- Listed buildings dating back as far as the medieval period
- Central conservation areas – generally related to high street/old town and surrounding residential streets
- Waterside spaces

Trends:

- Redevelopment of shopping centres – both central and out of town – has been the focus of regeneration in most of these centres.
- Introduction of higher density residential formats into the centres to support mixed use activity objectives.

Prevailing density

- FAR ranges from 1.5 to 2.5
- 55ppha or 22dph (average)
- Prevailing building heights of 2-4 storeys with bulkier/mid rise elements increasingly introduced over the last 50 years.
- Street widths range from 7-37m

Capacity commentary:

Generally the former market towns have a historic high street largely intact. Larger scale retail led development has been plugged into this, with other commercial and office buildings developed around the edge. Many of the market towns also contain Victorian residential streets within the scope of the centre. Most of these centres have seen significant redevelopment over the last 20-30 years with a major uplift in the quantum of residential development now contained within the metropolitan centre boundary. The large floorplates introduced in the post-war era and late 20th Century have provided a basis for introducing large footprint apartment / mixed use blocks. This has not always been to the benefit of the historic character of the centre. Opportunities to re-introduce a finer grain street block reflecting the historic character of the centre could yield significant capacity and likely prove a more efficient use of space.


EDGWARE


CROYDON OLD TOWN


ENFIELD TOWN


KINGSTON-UPON-THAMES

EDGWARE ROAD

FAR
3 - 4

TYPICAL BLOCK DIMENSIONS
30X140M
25X80M
130X80M

TYPICAL STREET WIDTHS
EDGWARE ROAD 11-30M

PUBLIC SPACES
KILBURN HIGH RD SPACE 0.1HA

OLD KENT ROAD

FAR
1.2 - 3

TYPICAL BLOCK DIMENSIONS
60X80M
170X70M
150X130M

TYPICAL STREET WIDTHS
OLD KENT ROAD 28M
COOPER ROAD 14M
ALBANY ROAD 10M

PUBLIC SPACES
BURGESS PARK 53HA
BRIMMINGTON PARK 2.1HA

6. HIGH ROADS

These are the primary ancient radial routes out of London. These routes often have continuous retail frontage along them and act as a series of town centres serving the neighbourhoods that lie either side of the high roads. Many of the centres which grew up along these high roads have a long history.

A series of long linear routes running out of London form a focus for vehicular movement and retail activity. Many have also formed the centre line for rail lines and underground networks.

Map starting point: Ancient / Roman roads.

Key characteristics:

- Shallow block depths with retail fronting high road, and service lane at rear
- Or deep blocks completed with terraced streets.
- Primarily tight enclosure of street at pavement edge, but many exceptions to this outside core centres

Heritage assets:

- Archaeological priority zones
- Ancient street alignments
- Historically important public houses/coaching inns
- Listed structures along high roads
- Historic station buildings
- Views into central London

Trends:

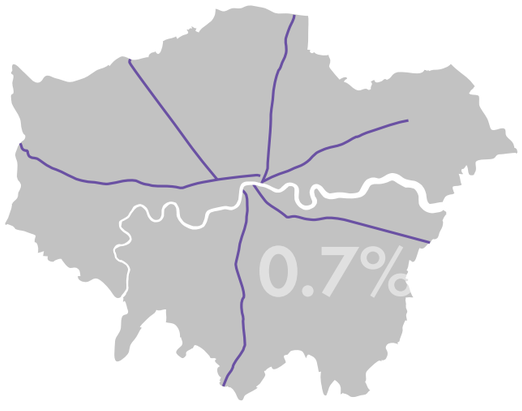
- Significant intensification and churn along road edge
- Lots of post-war towers
- With many high roads supplemented by underground/rail lines, density has increased in and around high road centres

Prevailing density

- 160-200ppha or 72-90dph
- FAR ranges from 1 to 4

Capacity commentary:

The historic routes into London have long been the focus of development. As London expanded, and transport corridors established along them, they have successively intensified. From a historic standpoint, sections of these high roads could therefore form sensible targets for ongoing growth. A key balance to be achieved is how growth on the road itself relates to lower scale neighbourhoods behind.



18% of which is identified for growth


STRATFORD HIGH STREET


UXBRIDGE ROAD (SHEPHERD'S BUSH)


OLD KENT ROAD


OXFORD STREET

SOUTHGATE

FAR
1.4 - 1.8

TYPICAL BLOCK DIMENSIONS
200X100M
400X90M
100X160M

TYPICAL STREET WIDTHS

CANNON HILL	13-15M
THE BOURNE	13-15M
GREENWAY	9M

PUBLIC SPACES

OAKWOOD PARK	24HA
BROOMFIELD PARK	20HA
ARNOS PARK	16HA

WEST NORWOOD

FAR
1.4 - 2

TYPICAL BLOCK DIMENSIONS
200X80M
100X120M
100X90M

TYPICAL STREET WIDTHS

NORWOOD HIGHT ST	17-20M
AUCKLAND HILL	14M
THURLESTONE ROAD	9M

PUBLIC SPACES

NORWOOD PARK	14HA
WEST NORWOOD CEMETARY	16HA
TRIVOLI PARK	1.5HA

EXCEPTIONS
-

7. RAILWAY TOWN CENTRES

From the 1830s, the railway network developed extensively with multiple lines coming in and out of London. Many of the new stations established in outer London formed the focus for new town centres and housing development. Indeed, in some cases the railway companies themselves took an active role in developing these centres and the surrounding neighbourhoods.

This character area identifies the town centres which emerged as a result of a new rail station and associated development. It includes the early 20th century 'Metroland' areas associated with the Metropolitan Railway including Ruislip, Northwood and Rayners Lane as well as centres such as Southgate and New Barnet.

Map starting point: OS Six Inch Map series 1863-1870, OS One Inch to the Mile series 1896 and OS Six Inch Map 1913-1915

Key characteristics:

- Rail line frequently determines street geometry
- Shallow block depths with terraced streets
- Commerical use focused on high street often with distinct architectural style
- Larger commercial or institutional buildings close to high street and central station

Heritage assets:

- Landmark station buildings
- Sections of co-ordinated streetscape
- Conservation areas
- Historically important public houses
- Listed buildings
- Rail bridges

Trends:

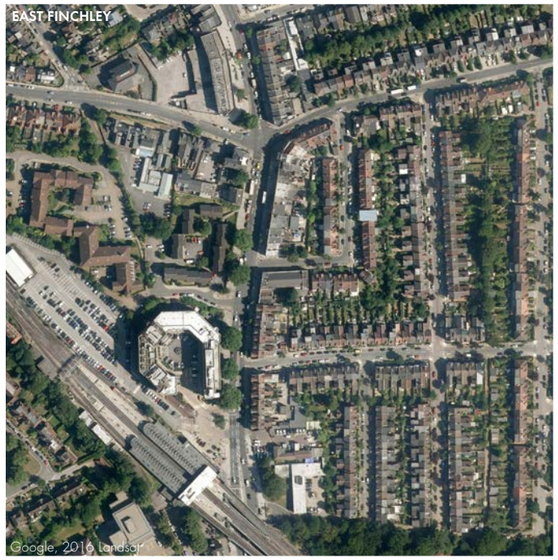
- Intensification of central hub arround the station
- Partial redevelopment of high street to introduce greater residential use at upper floors

Prevailing density

- 78ppha or 35dph
- FAR ranges from 1 to 2

Capacity commentary:

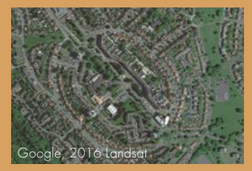
In some centres, opportunities to intensify the back of retail blocks on the high street exist. The strong architectural style means intensification around the station and high street can be problematic. Sites at the edges of the town centres could present interesting opportunities to strengthen the centres.



CANARY WHARF

FAR
8 - 30

TYPICAL BLOCK DIMENSIONS	TYPICAL STREET WIDTHS		PUBLIC SPACES	
200X100M	W INDIA AVENUE	30M	JUBILEE PARK	1.5HA
62X100M	UPPER BANK STREET	20M	ICE RINK	0.5HA
350X63M	CANADA SQUARE	15M		



NEW ADDINGTON

FAR
1.2 - 2

TYPICAL BLOCK DIMENSIONS	TYPICAL STREET WIDTHS		PUBLIC SPACES		EXCEPTIONS
70X120M	WOLSEY CRES	11M	ADDINGTON VALE	23HA	-
200X80M	LODGE LANE	10M	ROWDOWN FIELD	12HA	
100X150M	CASTLE HILL AVENUE	7M			

8. 20TH CENTURY CENTRES

New centres which came forward in the mid-late 20th century unrelated to Victorian railway building are relatively few in number and are generally on former industrial/ dockyard land. They are either major new central (town) centres such as Canary Wharf or Canada Water or more suburban style new centres such as East Beckton.

