
Completing London's Streets

How the regeneration and intensification of housing estates could increase London's supply of homes and benefit residents

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1. Key Findings

- 1.1 This report compares two methods of redeveloping social housing estates in London; replacing the existing site with new blocks and towers in a similar layout but higher density (*Contemporary Regeneration*) and reintegrating the estates into the surrounding urban fabric (*Complete Streets*).
- 1.2 All types of Local Authority housing estate (LAHE) renewal are capable of increasing the number of homes on a hectare of estate land. Had these estates been built in the past using the *Complete Streets* model proposed here, an additional 480,000 households could have been housed on them. The increase now possible could be 73%, from 78 homes per hectare currently to an average of 135 homes per hectare (plus a variety of neighbourhood, community and commercial premises) - provided renewal takes the form of high quality, integrated and permeable urban streetscapes. These would predominantly contain mid-rise apartment buildings and terraced housing with open space. We call this form of development *Complete Streets*.
- 1.3 We estimate that approximately 1,750 hectares of London's 8,500 hectares of LAHEs might be capable of this type of regeneration with the potential to provide somewhere between 190,000 – 500,000 homes on *Complete Streets*. This represents an increase over the number of existing homes of between 54,000 and 360,000.
- 1.4 All existing socially rented units on a site would be re-provided as social housing under all the renewal scenarios but the end asset value of a regenerated LAHE will be higher if it is redeveloped using a *Complete Streets* urban form rather than blocks in a landscape type of *Contemporary Regeneration*. Also, build costs per hectare are lower when LAHEs are renewed using the *Complete Streets* urban layout rather than contemporary apartment blocks.
- 1.5 The combination of higher long term end asset value and lower cost, as well as popularity, should mean that more LAHEs can be renewed using the *Complete Streets* method provided land owners, developers, investors and residents can align on long-term development and ownership models entailing ongoing stewardship of the new places that are created. Public and third sector landowners looking for sustainable income and long-term investors looking for popular and sustainable real estate would make *Complete Streets* the built form of choice.

2. Summary Findings

This report proposes that the best way to utilise land in a viable way, achieve maximum efficiency on it and create neighbourhoods that are enduringly popular with residents is not to replace old blocks of flats in poorly functioning open space with new ones of similar type¹, but rather to create new streets of terraced housing and mid-rise mansion blocks with the occasional retention and re-use/refurbishment of old blocks where appropriate. This type of development would also contain neighbourhood employment, services and shops and is termed '*Complete Streets*' for the purposes of this report.

The four main findings of this research were:

1. **Regenerated Local Authority Estates can provide more and better housing**

London has been undersupplied with social, mainstream and affordable housing for decades. Around 50,000 units per annum are needed over the next 20 years to both meet new demand and to begin making up for past shortfalls in London housing supply². As limited land for new housing is a major constraint on supply, this study begins to look at the under-utilised capacity within London to potentially add to London's housing supply and thereby begin to address affordability.

Savills estimate that around 8,500 hectares of land contain London's 660,000 households that occupy Local Authority Housing Estates (LAHEs) (This could be as few as 7,000 hectares or as many as 12,000). Had these estates been built in the past using the *Complete Streets* model proposed here, an additional 480,000 households could have been housed on them. If housing estates are renewed in future, a larger number of housing units could be provided on them using either a contemporary apartment block scheme or an intense, urbanised scheme but more are likely to be delivered if the 'complete streets' method of regeneration is used because more value is generated and build costs are lower.

2. **Estate regeneration has potential to enlarge capacity and repair the city**

London's Local Authorities own sufficient land on existing housing estates to not only re-house all existing residents in better homes, but also to provide additional housing units - some of which could be provided under mechanisms to support affordability. The opportunity further exists to repair London's urban form, increase the space available for commercial and community uses in parallel, and to help 'future-proof' the city at the same time.

3. ***Complete Streets* create social as well as financial added value**

Homes on streets and mixed-use urban neighbourhoods set in a high-functioning urban network are more highly valued by residents. We show that this model of estate renewal potentially unlocks not only more social value but also creates valuable real estate in the long run. This makes redevelopment potentially viable where, hitherto, it has been unviable using conventional methods of regeneration. *Complete Streets* development can yield higher numbers of homes which cost less to build and possibly lower to maintain as well. Landowners (councils) or housing associations or investors or residents who retain a long-term interest in the estates and take responsibility for management and governance, could reap higher social, environmental and financial returns from this type of renewal than through conventional, short term development. Furthermore, there are signs that the costs of management and maintenance (a present cost to the private and public purse) could be reduced. We have only considered long-term, end asset value of the housing estates, ignoring any new build premium that might be achieved.

¹ We characterise this approach as '*Contemporary Regeneration*' for the purposes of this report.

² Savills 'Spotlight London Demand' 2013.

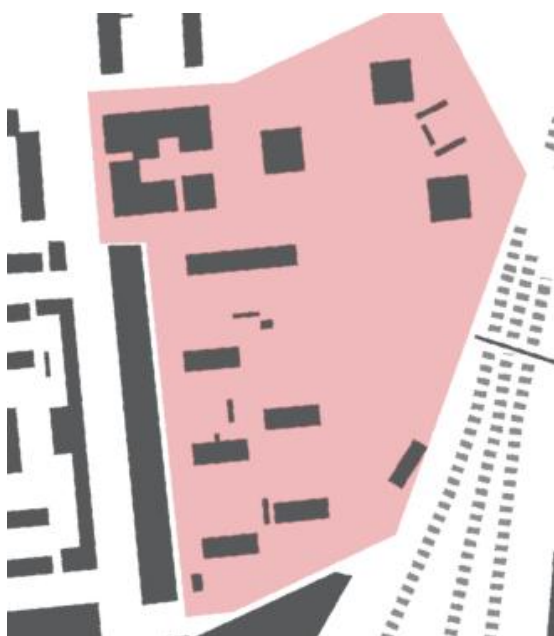
4. The role of longer term investment and patient equity

This exercise has highlighted the long-term nature of the value added using the *Complete Streets* approach. All stakeholders in the regeneration process therefore need to consider how to attract investment with a relatively patient approach to return on capital and the need for longer-term approaches to realising asset value (or income). Housing Associations, investing institutions and other types of private sector investor are capable of taking this type of risk – and it may be that Local Authority and other public sector landlords are capable of taking a stake in the long-term assets created on their land too.

This will not only unlock the delivery of more and higher quality, new and regenerated residential neighbourhoods but also create a valuable and robust asset with superior value growth. Under these circumstances, the capability of *Complete Streets* development to create valuable income streams in perpetuity might be considered a viable alternative by landowners. It may prove a more advantageous strategy for local authorities to retain interests in their land rather than taking up-front, short-term receipts from outright land sales at day one.