Key characteristics:

New Central Towns:
- New larger format and massing typologies of residential buildings
- Wide streets and building setbacks

Suburban centres:
- Planned large and narrow plots
- Terraced formats
- Retail parades with housing above
- Large open spaces

Heritage assets:
- Modern architectural designs
- Protected open spaces

Trends:
- Introduction of more residential use through mixed use intensification in the centre
- Uniformity in residential development in the outskirts

Prevailing density

New Central Towns:
- 100ppha or 45dph
- FAR ranges from 6 to 30

Suburban New Centres:
- 60ppha or 27dph
- FAR ranges from 1.2 to 3

Capacity commentary:

The industrial legacy of these areas has typically produced a coarse block structure and street pattern. This has the potential to deliver significant densities. There is an opportunity to introduce a greater mix of activities into these centres which support their vitality as many have suffered in their early form.


CANADA WATER


CANADA WATER

CANARY WHARF


CANARY WHARF

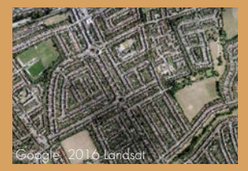
SOUTH LODGE ESTATE

FAR
0.73

TYPICAL BLOCK DIMENSIONS
265X65M
190X95M
235X125M

TYPICAL STREET WIDTHS
MERRYHILLS DRIVE 26M
CURTHWAITE GDNS 23M
LONSDALE DRIVE 30M

PUBLIC SPACES
LONSDALE DRIVE SPACE 0.7HA
BOXERS LAKE 2.8HA



RUISLIP MANOR

FAR
0.78

TYPICAL BLOCK DIMENSIONS
215X75M
205X80M
135X90M

TYPICAL STREET WIDTHS
VICTORIA ROAD 23M
SEATON GARDENS 18M
BEVERLEY ROAD 19M

PUBLIC SPACES
NEW POND DARM FIELDS 4.3HA
BESSINGBY PLAYING FIELDS 7HA

9. 20TH CENTURY SUBURBS

A large expanse of outer London has been developed as suburban housing. Typically the lowest density developed areas in London, these generally take the form of semi-detached or detached housing. Some of the most attractive examples of suburban housing were planned and developed around the expansion of the railways such as the Metroland suburbs or garden city style estates. Some of these estates are also the densest examples, with many of the garden city style examples also encompassing suburban terraces.

Key characteristics:

- Inter-war and older examples generally are perimeter block in format and comprise terraces, semi-detached and detached houses all with gardens
- Post-war and more modern suburban housing tends to be either free-form or cul-de-sac in layout
- Wide streets with street trees/grass verges as well as front gardens
- Generous plot sizes with front and back gardens
- Generally two storey development

Heritage assets:

- Planned estates with strong and cohesive architectural style
- Conservation areas
- Planned open spaces
- Street trees

Trends:

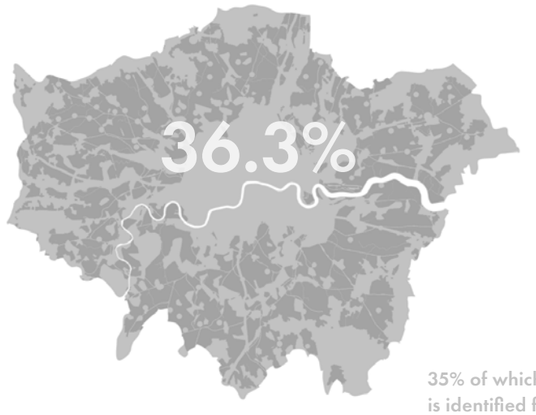
- Intensification of plots close to stations
- Backland development and sub division of plots
- Roof and rear extensions

Prevailing density

- 10-35dph or 20-80ppha
- FAR ranges from 0.3 to 0.8

Capacity commentary

Traditionally the suburbs have been considered a stumbling block to the city's intensification. However, ideas are now emerging which point towards sensitive infill, partial redevelopment and reinvented typologies that could make significant leaps forward. The potential for the classic semi-detached home to be extended and sub-divided into flats (as many Victorian terraces have been) does exist. However, this would need to be planned to ensure the supporting infrastructure can be delivered alongside.



35% of which is identified for growth

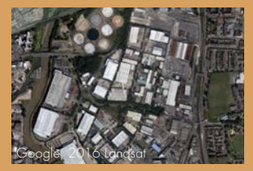

METROLAND SUBURBS IN RUISLIP


GARDEN CITY STYLE IN HILLINGDON

EASTCOTE


GARDEN CITY STYLE IN BELLINGHAM


LARGE SUBURBAN HOUSING IN ENFIELD



STAR LANE

FAR
3 - 4

TYPICAL BLOCK DIMENSIONS
300X200M
200X100M
200X70M

TYPICAL STREET WIDTHS
MANOR ROAD 15M
CODY ROAD 15M
SOUTH CRES 15M

PUBLIC SPACES
-

PARK ROYAL

FAR
1.2 - 3

TYPICAL BLOCK DIMENSIONS
400X200M
200X116M
116X116M

TYPICAL STREET WIDTHS
OLD OAK COMMON LANE 15M
VICTORIA ROAD 10M
CHANDOS ROAD 7M

PUBLIC SPACES
ACTON CEMETARY 6HA

EXCEPTIONS
-

10. 19TH CENTURY INDUSTRY

Industrial areas established during the 19th century were established across London. Larger sites were often related to water and rail infrastructure. The majority of industrial land in London today dates back to this period and therefore has a significant history.

This type includes the following sub groups:

- Industry – this includes all current industrial land as well as most of the former industrial land except where redevelopment has fundamentally changed the area's character and role (for example Canary Wharf)
- Waterways – rivers and canals, and taking in land (often originally industrial) along the waterfront
- Infrastructure - railways and associated rail land (this takes in all the rail infrastructure including terminus stations and surrounding land such as Kings Cross and Paddington)

Map starting point: Land use data and Standford, 1884

Key characteristics:

- Shallow block depths
- Lack of open space
- Rarely a perimeter block format
- Common architectural elements

Heritage assets:

- Old warehouses
- Waterside buildings
- Dockside environments
- Story of innovation

Trends:

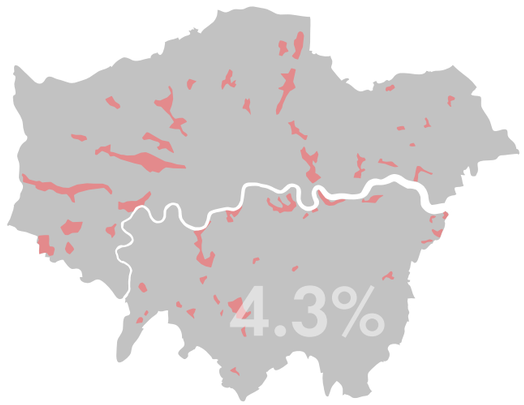
- Intensification of available land
- Re-use of old industrial buildings
- Relocation of industrial areas

Prevailing density

- 60ppha or 27dph
- FAR ranges from 1.2 to 4

Capacity commentary:

Many existing industrial areas are being identified as major opportunities for redevelopment. The generous blocks which exist provide a coarse grain from which high density forms could be extrapolated. Respecting the industrial heritage of these areas will be important, and new typologies could emerge from an appropriate character led approach.



46% of which is identified for growth

PARK ROYAL


BATTERSEA

LEA BRIDGE


NORTH GREENWICH

REGENTS CANAL (HACKNEY)

FAR
3 - 4

TYPICAL BLOCK DIMENSIONS
20X130M
40X280M
50X100M

TYPICAL STREET WIDTHS

ORSMAN RD	7-9M
DE BEAUVOIR CRES	16-17M
WHITMORE RD	13-15M

PUBLIC SPACES

KINGSLAND BASIN	0.65HA
CANALSIDE SPACE	0.3HA
WENNINGTON GREEN	1.7HA

PADDINGTON ARM OF THE GRAND UNION CANAL

FAR
1.5 - 3

TYPICAL BLOCK DIMENSIONS
15X95M
40X170M
65X45M

TYPICAL STREET WIDTHS

HORNMEAD RD	13-15M
AMBERLEY RD	12-13M
KENSAL RD	14-20M

PUBLIC SPACES

REMBRANDT GDNS	0.3HA
MEANWHILE GDNS	1.2HA+
HARROW RD CNLSIDE	0.08HA

11. WATERWAYS

The canals and rivers of London are important historic assets that provide links across the city. They are frequently lined by historic buildings - built as a result of their industrial heritage or their desirable waterside environment.

The grain of development along London's canals is often very fine and has seen significant churn. London's rivers form the environmental backdrop for many attractive residential environments across the capital. There are also many hidden rivers - whether buried entirely from view, or difficult to access behind industrial areas.

Map starting point: Green space land use data

Key characteristics:

- Development tends to address the waterways, and in the case of former industrial areas can be built up to the water's edge
- Canal basins are found across the canal network and have been the focus for intensification and mixed use

Heritage assets:

- Historic waterways
- Listed buildings
- Listed bridges

Trends:

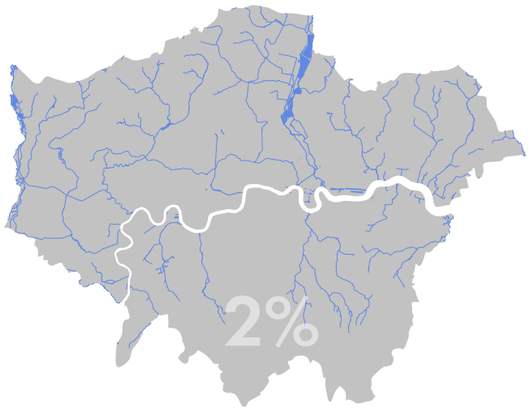
- Canalside developments have been very popular and therefore there is significant pressure for development or re-use of existing buildings
- The Lower Lea Valley has seen major intensification and transformation from an industrial environment to riverside residential neighbourhoods

Prevailing density

- 70ppha or 30dph
- FAR ranges from 1.5 to 4

Capacity commentary:

This character area has proved itself to be flexible to density, with significant uplifts achieved for example around canal basins. What is clear is that the grain of development is fundamental to supporting local character. Ensuring the variety in buildings is maintained within relative small sections is important. Historically building heights have been between two and six storeys, with some higher examples around canal basins. Introducing new typologies and greater density needs to be very carefully balanced with the historic grain of these environments.



16% of which is identified for growth


REGENT'S CANAL


ST KATHARINE DOCKS

KINGSLAND BASIN


KING'S CROSS, GRANARY SQUARE

SOUTHBANK

FAR
2 - 6

TYPICAL BLOCK DIMENSIONS
100X140M
75X150M
125X120M

TYPICAL STREET WIDTHS
UPPER GROUND 20-40M
SOUTHBANK PATH 10-20M

PUBLIC SPACES
BERNIE SPAIN GARDENS 0.9 HA
JUBILEE GARDENS 1.2 HA

BECKTON

FAR
2 - 4

TYPICAL BLOCK DIMENSIONS
84X100M
70X53M
96X42M

TYPICAL STREET WIDTHS
FERNDALE STREET 13M
WOOLWICH MANOR WAY 10M

PUBLIC SPACES
NEW BECKTON PARK 8.1 HA
BECKTON DISTRICT PARK 14 HA

12. RIVER THAMES

London is defined by its river. It is the reason for its existence and the backdrop for two millennia of its history. Historically, it became London's neglected back door, but is now firmly centre stage.

The manner in which buildings and spaces address the river varies significantly along its path, but it is the river's sheer scale that sets it apart from other waterways.

Map starting point: Green space land use data

Key characteristics:

- Between Vauxhall Bridge and Tower Bridge, blocks sit either directly facing the riverside with a road running behind them or are set back behind a major road
- In the western sections of the river the riverside is characterised more by landscape features and major parks
- In the eastern section the arrangement of former docks dominates the relationship with the waterside

Heritage assets:

- The River Thames is by its nature the most historic feature of London
- Some of the most famous views in London
- A multitude of listed buildings and conservation areas
- World Heritage sites of Tower of London, Palace of Westminster, Kew Gardens and Maritime Greenwich

Trends:

- Eastern section of the river has seen significant intensification with residential developments up to 20 storeys facing the river
- The central section of the Thames has seen pockets of intensification such as Vauxhall / Nine Elms
- To the west of central London there has been less change

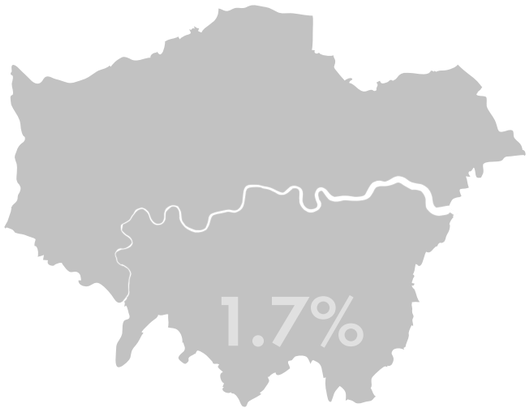
Prevailing density

- FAR ranges from under 1 in the west to 10+ in central pockets
- 75ppha or 34dph

Capacity commentary:

The demand for development alongside the river is almost unparalled in London. The last two decades have seen significant redevelopment and intensification. There is a need to re-evaluate the current trend and the impact new development is having on the river space and setting.

It is imperative that new development understands, addresses and reinforces the character of the river rather than simply exploiting it. Such a re-evaluation need not limit this character area's capacity to contribute to growth.




NEAR MILLENNIUM BRIDGE


GREENWICH PENINSULA


PALACE OF WESTMINSTER


RIVER THAMES LOOKING NORTH FROM VAUXHALL BRIDGE

ENFIELD

FAR
0.7 - 1.3

TYPICAL BLOCK DIMENSIONS
500X500M
400X60M
80X100M

TYPICAL STREET WIDTHS

LAVENDER HILL	13M
TRINITY STREET	13M
CLAY HILL	10M

PUBLIC SPACES

HILLY FIELDS PARK	31HA
WHITEWEBBS PARK	6.3HA

HILLINGDON - HAREFIELD

FAR
1 - 3

TYPICAL BLOCK DIMENSIONS
500X500M
500X60M
130X100M

TYPICAL STREET WIDTHS

PARK LANE	15M
HIGH STREET	13M
LEYS CLOSE	10M

PUBLIC SPACES

RUISLIP WOODS	294HA
COLNE VALLEY REGIONAL PARK	11129HA

13. GREEN BELT

The Green Belt is a policy and land use designation that is used to retain areas that are undeveloped, wild or agricultural that are surrounding urban areas.

London's Green Belt covers a range of uses and different qualities of spaces, and includes within it parks, farms, golf courses and forests. Almost half of the Green Belt in London is classed as agricultural land and overall it accounts for nearly a fifth of London's land area.

Map starting point: Designated Green Belt.

Key characteristics:

- Mainly agricultural land
- Large open fields

Heritage assets:

- Protected parks and environmental assets
- Listed buildings
- Historic settlement fragments

Trends:

- Partial release of Green Belt land has been occuring for decades, generally in very small pieces immediately adjacent to the urban edge

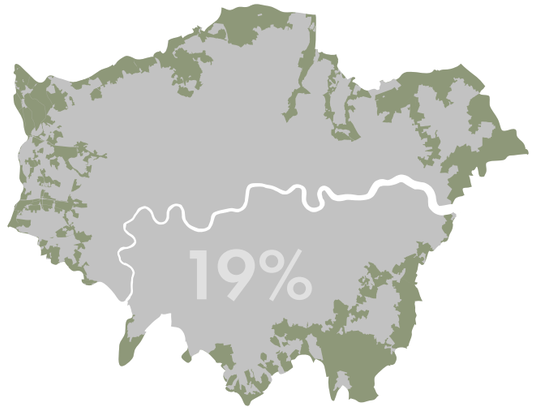
Prevailing density

- 41ppha or 18dph
- FAR ranges from 0 to 1

Capacity commentary:

At present there are a small number of studies exploring the quality and potential of areas of the Green Belt - through green belt reviews. There may be some very limited release of low quality areas which are not perfoming a positive landscape or leisure function. The nature of development likely to come forward is low scale and low density.

Those sections of Green Belt which are performing well and function positively as Green Belt present no opportunities for development growth.