Illust.1 Existing and potential street patterns: figure ground for a hypothetical Local Authority estate

A) Existing Use



B) Complete Streets



2.1 Local Authority Housing Estate land can provide more and better housing and secure affordability

- We estimate that approximately 1,750 hectares of London's 8,500 hectares of LAHEs might be capable of 'Complete Streets' regeneration with the potential to provide somewhere between 190,000 – 500,000 homes, depending on the densification achieved. Between 54,000 and 360,000 of these would be additional homes, over and above the existing housing provision.
- It is recognised that most estates with potential for regeneration will be long-term projects, often involving a development period of over 10 years, sometimes considerably more. The long-term nature of estate regeneration transcend both local and national policy cycles and any solutions need to be well-supported and robust enough to survive 5 year government terms.
- This study focuses on London land and housing issues. It looks at the role that Local Authority and Housing Association owned land, in the form of housing estates, could play in providing the 50,000 or more new housing units needed each year to more fully supply London's growing population with homes and secure long-term affordability.
- The total land area of Local Authority (and ex Local Authority) Housing Estates (LAHEs) in London is unknown. Our approximate estimate of the land and property held, or formerly developed, as housing estates by London's 32 boroughs and City of London is c.8,500 hectares (with an estimated range between 7,000 hectares and 12,500 hectares, depending on the calculation method used). We estimate the average number of households currently accommodated on LAHEs is 78 households per hectare. These LAHEs have the capacity to be densified and to provide additional homes in London.
- As a global figure, if all Local Authority estates had been originally built to the average density of the *Complete Streets* presented in this report, then not only would all existing tenants be housed on them (estimated at 660,000 households) but an additional 480,000 households would also have been accommodated.
- Looking at how many of these estates (now often in disrepair and needing redevelopment) are capable of being regenerated, Savills estimate that approximately 1,750 hectares might be more readily capable of regeneration. These may have the potential to provide an additional 54,000 to 360,000 homes using the *Complete Streets* model.
- Our case studies show that if regenerated to **intensify** (as opposed to simply **densify**) land use, Local Authority Estate *Complete Streets* regeneration is likely to create value uplift on a site by delivering not only more housing but also a significant new quantum of space for community and local commercial uses. This would help to enhance the overall land-use capacity, place-competitiveness and infrastructure efficiency of London.

Not only is an intense, street-based approach to regeneration advantageous³, it may be the only way of making regeneration viable on some sites – provided the right methods of extracting long-term value can be devised. If our case studies are representative of all London sites, current approaches to regeneration would appear to be unviable on at least one site and possibly a further two.

³ Savills 'Spotlight on Development Layout' November 2010 & iVALUL Urban Buzz 2010.

2.2 Estate regeneration enlarges and repairs the city

- Street-based schemes are more likely to create greater value than single use estates, which replace failing buildings, but fail to mend the urban fabric. If even the most lavishly landscaped and beautiful new buildings continue to be cut off from the surrounding lifeblood of London's streets and remain inward-looking, inaccessible and invisible they are less likely to benefit from the 'place-making bonus', or to impact on the regeneration of the wider area.
- It is therefore the potential for estate regeneration schemes to change the *locational value* of the scheme from under-performing, undesirable and low value to actively sought-after, high-performing and higher value and offering greater life-chances to residents, that will make the most difference to the viability of a scheme, certainly in the longer run. Ultimately, the more value that can be added to a place, the more cross-subsidy there can be of affordable housing – whether it be socially rented, privately rented, part-owned or owner-occupied.
- We say nothing specific as to whom the additional value of the 'complete streets' regeneration would accrue. This would be highly dependent on the land-owning, tenure, funding and finance structures that were put in place.
- We argue that street-based urban fabric is more capable of change and adaptation than blocks of single use buildings in an open landscape. The fact that so much of London's street pattern, within different use and ownership configurations, has endured for centuries is testament to this. Regeneration using the *Complete Streets* model will help to build London's capacity for resilience and 'place-competitiveness' and support the long term adaptability of the city.
- What this study underlines is the need to take account of time-scale in measuring the relative consequences of each approach. Conventional, contemporary approaches tend to apply narrow and short-term measures of value – which generally favour a simple densification approach, typically consisting of big blocks in a landscaped environment. The evidence suggests however, that over a longer term, significant added value can be yielded, and cost-saving achieved, through the creation of mid-rise buildings on an integrated street pattern. In addition, this model produces significant qualitative benefits and underpins area-wide regeneration through a multiplier effect.
- Simple reproduction of historic street patterns and buildings does not necessarily produce the optimal outcomes in terms of unit numbers, mix and value. We propose instead that new street patterns, informed by traditional urbanism that work for contemporary needs and servicing, and which potentially create enhanced urban capacity, produce optimal outcomes.
- Comprehensive redevelopment of local authority estates simply involving densification (the *Contemporary Regeneration* model) obviously adds capacity to the London housing stock, but if this also embraces the introduction of more highly valued properties as well as just more properties for sale, it can shift values beyond what is possible simply by reducing concentrations of mass deprivation (IMD).
- We have shown that regeneration promoted to the *Complete Streets* model (as opposed to the *Contemporary Regeneration* model), as well as substantially adding to the London housing stock, introduces significant new community and commercial capacity to the city to service communities and could stimulate the uplift of the wider area through a multiplier effect, and therefore provides a much more powerful rationale for the radical restructuring of estates.

- If the IMD for the area were to be improved by estate redevelopment through a simple densification of land use, reducing currently local high levels of deprivation to the average IMD value for the borough, only marginal value uplift is likely to be achieved. Staying at the same quartile, house prices could increase by around 3%. This model of redevelopment relies upon a 'new build premium' through redevelopment and creating additional units/densification to create development value and therefore viability.
- However, if the site were of a sufficient scale and opportunity to improve it more radically through 'place-making' including integrating it with the local area and incorporating neighbourhood retail, community and commercial uses as well as housing, thereby transforming the nature of the location, the end asset value could be uplifted by considerably more, albeit over a potentially more extended timeframe. This could further introduce a multiplier regeneration effect and value uplift across the wider area, affecting not only housing values but employment uses as well.
- This report provides evidence that there could be a step change in the delivery of estate regeneration to help tackle London's growing housing problem. To unlock such a solution, all tenants and owners on such projects would need to be treated fairly and legally guaranteed the right to return to the estate to a property that is equivalent or better. There could further be scope for introducing new quasi-ownership products such that renters are able to invest on a fractional basis in their property or in the scheme as a totality whether through a Rent to Buy or similar scheme. Established residents (and owners where Right to Buy has been exercised) would need to be regarded as fully-fledged stakeholders in the regeneration process and their views on design and urbanism fully interrogated through collaborative stakeholder planning and design processes.

2.3 Complete Streets produce community and financial added-value

- The value that people are willing to pay to be in a particular place or to pay for a particular property is the key marker of what people find desirable.
- Evidence shows that residents tend to prefer living in buildings (houses and apartments) on streets rather than in isolated blocks and towers. The observed preferences of a broad range of built environment professionals for street-based approaches to regeneration appear to echo the preferences of residents and potential residents in schemes.
- We highlight further that the quality of 'locational value' universally recognised by estate agents is a key driver of property price and sales rate. 'Locational value' is defined as the fundamental qualities of a neighbourhood that are independent of land costs and building values. They have been analysed in this publication and elsewhere⁴, and we sought to build these defining design principles into the *Complete Streets* case study areas.
- Throughout this report, the counterfactual to '*Complete Streets*' is '*Contemporary Regeneration*' which is how many (though not all) estate regenerations have happened over the last decade. It is high-mass new blocks replacing old buildings (usually at higher density) but retaining an urban layout of 'pavilions in parks' or blocks of flats on the existing, unconnected and cut-off road patterns or something similar to it. In practice, this will be implemented on a block-by block renewal pattern – to a broader overall master plan over a period of years. The outcome is '*Contemporary Regeneration*'. The important thing about the block renewal approach of '*Contemporary Regeneration*' it is that it is not streets.
- Unit numbers can be significantly higher when LAHEs are regenerated because a more efficient use of land is made in comparison with inefficient post-war blocks. On average *Contemporary Regeneration* yields no more homes per hectare of land than the alternative *Complete Streets* model of regeneration that we advocate here. Typical across-London densities of 78 units per hectare are increased to 130 or 135 homes per hectare under these two scenarios.