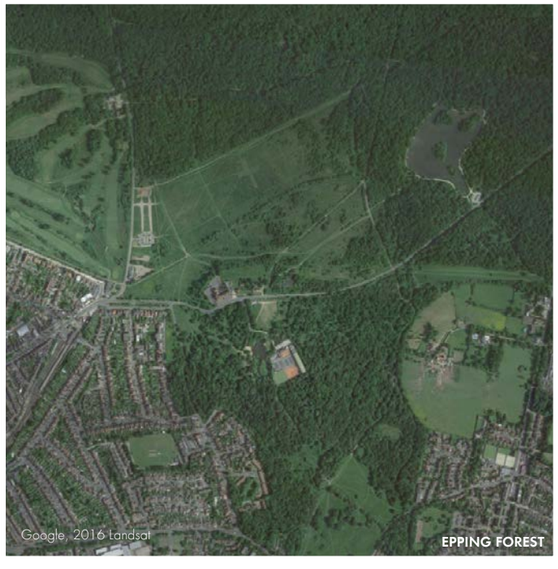


8% of which is notionally included in identified growth areas

UPPER LEE VALLEY

AGRICULTURAL LAND, ENFIELD

HILLINGDON GREEN BELT (RUISLIP WOODS)



EPPING FOREST

REGENTS PARK

FAR
3 - 4

TYPICAL BLOCK DIMENSIONS
100X70M
100X300M
150X160M

TYPICAL STREET WIDTHS
OUTER CIRCLE 17M
ALBANY STREET 15M
ROBER STREET 12M

PUBLIC SPACES
REGENTS PARK 166HA

HACKNEY DOWNS

FAR
1.7 - 3

TYPICAL BLOCK DIMENSIONS
100X60M
100X80M
300X100M

TYPICAL STREET WIDTHS
DOWNS ROAD 13M
QUEENSDOWN ROAD 15M
MONRO WAY 12M

PUBLIC SPACES
HACKNEY DOWNS 16HA

EXCEPTIONS
MOSSBOURNE ACADEMY

14. GREEN SPACES

London has over 62,000ha of public green space, around 40% of its total land area. This character area takes in all the larger areas of designated green space in London, that contribute significantly to its character. It primarily comprises large parks, but also includes other pieces of metropolitan open land and leisure spaces such as golf courses. This character type identifies larger open spaces across London which form a character area in themselves. It excludes smaller spaces which are integral to the character of many other areas. However, it is important to note that around 40% of London's land area is green space.

From the Georgian garden squares to the Victorian public parks, London has a plethora of open and private green spaces. These green spaces planned as an essential part of growth during these eras and were fundamental to the character of the neighbourhoods that surround them.

Map starting point: Green space land use data

Key characteristics:

- Public open green spaces
- Concentration of trees and vegetation
- Formal parks through to semi-natural landscapes
- Taller buildings often front on to the spaces (such as the mansion blocks around Battersea Park)

Heritage assets:

- Protected open green spaces
- Listed buildings
- Monuments
- Historic parklands including the Royal Parks

Trends:

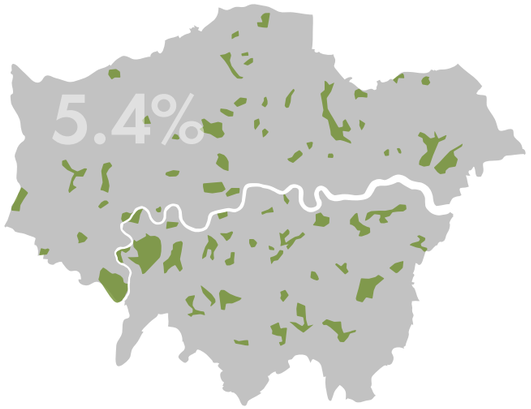
- These spaces have been largely protected from development
- Intensification of sites looking over these spaces has gathered pace over recent decades with a number of towers proposed adjacent to parks in central and inner London

Prevailing density

- 45ppha or 22dph
- FAR ranges from 1.7 to 4

Capacity commentary:

Historically the formal parks in London were edged by higher density forms. The commercial value of the views and the amenity of the parks continues to be driver, as does the physical balance between massing and open space. The edges of existing parks are often historically sensitive, but where redevelopment opportunities occur there is scope for relatively high density typologies - such as modern interpretations of the mansion block.



2% of which is notionally included in identified growth areas


OUTER CIRCLE, REGENT'S PARK


HACKNEY DOWNS


KEW GARDENS


HAMPSTEAD HEATH

BATH ROAD

FAR
1.4 - 2.5

TYPICAL BLOCK DIMENSIONS
100X150M
300X60M
120X50M

TYPICAL STREET WIDTHS
BATH ROAD 30M
SIPSON ROAD 12M
WINDSON PARK ROAD 9M

PUBLIC SPACES
CRANFORD PARK 58HA

EXCEPTIONS
HOTELS
PARKING LOTS
SHERATON SKYLINE

15. HEATHROW

Heathrow airport and its immediate environs forms a substantial land area which sits outside typical character types. This area has therefore been identified as a character area in itself.

Heathrow has a major impact on the western edge of London. It is a dominant form in terms of its land use, the infrastructure required to sustain it and the impact it has in terms of safety zones, noise and air quality. Much of the development associated with it can be characterised as modern large format buildings set well back from streets.

Map starting point: Land use data

Key characteristics:

- Large open area of hard standing infrastructure
- Associated development forms a string of large format buildings along the northern edge

Heritage assets:

- Historic villages (Harmondsworth, Sipson, Harlington, Longford and Cranford)
- Adjacent to Green Belt landscape
- Bath Road - historic key route

Trends:

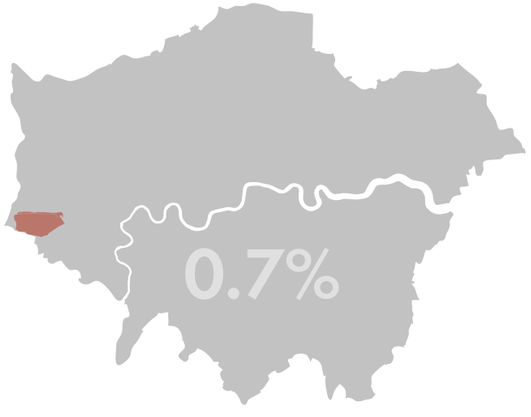
- The development of infrastructure to support the airport's operations has occurred over the past decades
- There has been a growth in hospitality and service uses associated with the airport along Bath Road
- The debate around airport expansion is ongoing

Prevailing density

- 3-58ppha or 1.4-26.3dph
- FAR ranges 1.4 - 2.5

Capacity commentary:

The capacity for intensification at Heathrow is limited by many factors including security of the airport itself and air safety zones dictating maximum building heights and noise. The Bath Road area has capacity to be intensified as the current typologies use the plots inefficiently, however, the degree to which significant development could be accommodated within substantial constraints is questionable.



62% of which is identified for growth


EDGE OF CRANFORD

HEATHROW AIRPORT AND SUPPORTING INFRASTRUCTURE


HARMONDSWORTH BARN


EASTERN EDGE OF BUSINESS ZONE

CHARACTER TYPES SUMMARY

CHARACTER TYPE	COVERAGE	% IN GROWTH AREA	AVERAGE PPHA	FAR RANGE
The square mile / Londinium	0.1%	15%	56	5 - 10
Georgian Planning and Growth	4.8%	23.7%	137	1.5 - 6
Victorian Entrepreneurship / Suburbs	20%	25%	155 - 330	1.5 - 3
High Roads	0.7%	18.2%	160 - 200	1 - 4
20th century suburbs	36%	n/a	20 - 80	0.3 - 0.8
19th century industry	4.3%	46%	60	1.2 - 4
Waterways	3.8%	32%	70	1.5 - 4
River Thames	1.7%	n/a	75	1 - 10+
Green Belt	19.4%	8.1%	41	0 - 1
Green Spaces	5.4%	1.8%	45	1.7 - 4
Heathrow	0.7%	62.2%	3 - 58	1.4 - 2.5
Historic Villages	n/a	n/a	30 - 120	1 - 2.5
Former medieval market towns	n/a	n/a	55	1.5 - 2.5
Railway town centres	n/a	n/a	78	1 - 2
20th century centres	n/a	n/a	100	6 - 30
			60	1.2 - 3

SENSITIVITIES

Overlaying the identified areas of growth over the character areas (see following page) provides an indication of where there may be sensitivities in the manner growth is accommodated.

Many of the growth areas, and in particular the Opportunity Areas, are identified on 19th century industrial areas. The benefit of this character type is that as long as the historic grain and street morphology provide the bedrock for future development there is a whole range of typologies and densities that could be accommodated. However, often the underlying character of these areas does not inform the assessment of capacity which sets the future development trajectory of the area on a worrying course. In addition, taking these areas out of industrial use should mean greater appreciation is taken of the surrounding neighbourhoods to understand how new development will knit into the fabric that will stay.

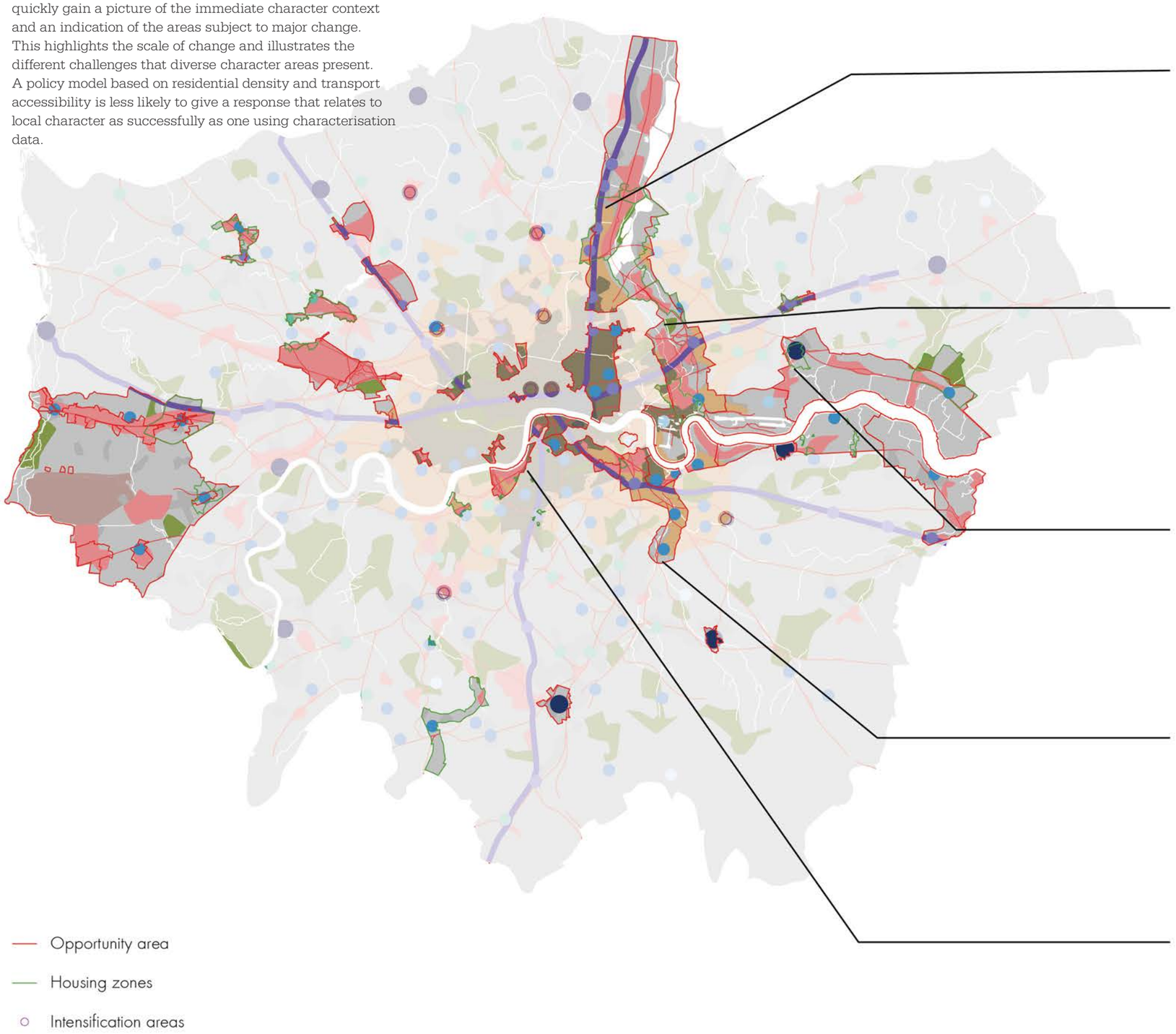
The thrust of policy in London over the last decade has been to push the highest densities to those locations with the best public transport accessibility. In many cases, this coincides with historic town centres. There is clear logic behind this, however, there have been many examples where the format of development has delivered inappropriate intensification. There is a need to have a contextual approach to how typologies are chosen and integrated into the existing fabric.

Examples:

- Bromley – a former medieval market town, now designated as a metropolitan town centre which is under pressure to deliver significant uplift in density as part of this role.
- Lewisham, Catford and New Cross – historic village centres surrounded by Victorian Entrepreneurship and Suburbs where potential future transport improvements may need to be matched by uplifts in density.
- Old Oak and Park Royal – large area of 19th century industry surrounded by Victorian and 20th century suburbs and green space, with the Paddington Arm of the Grand Union Canal running through the centre.
- Vauxhall Nine Elms – expanse of 19th century industry edged to the south and east by areas of Georgian planning and growth and Victorian Entrepreneurship and to the north by the River Thames.

GROWTH OPPORTUNITIES

By overlaying the identified areas for growth one can quickly gain a picture of the immediate character context and an indication of the areas subject to major change. This highlights the scale of change and illustrates the different challenges that diverse character areas present. A policy model based on residential density and transport accessibility is less likely to give a response that relates to local character as successfully as one using characterisation data.



EDMONTON GREEN

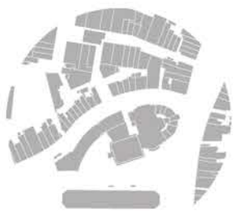
A historic centre formed around a turnpike on an ancient high road (now the A1010). The surrounding area was rapidly urbanised once the rail station was established, followed by insensitive redevelopment of the centre in the post-war era. Now part of the Upper Lea Valley Opportunity Area and linked to the Meridian Water Housing Zone, scope exists to repair the town centre with better recognition of the high road and underlying character.

LEYTON

A historic village centre which grew along the high street and became the spine for a strong network of Victorian streets. To the west is the Lea Valley and a strong historic landscape character. However, in between lie industrial areas and rail lands which form an awkward edge to the town and the valley. Opportunities to protect and reinforce the environment of key industrial areas whilst redeveloping the more transitory uses to knit the area into the wider structure exist, with potential to introduce mixed uses and higher density formats to support the existing neighbourhoods.

BARKING

A former medieval Market Town, now a Major Town Centre, lies on the River Roding and grew substantially with the arrival of the railways. The core of the town centre has seen major redevelopment, but the bones of the historic street structure still exists. The historic abbey site and grounds are retained and now divide the town centre with the industry along the riverside. Future intensification opportunities could support a much greater re-connection of the town centre to its history and the waterside.



CATFORD

Catford is a historic centre formed at the junction between Bromley Road and what is now the South Circular. Now a Major Town Centre and the focus of Lewisham's civic administration, the centre has seen successive waves of redevelopment. Opportunities to reinforce the historic fabric and street structure through future mixed use intensification exist.

VAUXHALL

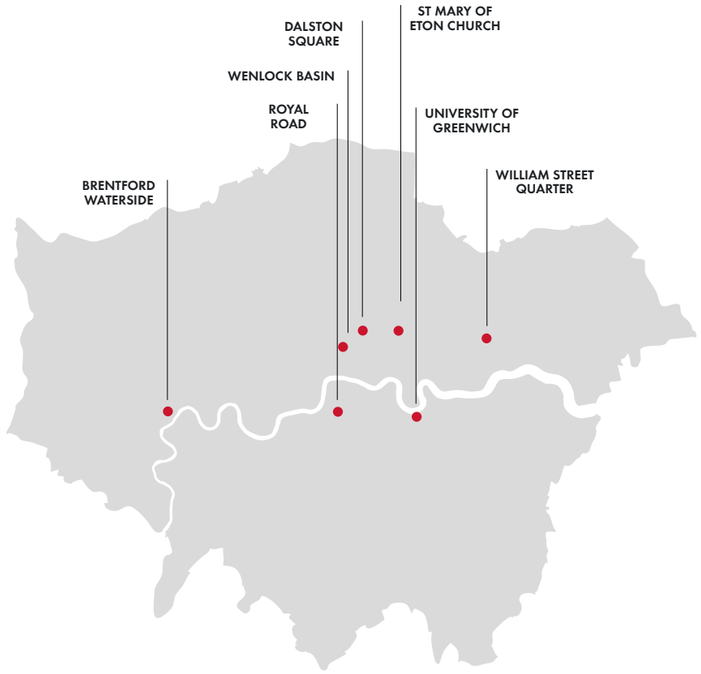
Area of 19th Century industry and Georgian planned residential development along the River Thames. The area has a rich history with residential neighbourhoods juxtaposed alongside major industry. Major redevelopment of the industrial area is now well underway with many high density elements, representing a fundamental shift in the character of the place.

GREAT EXAMPLES AND NEW IDEAS

CASE STUDIES ACROSS THE CHARACTER AREAS

In order to illustrate the potential of the different character areas we have chosen successful and interesting case studies that illustrate positive contextual high density (compared to pre-existing) development. The variety of the selected projects represents different character areas and types of development. The selection shows how London can be intensified through careful planning, creative thought and good design, applied to different locations and scales. Some of the projects are still in development but are nevertheless selected for their design approach in the specific area.

The projects have been analysed and key information is presented in terms of the type of the development, the resulting density and the ultimate capacity. In order to compare the projects to the existing areas, their FAR (Floor Area Ratio) is calculated and compared to the existing average FAR of the surrounding area. Finally, the historic evolution of the area of the project is presented in order to appreciate how the past street pattern



LONDON IS THE CLIENT

In the broadest sense the client for any building should be regarded as the city and its people. Although it will be developed, funded, lived in, bought sold and rented by a number of people - some of whom might have little link to the capital – the city still has to live around it. Buildings need to respect this context and participate in the life of the city in a respectful manner.