Table 1: Comparative results under alternative scenarios

Location-weighted average	Existing Estate	Contemporary Regeneration	Complete Streets
Number of units per Ha	78	130	135
Total end value per Ha	£11.5m	£40.0m	£48.1m
Build cost per Ha	-	£21.8m	£19.9m
Commercial space per Ha (sq.ft.)	8,831	8,831	10,014

Source: Savills Research

(All our calculations of regeneration numbers and values, in all cases, presumes that there would be a strong community role at the outset in Complete Street regeneration plans and that 100% of residents would have the right to be re-housed on site in an equivalent or better home.)

⁴ *Valuing Sustainable Urbanism – a report measuring and valuing new approaches to residentially-led mixed use growth*, Princes Foundation for the Built Environment & Savills 2007

- Much more significant than the differences in unit numbers is the significant difference between final, end values⁵ generated (at today's prices) between the *Complete Streets* and *Contemporary Regeneration* approaches. Schemes undertaken to the *Complete Streets* model in almost all cases generate more value by the end of the entire place-making process, averaging £48.1 million per hectare compared to £40.0m for *Contemporary Regeneration*.
- This potential value uplift creates the potential for new long-term development and ownership vehicles, which should ultimately be self-financing. However commercial and policy barriers to *Complete Streets* development and this type of patient-equity investment approach need to be identified, fully understood and remedied.
- The multiplier effect of a *Complete Streets* regeneration approach could significantly and positively impact on the attractiveness and value of adjacent neighbourhoods. This potential multiplier needs to be investigated, and raises questions as to whether some form of value capture mechanism should be considered if a programme of estate regeneration were to be put in place on a pan-London basis.
- Rent to buy schemes, or similar equity stake schemes, would enable residents and other stakeholders to participate in this value uplift.
- Very significantly, there are big differences in build costs as well as values. *Contemporary Regeneration* has higher build costs per hectare; generally is less able to be phased than a *Complete Streets* approach and therefore is both more costly and imposes greater project risk. We suggest that street-based urbanism could further reduce costs through replicable building types (possibly utilising modern methods of construction) and supply chain efficiencies.
- On equivalent sites, *Complete Streets* should cost less to deliver than the *Contemporary Regeneration* schemes currently being delivered. This should mean that less subsidy is needed to get schemes underway, the number of schemes that become viable is increased and more homes are capable of being delivered.
- Initial evidence suggests that the building typologies of a *Complete Streets* urban form cost less to maintain and manage over time. Equally, a robust street form enables incremental building and the easy replacement of units at the end of the natural lifecycle of the property. It also allows for change of use and adaptability in the event of a change in market or locational circumstance, without requiring the replacement of the full infrastructure. Both of these factors are worthy of further investigation.
- When the final value (excluding any new build premium) of a scheme is set against build costs, a residual value can be calculated as a surplus per unit. This 'surplus' has to be sufficient to pay for design, promotion, plans, community consultation, re-housing, phasing, project management, site preparation, remediation, abnormal site conditions, marketing, lettings and sales on a site. It is not therefore a "profit" figure but it does begin to point to what the viability of a scheme might be.

It must be noted that build costs do not include the costs of abnormal site conditions, demolition and the cost of temporary housing for residents during redevelopment. However, it is assumed that these will be the same for both *Contemporary Regeneration* and *Complete Streets*. The value and cost analysis here is therefore comparative and not absolute i.e. it cannot provide all the information needed to assess practical viability. These viabilities will differ significantly from estate to estate and each site will need to be assessed on its merits. What this analysis does provide is clear evidence that a long-term land owner/ landlord would, in most cases, be at a financial advantage in developing to a *Complete Streets* model rather than a *Contemporary Regeneration* model.

⁵ Housing value reflects the economic and social desirability of place enabling schemes to be funded and proceed on the basis of the intrinsic value of the location, rather than relying upon market cycles.

- We have expressed this 'surplus' in the table below as a percentage of the full and final property value on a per-hectare basis. We found that all the *Complete Streets* schemes have a higher surplus than that obtainable through *Contemporary Regeneration*.
- It is notable that in one case of *Contemporary Regeneration*, the scheme is rendered instantly unviable by a negative surplus. This would imply that it could not proceed without subsidy.
- We cannot comment on whether the full end asset values could be realised by the developing entity because that is highly dependent on the business model that is put in place to regenerate the LAHE. This business model includes considerations of funding methods, the duration of land holdings and different forms of estate ownership that might be employed – as well as the tenure of units and the provisions made for the estate's ongoing ownership and management. We do however recommend that the impact of these different factors is fully investigated and understood, for the benefit of current landowners and policy-makers.
- Contemporary Regeneration is loss-making, unviable, or may require subsidy in at least one of the six cases in this study and generates lower surpluses over build costs than Complete Streets in the other five. Contemporary Regeneration is more likely therefore to result in pressure to increase densities, sell at higher prices and/or reduce the social provision than under a Complete Streets model.

Table 2: Comparative end asset value surplus over build costs under alternative scenarios

Initial Margin	Contemporary Regeneration	Complete Streets
Site A	£614,448	£1,218,637
Site B	-£18,254	£232,251
Site C	£160,933	£220,844
Site D	£382,586	£408,277
Site E	£169,395	£205,925
Site F	£261,610	£395,718

Source: Savills Research

- Although the gap between costs and end asset values may be larger for contemporary regeneration than complete streets, some contemporary regeneration schemes may be rendered viable because of a focus only on new build values by conventional developers and housebuilders. The end asset value matters much less to them than it does to landlords and long-term landowners.
- If the new build premium available to developers is sufficient to bridge the gap between higher build costs and value, then schemes will go ahead using the contemporary development model. This does however introduce greater market risk into the delivery process. At times when the new build premium is weakened or eroded, development may be rendered unviable.
- Despite the greater long-term economic returns produced by the Complete Streets approach, a range of planning and other constraints plus short-term cash flow incentives can often lead to an ultimately sub-optimal outcome.