London's distinctive character and identity are its unique selling point. They are rich and diverse, and are as indivisible from its historic environment as they are from its people. As with London's transport infrastructure, the historic environment needs care and investment in order to optimise opportunities for growth. Failure to acknowledge the city's unique character and identity when considering new development ultimately risks London's global standing compared to other cities that retain and develop what is individual and authentic to them.

New buildings should be bespoke to London. Whilst drawing on and learning from the best of other cities is clearly helpful, dropping in building designs from Singapore, Dubai or New York will fundamentally undermine London's image.

WENLOCK BASIN - WENLOCK ARMS

VICTORIAN ENTREPRENEURSHIP

This affordable housing scheme intensifies the block, maintaing the public house in situ and establishing a modern design which takes inspiration from the surrounding streets. A central residential courtyard at first floor sits above commercial at ground and basement levels.

CLIENT
London Development Agency
ARCHITECT
Formation Architects
TYPE
RESIDENTIAL
PLOT AREA
1,825m^2
CAPACITY
100 FLATS
1,900sqm COMMERCIAL
AVERAGE BUILDING HEIGHT
3 storeys
PRIVATE OPEN SPACE
400m^2
PROJECT FAR
3.7

1945

1999

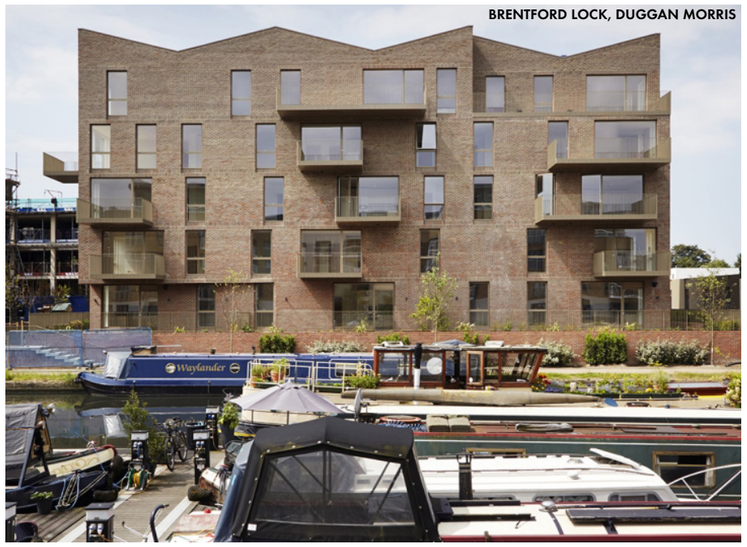
TODAY

BRENTFORD LOCK

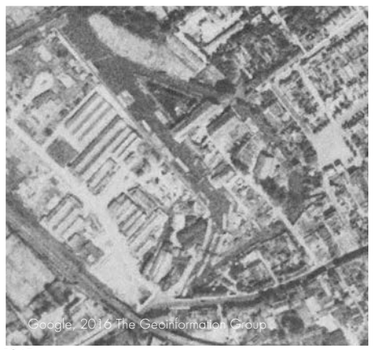
19TH CENTURY INDUSTRIAL

This example reflects the prevailing industrial grain, balancing a high density of residential development and a strengthened relationship with the waterside. The buildings fronting the canal reflect the industrial form of the canalside setting whilst the rear facade offers a more heavily articulated facade which responds to the varied scale of buildings in the wider context.

CLIENT
ISIS Waterside Regeneration
ARCHITECT
Duggan Morris Architects, Riches Hawley Mikhail and Karakusevic Carson Architects
TYPE
RESIDENTIAL



PLOT AREA
10,500m^2
CAPACITY
150 UNITS
STREET WIDTH
12m
AVERAGE BUILDING HEIGHT
4-5 storeys
PRIVATE OPEN SPACE
1,370m^2
PROJECT FAR
2.3
PREVIOUS PREVAILING FAR
1.4
EXISTING DENSITY (MSOA)
16.5 people/ha
GROWTH AREA?
No (although town centre location)
HERITAGE ASSETS
Conservation Area edges the site
LOCAL AUTHORITY
Hounslow



1945

1999

TODAY

UNIVERSITY OF GREENWICH STOCKWELL STREET

HISTORIC VILLAGE

This student residential scheme respects the block layout and street structure. It is successful in introducing greater permeability through the site, and activating the frontage to surrounding streets. The materials and parapet heights reflect the scale of local development and Greenwich's rich history of institutional buildings.

CLIENT
University of Greenwich
ARCHITECT
Heneghan Peng Architects
TYPE
EDUCATIONAL

PLOT AREA
4,700m^2
CAPACITY
2,000 STUDENTS
STREET WIDTH
10m
AVERAGE BUILDING HEIGHT
4 storeys
PRIVATE OPEN SPACE
1,756m^2
PROJECT FAR
3.77
PREVIOUS PREVAILING FAR
1.5
EXISTING DENSITY (MSOA)
46.1 people/ha
GROWTH AREA?
Deptford Creek / Greenwich Riverside Opportunity Area
HERITAGE ASSETS
World Heritage Site Buffer Zone, and within a Conservation Area
LOCAL AUTHORITY
Greenwich

1945

2003

TODAY

WILLIAM STREET QUARTER, BARKING

FORMER MEDIEVAL MARKET TOWN

The William Street Quarter scheme replaces a 1960's slab block, reinstating the historic street pattern and reinventing more traditional mews typologies.

CLIENT
London Borough of Barking and Dagenham
ARCHITECT
Allford Hall Monaghan Morris
TYPE
RESIDENTIAL

PLOT AREA
75,000m^2
CAPACITY
31 MEWS HOUSES
STREET WIDTH
20m
AVERAGE BUILDING HEIGHT
3 storeys
PRIVATE OPEN SPACE
-m^2
PROJECT FAR
3.53
PREVIOUS PREVAILING FAR
1.5
EXISTING DENSITY (MSOA)
86.6 people/ha
GROWTH AREA?
London Riverside Opportunity Area & Barking Town Centre Housing Zone
HERITAGE ASSETS
None within or adjacent to site
LOCAL AUTHORITY
Barking and Dagenham

1945

1999

TODAY

DALSTON SQUARE

HIGH ROAD

This scheme reflects a transformation in the profile of Dalston in response to the development of a new station on the East London line and rising values and new cultural attractions in the area. The development adds a new spine of residential, retail and public realm aboove the railway.

CLIENT
London Development Agency
ARCHITECT
John McAslan + Partners, Arup, Weston Williamson and Goddard Manton
TYPE
RESIDENTIAL

PLOT AREA
18,600m^2
CAPACITY
550 HOMES
STREET WIDTH
10m
AVERAGE BUILDING HEIGHT
7 storeys
PRIVATE OPEN SPACE
5,650m^2
PROJECT FAR
3
PREVIOUS PREVAILING FAR
1.5
EXISTING DENSITY (MSOA)
132.3 people/ha
GROWTH AREA?
City Fringe Tech City Opportunity Area
HERITAGE ASSETS
Adjacent to Conservation Area & series of Grade II listed buildings
LOCAL AUTHORITY
Hackney

1945

2003

TODAY

ROYAL ROAD, ELEPHANT AND CASTLE

GEORGIAN PLANNING AND GROWTH

This award winning scheme is car free and incorporates a mix of apartments and maisonettes with a range of spaces including a large roof terrace, balconies and playspace. The block adopts a sensitive massing and succeeds in reinstating the historic urban block and street conditions.

CLIENT
Affinity Sutton Homes
ARCHITECT
Panter Hudspith
TYPE
RESIDENTIAL

PLOT AREA
4,750m^2
CAPACITY
96 AFFORDABLE HOMES
STREET WIDTH
10m
AVERAGE BUILDING HEIGHT
8 storeys
PRIVATE OPEN SPACE
800m^2
PROJECT FAR
3.7
PREVIOUS PREVAILING FAR
1.7
EXISTING DENSITY (MSOA)
189 people/ha
GROWTH AREA?
No (although PTAL 4-5)-
HERITAGE ASSETS
Close to a Conservation Area
LOCAL AUTHORITY
Southwark

1945

2003

TODAY

ST MARY OF ETON CHURCH

VICTORIAN ENTREPRENEURSHIP AND SUBURBS

St Mary of Eton is a sensitive, innovative scheme which has created three new buildings including housing, a new church centre and community facilities. The contemporary buildings are carefully integrated with the church and create a more permeable block structure and street form.