2.4 The role of longer term investment and patient equity

- If new long-term investment structures were to emerge to enable the Complete Streets form of regeneration, there is potential for such investors (e.g. institutional funds; global sovereign wealth and high net worth funds) to participate in these projects - whether through debt or equity.
- There is also a critical role of central government to support the unlocking of this land and regeneration opportunity through further analysing the practical barriers to the emergence of this market; identifying and remedying policy, legal, fiscal and institutional barriers; negotiating the opportunity with local authorities and front-loading the creation of new institutionally-backed investment funds.
- Consideration should be given to how public land interacts with a longer term funding model, particularly given the potential value uplifts that can be achieved. The case could be made for public land being vested as equity through public/private partnership mechanisms, to support the early stage viability of the scheme on one hand, and also to participate in long-term value uplift. A 'public share' could provide the basis of ensuring long term affordability and/or valuable long-term income streams.
- The majority of the sample of industry professionals interviewed for this study preferred the Complete Streets approach to estate regeneration rather than a block-based approach of Contemporary Regeneration. This was especially the case for those with long-term interests in the land and property created. Only those concerned with current land values and achieving short-term development profit preferred the contemporary, block-based regeneration model.

2.5 Implications of the findings

- It is important that the debate on Estate regeneration does not become polarised between the proponents of the two approaches, namely residential densification of *Contemporary Regeneration* or mixed-use intensification of an optimised Complete Streets model. Rather, it would be better to look at the long-term impacts; the sustainability – economic, social and environmental – of the different approaches. Also, straightforwardly, the relative popularity of the approaches among people who live on the estates or would like to be able to live there.
- It is also important that the debate focuses on how the different solutions available would impact on London's capability to regenerate and adapt as a city. This is a question of how we rebuild, repair and reposition the city, not just respond to the current, pressing question of housing a rapidly growing population.
- All the facts need to be presented objectively and clearly, such that London and Londoners can consider the choices that face the city in terms of the future use of land and its implications; impacts on sustainability; business and community capacity and resilience; as well as impacts beyond London. In this way, hard short-term decisions may be set in the context of the long-term, tangible benefits of reconfiguring under-utilised elements of the city's footprint to accommodate new homes, businesses and community capacity, and to fully realise London's overall place potential as a premier global city.
- Innovative financial structures and business models that transcend political timescales; which enable stakeholder participation in value creation and which seek the best long-term benefits for London and Londoners need to be brought forward urgently to support such an approach.
- In order to manage the vast majority of LAHE regenerations it will be necessary for a new group of long term investors to take a stake in these redevelopments. Equally, to take these complex and large scale projects forward will require a particular skill-set and strong partnership delivery arrangements with local authorities – capacity will need to be built to achieve this whether on the model of the HCA Atlas team to partner with local authorities, or new stand-alone public/private arrangements on the model of, for example, The English Cities Fund. It will be the role of these bodies to propose options to the local community, to draw up proposals, implement them, and, within clear rules set out by government, to implement these changes. DCLG would likely have a role in monitoring the performance of such bodies to ensure that public objectives are met. It is unlikely that simply relying on council departments alone will achieve the level of delivery and regeneration that is now required. The creation of such bodies and clear, strong visionary leadership from them will ensure the rapid expansion and high quality outcomes of LAHE regeneration schemes.
- Given the leadership capacity and technical skills available to most Local Authority housing and planning departments, the management of more than one or two sites at a time would be difficult. This makes a case for providing additional capacity and resources, perhaps from a GLA funded level to assist bringing forward regeneration sites. This could consist of anything from a team of experts to help bring forward schemes, to the formation of bespoke vehicles applying the most effective techniques in all areas of development and ongoing management and maintenance.
- This report did not seek to apply its principles beyond London, as it was not within the brief to do so. However, there is no reason why the broad principles set out here should not work in other urban areas (i.e. regeneration to a higher intensity of land-use on an optimal Complete Streets model funded via long term public/private investment vehicles).

- Neither was the exercise designed to look at other cases of land-use inefficiency that could potentially yield additional regeneration capacity through intensification and could also be reconfigured on the Complete Streets model - car-dependent single uses such as retail warehousing, and superstores for example. We recommend that this exercise is extended to look at land in other such uses, elsewhere termed 'grey-field'⁶ sites which may be in corporate or institutional ownership and may be subject to cyclical redevelopment.
- Further work is required, for example on attracting patient capital into estate regeneration projects. Further distinction is also required between what is practically possible rather than the theoretical potential identified here. The first step in this would be to identify the actual number, size and characteristics of all local authority and ex-local authority housing estates.

- **Important note**

The case studies are set out in full in Appendix 1 and 3. It is upon these that the cost and value assumptions set out in this report are based. They are derived from real places in London in order to ground the study in reality and to highlight how different locational factors impact upon the model. However these sites have been disguised and anonymised because they are intended to be hypothetical, generic and representative and do not represent any current, existing or proposed scheme currently pertaining to those sites and should not be construed as such. All assumptions made in this report are detailed in Appendix 9.

It should be noted that all the capacity numbers cited in this report are theoretical and based on assumptions in the absence of concrete data on the numbers and size of existing estates. Even the numbers of existing units on housing estates has had to be estimated.

⁶ *Greyfields into Goldfields*, www.cnu.org/sites/files/Greyfield_Goldfields_vol2.pdf

3. Introduction

3.1 This report

This report responds to the increasing recognition of the need to deploy land in London efficiently⁷ in order to service the intense and increasing need for housing, and to address issues of affordability, maintain the productivity of the city and to fully service its growing population. It assesses the potential of land on Local Authority Housing Estates (LAHEs) to be reconfigured when regenerated and to accommodate a greater intensity of use. It challenges the perception that simply densifying land use produces the optimal economic and social outcomes. Rather, it seeks to demonstrate the advantages of regenerating and intensifying these areas to increase the supply of housing in popular, high quality, mixed-use and street-based neighbourhoods, which reflect the urban form of London's best-loved places. In doing so, it not only demonstrates that optimal land values are produced over the longer term, but also a range of economic and community benefits. Finally, the report highlights how barriers to the provision of desirable housing and neighbourhood uses for all levels of affordability and sectors might be overcome.

3.2 Methodology

We conducted a research programme over June and August 2014 in three parts. First, an exercise was undertaken to identify the present occupation and potential capacity of LAHE land in London, to interrogate good practice - in particular identifying the potential benefits of the Complete Streets approach - and to determine optimal real estate solutions for the regeneration of publically owned housing estates. Second, the exercise looked at the practical implications of this, and potential policy and business responses.

In order to highlight the principle and broad scope of the approach, we have compiled results that are largely empirical in nature, processing data on large-scale measurements in land, street and housing topographies. Equally, we have tested the hypothesis with a wide range of industry experts in order to establish a broad sample of responses as to the acceptability and viability of the approach, and the scale of opportunity.

Finally, we have begun to approach quantifying the values that could be achieved through this approach and the long-term values of regenerated property on the sites by examining alternative theoretical redevelopment scenarios on six sample sites in order to test viability, value impacts and capacity. We also touch on the issues of longer term running and maintenance costs.