CLIENT
PCC of St Mary of Eton and St Augustine's
ARCHITECT
Matthew Lloyd Architects
TYPE
RESIDENTIAL

PLOT AREA
4,000m²
CAPACITY
27 UNITS
STREET WIDTH
15m
AVERAGE BUILDING HEIGHT
6 storeys
PRIVATE OPEN SPACE
1,630m²
PROJECT FAR
6
PREVIOUS PREVAILING FAR
3.4
EXISTING DENSITY
49 people/ha
GROWTH AREA?
Lower Lea Valley Opportunity Area
HERITAGE ASSETS
Grade II* listed building
LOCAL AUTHORITY
Hackney

1945

1999

TODAY

LESSONS LEARNED

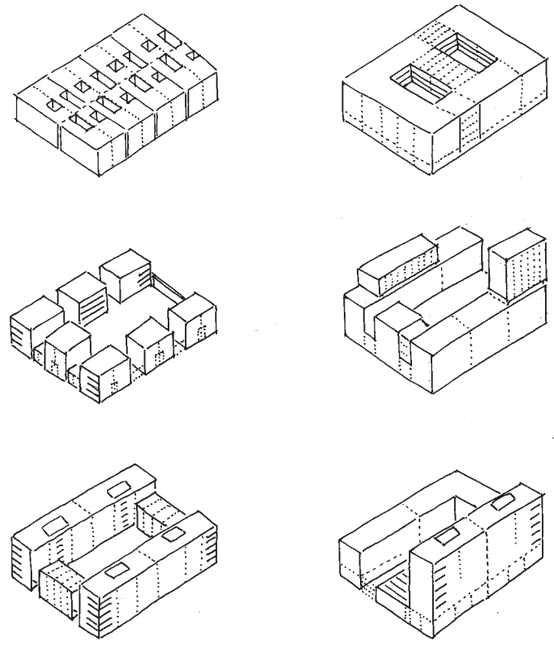
Reviewing this range of good precedent examples allows some conclusions to be drawn on how high density development can be achieved without causing harm to the context's heritage value and significance.

These examples highlight the following factors as important determinants:

1. the historic street has been respected, or indeed re-inserted, in most cases;
2. the grain of development is generally fine, partly as a product of the street morphology;
3. the prevailing building to street relationship has generally been maintained where appropriate;
4. development is generally mid rise (between 3 and 8 storeys) rather than high rise;
5. developments are generally perimeter block formats.

The deference paid to historic street pattern and grain in these best practice examples has provided a strong basis. This has then underpinned or been matched by a confidence to introduce something new to the context.

Many of the examples were developed within conservation areas and low rise prevailing character. Despite this, each of the developments doubled the prevailing FAR and significantly increased the density.



Typology variations responding to grain

NEW AND REINVENTED TYPOLOGIES

London includes a number of examples of reinvented historic typologies which achieve an uplift in density while respecting character and context

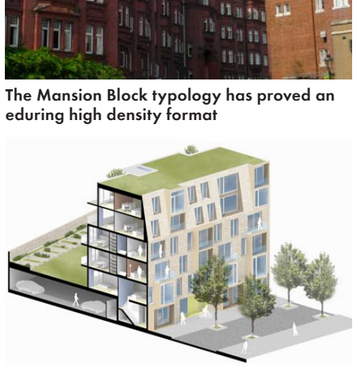
Typologies which have been rediscovered or reinvented and are proving very useful in densifying areas include:

1. Mews streets - both for residential mews houses as well as mixed use developments incorporating studio and non-residential space at ground level.
2. Terraced houses - terraced forms including taller town houses have been used successfully in historic contexts, in particular to soften the edges of higher density developments.
3. Stacked maisonettes - the reinvention of this post-war format is being used as a podium for higher density elements to ensure blocks address the street in a more traditional manner.
4. Mansion blocks - emerging proposals are looking to rediscover the benefits of this typology in a variety of contexts.

The adjacent images provide an example of how density needs could be met in a way which continues London's story.

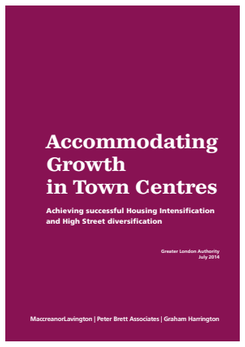
The Mansion Block typology has proved an eduring high density format

Maccreanor Lavington Architects have explored opportunities to apply the mansion block typology to the challenge of densifying the suburbs



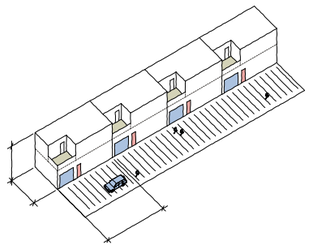
Alison Brooks Architects have explored the mansion block typology and proposed models for their reinvention

Ben Derbyshire of HTA Design and Richard Blakeway, the former Deputy Mayor for Housing, Land and Property at the GLA have proposed the concept of Supurbia as a way of intensifying London's suburbs



Maccreanor Lavington report explored housing intensification and High Street diversification

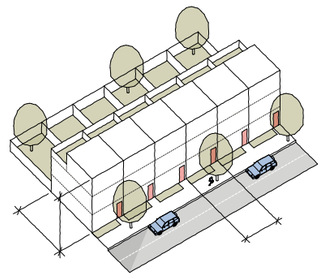
Mews housing



Doughty Mews, Bloomsbury

Shirland Mews, Kilburn

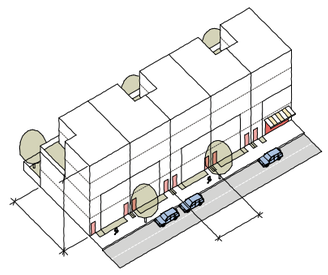
Terraced housing



Anne Mews, Barking

Milkwood Road, Herne Hill

Stacked maisonettes



Ocean Estate, Stepney

St Andrew's, Bromley by Bow

CONCLUSIONS

This pan-London study, one of the first of its kind, has provided valuable insight into how an understanding of character, even at a strategic level, can inform a strategy for intensification. This section sets out the headline findings, followed by some key recommendations.

ALL CHARACTER TYPES CAN CONTRIBUTE TO GROWTH

The research has shown that all character types can absorb growth subject to a clear understanding of values and existing qualities. It is simply not true to say that historic areas cannot accommodate intensification. Indeed many of the oldest parts of London have been the densest throughout history – and continue to accommodate new typologies and new levels of intensity. Moreover, it is because these areas are old that they have seen change and can cope with further change – they have proved to be enduring because they were flexible.

IT'S ALL ABOUT THE STREETS

The study has demonstrated that what can be more important than anything is the street morphology. And that it is the streets that endure the waves of history. The principle of prioritising street structure is important. In each character area there are parameters which will steer or limit the level of intensification, but the single common denominator is street morphology and the relationship between street width and scale.

THE GREATER THE VARIETY, THE GREATER THE FLEXIBILITY

Those character areas which have seen many layers of development and infill - many of which are the most historic areas with a fine grain, have shown their ability to accommodate intensification and change. Where an area has a variety of characters evident, a greater range of typologies and density can be accommodated. Indeed, small fine grain plots can support surprisingly high densities and FAR figures without recourse to large increases in scale. Equally, opportunities arise where post-war intervention, often with a coarser grain and less variation, has developed land in an inefficient way.

IT IS UNIFORMITY THAT MAKES AREAS SENSITIVE TO CHANGE

The degree of uniformity of an area can be a stumbling block to intensification. The suburbs are an important example where the homogeneity of an area makes it difficult to introduce new typologies or greater densities. Areas of uniformity are sensitive to changes in building height. This is also true of historic villages which have been protected and preserved. Here the "natural" change that might have occurred has been steered elsewhere leaving a character area more sensitive to changes in building height.

THE PREVAILING FAR RANGE PROVIDES A GOOD INDICATOR OF THRESHOLD

Looking across all of the character areas it is the prevailing FAR ranges that give the strongest indication of how sensitive an area is to intensification. Where the range is small, the scope for appropriate intensification may be more limited to sub-division, small scale extensions and infill developments.

A RESILIENT CITY

The grids of terraces and squares that characterise so much of the inner London boroughs has resulted in a diverse urban typology, accommodating a wide range of uses and activities operating at different scales and intensities. Many streets are wide enough to accommodate trees, which provide shelter and shade, whilst also absorbing traffic fumes and CO2 emissions. The terrace house has also been capable of meeting high standards of insulation with natural ventilation.

The inherently legible and permeable pattern of the block structure, with its public fronts and private backs, has supported the adaptation of buildings and spaces to a wide range of uses and subdivisions. A similar flexibility is found in the 19th century villas and avenues, where large houses have commonly been split into apartments but where the forecourt and rear gardens are retained as communal spaces.

The suburban development of the inter-war period has also proved an enduring model, albeit much more car-dependent and therefore less able to support local shops and services.

The flexibility of much of London's historic building stock will endure to support future changes. London's position as one of the greenest global cities will also prove important in the face of climate change. The classic streets lined with plane trees provide a comfortable public realm capable of adapting to more extreme weather. These trees will provide shelter and shade, both to the pavements and squares, but also to the buildings they grow next to.

REFINING HOW WE DETERMINE DENSITY

Looking at the most successful examples of contextual development in London over the last decade it is clear that most have been influenced by a good appreciation of historic context early on in their conception. The example of King's Cross is used extensively as an example of good regeneration and a development which has used a site's history and character to enrich its future growth. In this case, Argent set out its stall at the outset in Principles for a Human City which emphasised the role the historic character would play and the importance of streets in any future redevelopment.

Unfortunately, there are too many other examples where such early cognisance has not occurred, and the results have not made a positive contribution to the character of London.

Put simply, the following equations explain the value of early consideration of context.

Inf + **Den** = **Gr**
Infrastructure + Density = Growth

Ch * **(Inf + Den)** = **SmGr**
Character * (Infrastructure + Density) = Smart Growth

It is clear that a combination of small scale interventions and large scale redevelopments driven by an assessment based on infrastructure, density and character could lead to a more sustainable distribution of growth. The current London Plan places too much emphasis on a few larger Opportunity Areas, and whilst this potentially offers easier economic delivery it can lead to "all eggs going into one basket" and unsustainable densities which do not provide the housing that London needs.

By considering historic character at an early stage in strategic planning one can steer development towards a proportionate sustainable level across London. The next London Plan needs to adopt this approach in tackling the demand for housing and development. In doing so, a fundamental review of how density is measured and parameters set is required. It is recommended that a review of the density matrix is undertaken, drawing on the findings in this report. It is important that the matrix is nested within a robust policy framework which recognises the subtleties of density calculations and local character. A greater range of categories must be used to inform density measurements, and a more nuanced understanding of local character is essential in this.

RECOMMENDATIONS

KEY FACTORS TO GUIDE GROWTH AND INTENSIFICATION

In considering growth and intensification at all scales, there are some key factors which should steer the density and ultimate form of development.

Street morphology

The historic street pattern should be respected, and re-instated where possible and appropriate. Historic pattern, block form and grain are robust and flexible, and is in most cases is best preserved.

Variety

In general an area can support higher densities and greater future flexibility where a variety of typologies and character already exists.

Street relationship

The relationship that buildings have with the street has a profound impact on the character of an area and its ultimate success as a place. When considering higher density formats this principle is brought into sharp focus. The importance of entrances on to the street with each unit having a clear street address is particularly pertinent. Understanding what makes a street of "human scale" is also important, and is often about the arrangement of massing and the articulation of facades rather than an absolute limit on height.

Re-interpreted typologies

In areas more sensitive to change, particularly those with greater uniformity, the opportunity to re-interpret typologies has significant scope. Typologies such as the mansion block allow high density apartments to be introduced in areas with relatively low building heights.

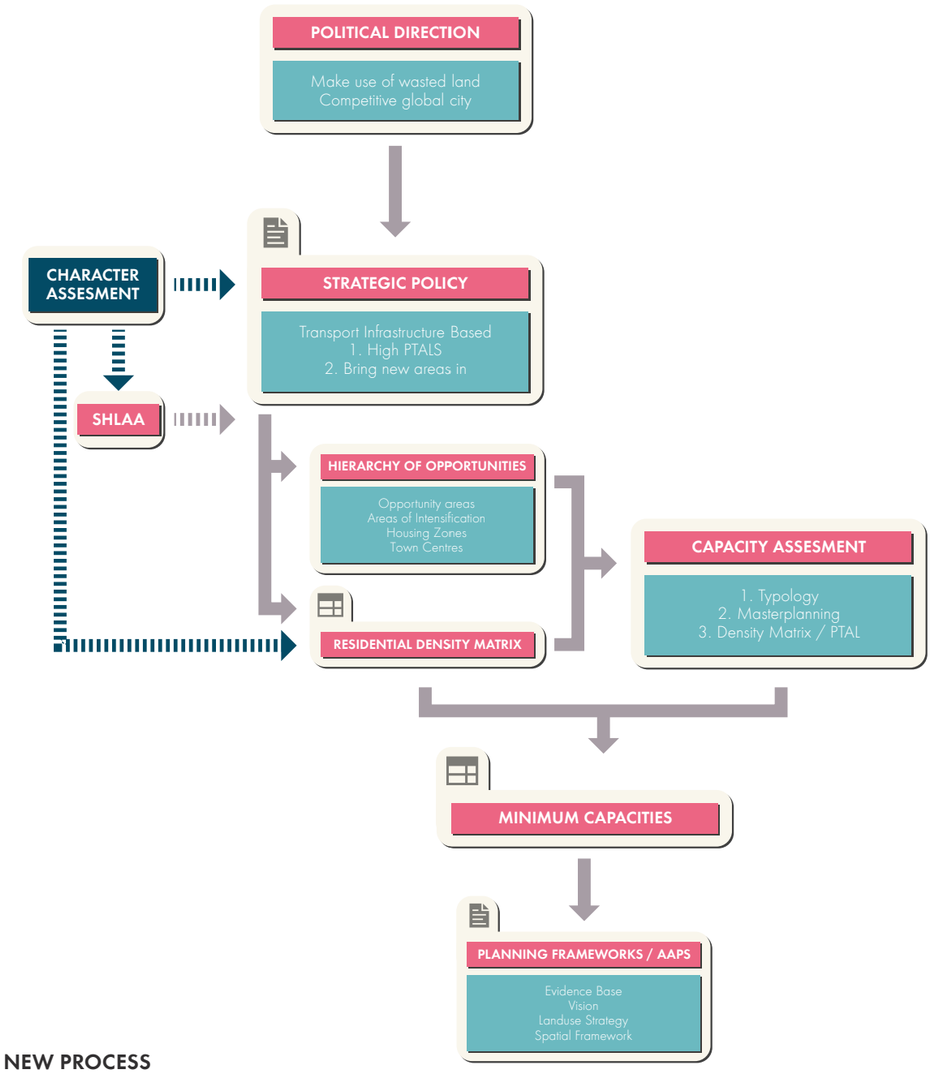
Green character

When similar administrative areas are compared, London shows itself to be the greenest of global cities – with over a third of land area as green space. Whilst the private gardens of suburbia contribute significantly, it is the public parks and public open spaces which make the greatest contribution to character. Indeed, it is interesting that there are more parks and public open spaces by land area in central London than inner London and more in inner London than in outer London. Strong public parks and green spaces are integral to London's DNA.

London streets have trees – big ones, and lots of them. Our residential neighbourhood streets often benefit from hedges, verges and private gardens. But most importantly London has proper parks, not pocket parks. Historically, each wave of development contributed a new street grid with large new public parks at the heart of neighbourhoods or at the joins between them.

Historically, the development around the edges of large formal green spaces was the highest density – reflecting the clear commercial imperative to maximise values. New development must give adequate priority to green infrastructure as the lynch pin of what makes London.

A NEW PROCESS



A MORE NUANCED FRAMEWORK

It is clear that when an understanding of local character has informed design proposals, the result is always better. This applies at many scales, right the way up to strategic planning. At present strategic planning in London is not informed by a clear understanding of character. In particular, the capacity targets for Opportunity Areas are rarely informed by an assessment of local character and heritage value. A report by Land Use Consultants has recently argued that character studies are not neccessarily carried forward. These studies do not necessarily respect a comprehensive understanding of heritage assets and their densities.

The key recommendation is therefore to introduce a consideration of character earlier in the assessment process. Feeding appropriate levels of character assessment into the three key points in the process should be prioritised:

1. strategic policy direction
2. SHLAA
3. residential density matrix (or any future alternative replacement)

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The maps, diagrams and data presented in this report are aggregated from a variety of sources and edited based on research and analysis. Each of these data sources may be considered on their own but where direct comparison was not possible some manual interpretation has taken place. Specific scales were used for each outcome that may limit or alter the accuracy of the data, for example data intended to be presented at a London-wide scale have been simplified or created in a generalized manner.

In detail our main sources and the type of data used are:

- The European Environmental Agency: information on land uses for the London Metropolitan Area under the monitoring system "Urban Atlas". (http://www.eea.europa.eu/legal/copyright)
- London Datastore (https://data.london.gov.uk/about/terms-and-conditions/):
  - Department for Communities and Local Government: Information on Green Belt boundaries
  - Greater London Authority: Town Centres Hierarchy, Borough boundaries, Housing Zones, Opportunity Areas, Intensification Areas and Population Density data. (Greater London Authority cannot warrant the quality or accuracy of the data used in this report as they have been reappropriated)
- Ordnance Survey: OS Open Rivers, OS MasterMap Integrated Transport Network Layer (under the Open Government Licence: http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/)