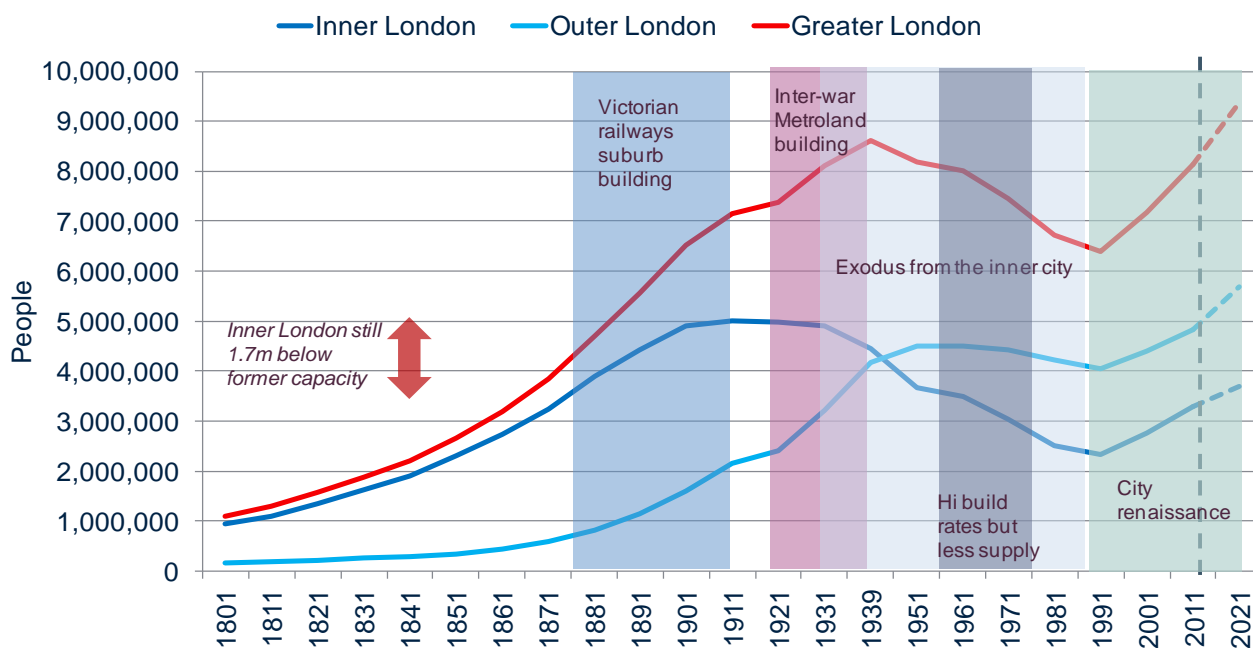
⁷ 'Space & The City', Economist, April 4th 2015

4. Background

4.1 Population change and the urban fabric

The chart below shows how the population of London has changed over the past two centuries. It is important because it sets in context the conditions under which the large, local authority owned housing estates of the 1950s, 60s and 70s were built.

Chart 1: Population rise, decline and rise in Inner & Outer London 1801 to 2021



Source: ONS, Greater London Council

There are three features which are particularly pertinent to this report. First, there was a dramatic decline in London's population, mainly from the inner boroughs, in the post war era which continued until the late 1980s. This has since been dramatically reversed and is set to continue according to GLA projections.

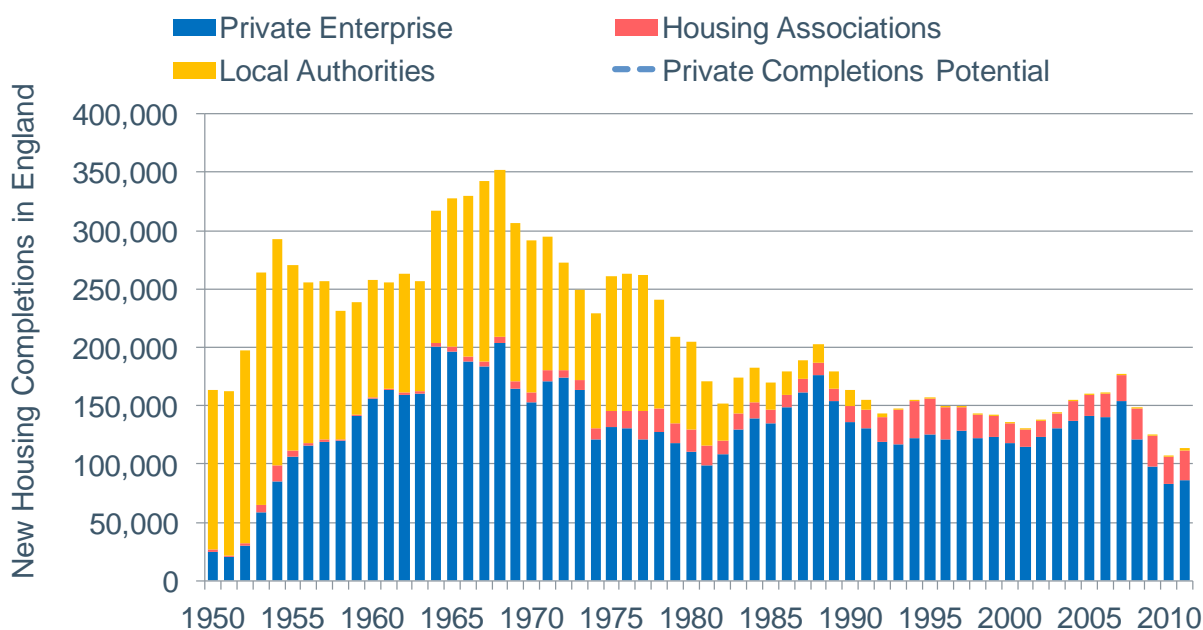
Second, the era of very high house building activity during the 1950s-70s resulted in a managed decline in housing density which both responded to and accelerated the population exodus. Thanks to the scale of demolition at this time, fewer homes were provided on new estates than had been on the streets they replaced. The population of Southwark, for example, fell by two thirds. Regardless of social, aesthetic or ideological arguments about the housing that was provided in this era, it can be seen as either a rational response to, or an accentuating factor in, declining inner city populations – or perhaps both. Either way, it has proved to be an inappropriate response in the light of subsequent, fast-rising population numbers.

Illust. 1 Post-war housing estate densities were often lower than the old streets they replaced



The effect of the post war development era was to introduce suburban densities (though not suburban form) into the inner city. However, the sharp reversal in population trends since the 1980s and the extremely high pressure of demand for housing in the inner city since then, not to mention its further projected increase, makes this type of housing topography deeply inappropriate for current and coming decades.

Chart 2: New housing supply in England 1950 to 2011



Source: Savills Research, DCLG

Third, population growth in London is now back to its 1939 peak and will substantially exceed this figure before 2021. But, until recently, most of this excess has been absorbed by the outer boroughs. The population of the outer boroughs grew in the immediate post war era (as a result of emigration from the inner city) and did not decline so significantly during the 1950s, 60s and 70s. The population of Outer London boroughs has been higher than it was in 1939 for the last decade or so.

What this means is that, if we can re-intensify the sub-urban built form of the post-war period, a more appropriate urban form for London should emerge. This is why we have looked at their replacement with 'Complete Streets' which supports a rational and well integrated street pattern allowing for intensity of build and a variety of uses in the form of terraced housing and mid-rise apartment blocks with neighbourhood commercial uses. Not only should this enable us to be able to build more homes in Inner London – where they are needed the most - but also create a more adaptable urban fabric and socially mixed neighbourhoods, more popular with residents – and potentially more valuable, socially as well as economically.

4.2 Housing need & affordability

The shortage of housing in London is particularly acute due to constrained land supply interacting with investment pressures, and rapidly increasing population numbers/housing demand.

We estimate that a total of 500,000 dwellings need to be created over the next 10 years in order to meet this combination of need and demand. In order to achieve this level of growth without encroaching on the highly valued elements of London's Greenbelt and over-intensifying (cramming) individual sites, the full potential of derelict, empty and under-utilised land needs to be optimised and suitability of regeneration and intensification of land use considered, in particular in relation to the efficient utilisation of infrastructure and supporting a more sustainable future urban footprint. Equally, there is a pressing problem of affordability which is particularly acute in the inner urban boroughs where private housing stock is becoming too expensive for the spending power of most Londoners.

While much attention to date has been given to the capacity of brownfield and infill sites to accommodate additional residentially-led growth, the potential should also be considered of presently under-utilised land in a variety of uses, including residential land in public ownership. We foresee that a similar exercise might also usefully be run against other sub-optimally occupied land in low-intensity single uses such as retail warehousing and superstores for example, to quantify its potential capacity for regeneration and intensification of use in the future particularly where well-infrastructure and close to transport links.

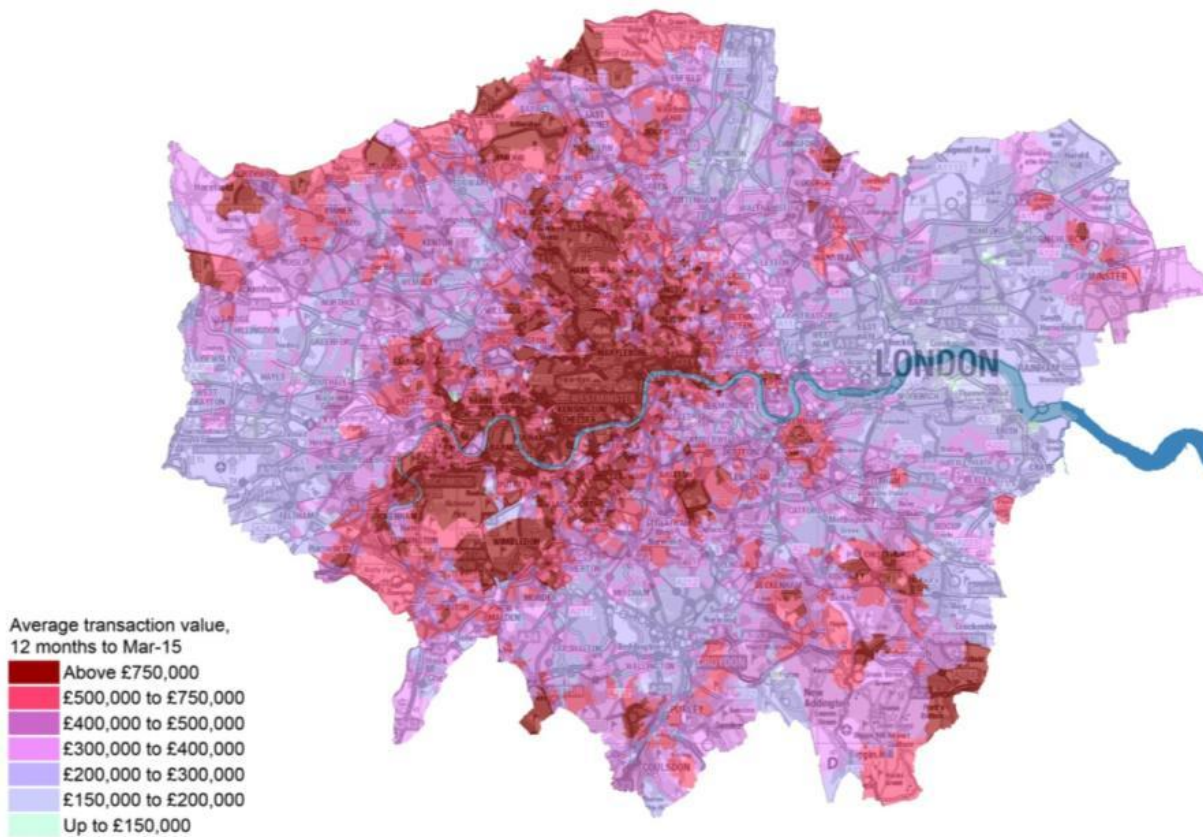
Given that many properties, particularly social housing built before the 1980s, are now in need of considerable capital expenditure, are environmentally sub-standard (sometimes costing occupants large fuel bills) and often, through their design, are expensive to maintain and fail to integrate with the wider city, the case for regeneration could be made. Many London boroughs are reviewing their social housing stock, and some estates have already been identified for repair or replacement. Some estates have begun to be replaced on the basis of a development model that densifies land use to provide greater numbers of housing units, however this form of development which we dub *Contemporary Regeneration* for the purpose of this report, commonly replaces inefficient slab form blocks with a contemporary version of the same design principles – namely large disconnected boxes that ignore street form and generally set in amorphous, expensive to maintain, publicly accessed green space.

This paper proposes an alternative approach, which seeks instead to reintroduce street-based urban form to these estates. This not only delivers an overall increase in residential capacity, but also a range of wider regeneration benefits and produces elevated social, economic and environmental values over time. In this way, a Complete Streets approach to the regeneration of local authority housing estates could not only deliver significant additional new residential, commercial and community capacity to London, but also offers the potential of stimulating the wider regeneration of the city (in particular adjacent areas) and improved investment returns over time, while reducing ongoing costs of maintenance.

In this report, we recognise the potential of some of the less well performing LAHEs to be redeveloped to accommodate growth while also rehousing all existing residents. We quantify the possible additional capacity that this could provide as a global figure across London, and we begin to illustrate a physical proposition, based on the Complete Streets approach outlined above, that could fully optimise this currently under-utilised element of London's footprint to deliver a range of beneficial outcomes through intensification of use and regeneration.

We illustrate how the Complete Streets approach could be applied to reinstate traditional street form and compare how this performs against a *Contemporary Regeneration* approach.

Chart 3: Map of London House Price Values



Source: HM Land Registry

Illust.2 Award winning Myatts Fields –new housing developed as Complete Streets



Illust.3 Mint Street – mixed use and contemporary mansion blocks within Complete Streets



4.3 Achieving London's 'Place Potential'

How could London's post-war estates be redeveloped so as to optimise land use, the full place potential of the area and build London's capacity across a range of qualitative values, as well as build property/investment value?

This paper acknowledges established urban design thinking, which has been explored elsewhere⁸ and suggests that, in general, substantial residential sites capable of creating their own 'place value' or location that are developed to the following principles will in general deliver across a range of community⁹ and commercial values, reflecting the spatial and density characteristics of London's most successful traditional neighbourhoods.

The central characteristic of all of these areas is that the principle form of development is street blocks whether configured as mansion block flats, at the most dense end of the spectrum, or as terraces or other housing configurations that are built in street form i.e. respecting the building line, rational street layout and with a strong interrelationship on set-backs, proportion, height and general design treatment.

The popularity of the traditional London inner sub-urban areas (as opposed to later car-based 'suburbs') such as Stoke Newington, Clapham, Kennington, Earls Court, Islington, Camden, Wandsworth, Marylebone and Kensington & Chelsea are testament to the robustness of this approach, as is the market acceptability of areas which display these characteristics.

⁸ *Valuing Sustainable Urbanism* ibid.

⁹ VSU pp ; *Shaping Neighbourhoods for Local Health and Global Sustainability*, Barton H., Grant M. and Guise R. Routledge, 2010

Sustainable Urbanism Characteristics (as identified in 'Valuing Sustainable Urbanism') which support value-added development outcomes

Perimeter blocks are the ordering device of the urban form

Mixed Use

- *Retail principally located in a distributed fashion along main streets e.g. 'high streets';*
- *Studio/office/live-work component*
- *Community space for health, medical, childcare, educational and leisure use*
- *Flexible and adaptable buildings capable of accommodating employment and community uses.*

Mixed affordability & housing type

- *To support mixed community*
- *Housing need at different life-stages and circumstances*

Legible street hierarchy

Relatively dense; however recognising density gradient across site

Well structured green space – gardens; communal gardens, parks, street trees (not 'land left over after planning')

Parking principally on-street regulated by parking permit

4.4 Valuing Sustainable Urbanism and built examples of street based urbanism

Research conducted by Savills with the Princes Foundation for the Built Environment¹⁰ considered a number of regeneration and greenfield growth scenarios and compared relative Gross Development Values (GDV) generated by a traditional single use housebuilder scheme over a sustainable urbanism solution based on a *Complete Streets* approach. In each case, the street based urbanism outperformed on GDV.

Illust. 4 Crown Street, Glasgow – Reintroducing streets to the Gorbals



Of particular significance to this study was the case study at Crown Street, Glasgow¹¹ (illustrated above and below) where a partnership of interests including New Gorbals Housing Association, Glasgow City Council and The Scottish Development Agency came together to reconfigure the notorious 1960s tower blocks at the Gorbals as street based urbanism. In this case, the GDV produced by Crown Street outperformed that of a single use, non-street housebuilder scheme within the same market, even though the latter scheme benefitted from a waterfront location.

¹⁰ 'Valuing Sustainable Urbanism', *ibid.*

¹¹ 'Valuing Sustainable Urbanism', pp 63-80

Completing London's Streets

Savills Research Report to the Cabinet Office

Illust. 5 Comparison of Complete Streets built scheme (Map 2) and Contemporary Regeneration (Map 3) within Glasgow, from Valuing Sustainable Urbanism

MAP 2
Crown Street Land Use
 Scale: 1cm = 0.04 km
 Note: this is to a different scale to the standard and old comparator as the site area measured was larger



MAP 3
Mavisbank Gardens Land Use
 Scale: 1cm = 0.02 km



Map Key

- | | |
|--|---|
|  commercial land |  pedestrian only access |
|  commercial car parking |  playground |
|  commercial premises |  public parking |
|  community |  rear garden |
|  community facilities |  residential |
|  front garden/driveway |  road |
|  garages |  sheds |
|  open space |  ski slope |
|  open water |  sub station |
|  park |  unknown building |
|  parking courtyards |  verges and small greens |
|  pavements |  water |

Crown Street, Glasgow

The Crown Street Regeneration Project in Glasgow is considered by many to be one of the best examples of housing-led, mixed-use regeneration executed to a *Complete Streets* model in the UK. Following the failure of the post-war Comprehensive Development Area approach, which replaced historic overcrowded tenements with tower blocks, the Crown Street Regeneration Partnership was set up and decided to adopt a street based master planning approach to this housing-led regeneration. The model of the traditional Glasgow tenement was adopted, which was commonly built around the perimeter of a drying green with small private gardens allocated to ground floor properties, and which included a mixture of uses at ground floor level on principle routes. The scheme was also informed by the Notting Hill garden squares which were well known to the masterplanners (CZWG). In its first phases, the scheme delivered 639 homes for owner occupation and 168 homes for social rent.

Accessibility / Location Efficiency

As a consequence of the phased development of the area and those areas surrounding it, the site was somewhat isolated from the wider area and a key design principle adopted was to reinstate street connectivity:

'the site will not be developed in isolation from the surrounding area, but become a cohesive and integrated part of the Gorbals both physically and socially'.

The physical layout of streets and blocks now connect to and address the surrounding area. The streets are predominantly straight with slight axial changes of direction, punctuated by the occasional circus or crescent, making the development seem part of the fabric and an addition to the overall neighbourhood rather than a separate 'project'.

Infrastructure Efficiency

The scheme tapped into numerous pre-existing roads, bus routes, and through restoring population density to this part of Glasgow secured the future of a number of primary schools whose numbers were falling to the point of un-sustainability.

Appropriateness to context

The scheme embraced the traditional street based urbanism typical throughout Glasgow incorporating a familiar scale of development, legible street patterns and a strong recognisable identity boldly redefining the tenement as Glasgow's archetypal building form, however maintaining typical densities, block patterns and scale.

Well defined public and private space

The buildings address the public streets in a positive way giving distinct public and private frontages. The shared communal gardens fill the centre of each block, and these are subject to the management regime of the New Gorbals Housing Association to ensure they are maintained to a high standard. The ground floor dwellings have the benefit of small rear private gardens (which give on to the communal garden area), and in some cases a small front garden providing a set back from the street reflecting traditional Glasgow street form.

Housing mix and tenure

The project consciously set out to achieve a diverse range of residents and has attracted existing residents, people with connections to the Gorbals, newcomers on higher incomes and families with children. To create more opportunities for residents and widen tenure choice a balance in favour of private over social housing was preferred.

Non-residential uses & Local Economic Capture

The mixed-use elements of the scheme – most notably Kwik Save – have generated private sector investment and local employment opportunities. Kwik Save invested more than £1 million in its store and employs 50 full and part-time staff. Other mixed-use elements of the scheme include individual retail units, business units, a hotel, a library, public house, and a Life Long Learning Centre.

A mixed-use street

Crown Street is a key neighbourhood focus for the area beyond the development as much as the development itself. Commercial and community activities are located on Crown Street and public transport runs along the retail street with the retail units serviced from the street frontage.

Estate management

The New Gorbals housing association provides on-going management of the entire estate including public areas, communal gardens and private properties for rent, where owners wish to use their factoring service.

4.5 Place Potential – determining an optimal regeneration solution

Clearly, the potential of every site and its location is different in terms of what form of development may be appropriate and what capacity might be achieved. We call the optimisation of the site in this way the achievement of its 'place potential'. The determination of the place potential of a site takes account of its connectivity to latent infrastructure capacity; location within the urban transect¹²; urban design and approach to density and use that is appropriate to context - and we reference this with well-functioning comparable urbanism elsewhere within the same, or comparable, property market.

We have applied this 'place potential' analysis to example sites analysed in Appendix 1 and 3 in this report to consider how they could perform if redeveloped to the *Complete Streets* model.

4.6 Densification or intensification the city?

In the 2013 Autumn statement the government announced its intention to 'explore options for kick-starting the regeneration of some of the worst housing estates through repayable loans'. This was followed up in the 2014 Budget by the announcement of a '£150 million fund to kick start the regeneration of large housing estates through repayable loans, helping to boost housing supply'¹³.

Our observation is that when some such estates have been regenerated in the past, typically the number of units is increased, along with the quality of housing (insofar as the stock is generally renewed), however the pressures of viability on the development business model mean that a higher number of housing units are put on a site without the commensurate development of social infrastructure in the form of supporting community and commercial uses. Too often, poor quality, low functioning buildings are replaced with sometimes higher quality, new, but similar ones with the consequence that the place itself remains disconnected from the London street scene and lacks amenity. If newly-regenerated estates remain merely a collection of buildings (albeit occupied by a wider variety of residents) and remain cut off from surrounding neighbourhoods, we postulate that they are more likely to continue functioning sub-optimally – especially in the context of a major and high-functioning world city. The potential of this land to add to the broader community and commercial capacity, as well as the London housing stock is foregone, as is the positive regenerative impact on the surrounding areas that could have been achieved through a more radical *Complete Streets* approach.

Analysis has been conducted in recent years which develops the point, namely that social housing estate regeneration schemes may make improvements to a site but not fully optimise the land potential of the site by providing the most desirable, most intense and highest quality environments possible (valuing Sustainable Urbanism 2007, Create Streets 2013). Work by Space Syntax also shows that certain types of street patterns are more likely to lead to better social outcomes than less traditional arrangements of buildings, such as those constructed on Local Authority housing estates in the 1960s and 70s.

In the 2004 research by the LSE (Density and Urban Neighbourhoods in London) looking at London Wards with particularly high densities, it is notable how many of those wards retain a large proportion of traditional grid-type street-patterns, regardless of social economic or value status. We have also participated in research in the past (Space Syntax, iValul, Urban Buzz and Savills Research 2010) which correlates well-connected streets with greater value and we are aware of the consistent evidence (Cabe 2010 *et al.*) that majorities prefer to live in houses or flats in buildings with a smaller number of units in them.

¹² See page 30 for explanation of the urban transect

¹³ HM Treasury, *2013 Autumn Statement* (2013), p. 61. HM Treasury, *2014 Budget*, Section 1.143, p.40.

It is striking that a recent YouGov poll found that only 33% of Londoners supported additional high rise residential housing to solve London's housing crisis. While the creation and/or retention of towers should not be ruled out in all cases, they should not be relied on as the preferred built form to solve the London housing shortfall simply through plot densification.

At Crown Street (section 3.4) two of the 1960s towers were retained and refurbished, with a new management regime of the common parts as these were highly regarded by older people looking for a secure environment and who enjoyed the views. Among our client base, we are aware that tower blocks are popular with other specific purchaser/ occupier groups and in particular foreign nationals who are accustomed to apartment block lifestyles. Equally, the form makes sense for accommodating large numbers of smaller households with no requirement for outdoor space nor a car – so can be suitable for student and key worker accommodation. However the proliferation of tower blocks without supporting infrastructure, and imposed with little consideration to broader issues of urban form and capacity, particularly at street level, will fail to produce an optimal impact on the London land supply.

We postulate that a more integrated, mixed use and recognisably urban built form would yield better outcomes from a social, economic and environmental point of view. We have found from past research that both traditional streetscapes and new, 'sustainable urbanism' could provide more housing and other, mixed, uses on the same amount of land. This type of development is more highly valued in all sorts of ways by inhabitants and can have a higher eventual aggregate value in the real estate market than conventional estate redevelopment.

This is a view reflected in the opinion of most built environment professionals interviewed for this study, see Appendix 5. We think that this highly valued environment could provide scope for both popular housing and regeneration that involves minimal, or possibly even no, permanent public subsidy. This is what this report seeks to explore.

In the case of land which is in public ownership, and has been in use as affordable and social housing, the argument for interrogating the social value and occupier acceptability of the property that is yielded from future regeneration is redoubled. We recommend that a thorough occupier preference analysis is undertaken to gain a systematic understanding of these areas, the findings of which may help to make the public case for regeneration and intensification down the line, as well as informing schemes that may emerge from this process.

4.7 Complete Streets Hypothesis

Our hypothesis is that the replacement of slab blocks with traditional housing types in street form, including terraced houses and mansion blocks, as well as the appropriate construction and retention of towers in some cases (provided these respect the overall street form at street level), would significantly increase the housing capacity of land and better provide for the social and other needs of existing inhabitants while providing more successful, desirable and authentic London neighbourhoods and supporting wider area regeneration.

In this report we have shown that the restoration of streets and optimisation of built form, in line with the traditional street form of some of London's most socially and economically successful neighbourhoods, could provide enough land to begin addressing London's housing crisis at a significant scale while allowing for the provision of the sort of homes that people want.

That some of the least optimised pieces of land are largely in the ownership of local authorities or housing associations means that they have the potential to be regenerated and redeveloped in their entirety, while retaining and extending existing communities. We do not underestimate either the disruption or other challenges of decanting, however we believe that, given the acute nature of the current housing under-supply and problem of affordability, acceptable solutions could be found. Clearly gaining public and local political support for such a programme would be inherent to its success, and existing tenants and owners would need to be convinced from the outset that they would be treated fairly, and their stake in the project recognised.

Our research is designed to ensure that, were this approach to regeneration to find support, it would make optimal use of land and provide the homes, neighbourhoods and business capacity that people want, optimising the use of our scarce land resource for future generations.

We believe that the adoption of the *Complete Streets* approach set out in this paper could lead to the creation of several hundred thousand new homes on Brownfield sites – as well as enhancing the lives of existing residents; building London community and commercial capacity in line with residential growth and regenerating surrounding areas. On the basis of the broad-brush capacity analysis undertaken in this report, if this programme of regeneration were to be built out in the next decade, it would substantially alleviate London's housing crisis - which is currently seeing new housing construction run at around half the level of annual need. It would also help to address the problem of affordability and could significantly add to London's community and commercial capacity.

5. London's Traditional Street Form

5.1 The resilient role of streets

The organisation called '100 Resilient Cities' defines resilience as:

*"the capacity of individuals, communities, institutions, businesses and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience."*¹⁴

We argue that street-based urban fabric is more capable of change and adaptation than blocks of single use buildings in an open landscape. The fact that so many of London's street patterns have endured for centuries is testament to this.

Even though much of the economic and social activity that takes place on streets has changed unrecognisably and the city environment has developed exponentially, human beings in different parts of the world and through the ages, still exist, interact and behave on streets in similar ways. Street based environments are still the most sought after residential and business locations in the world, as much by those in the new technology industries of the digital age as those in traditional businesses like retailing and personal services.

Illust. 6 Street for through the millennia



a) *Streets in: Mesopotamia Ur 3,800BC. Human beings have organised their habitat in this way for millennia and across continents*



b) *Via Domitia, Narbonne Fr., 118BC. The current streets still follows the same route metres higher.*



c) *Watling Street, built 180AD is still part of London's streetscape*

¹⁴ www.100resilientcities.org

5.2 Street destruction and its consequences

Close examination of LAHEs through our 6 examples at Appendix 3, has shown that the replacement of old streets with new estates was a response to post-war urban population decline and falling resident numbers as well as the modernist influence that pervaded the architecture of the time. This has since proved to be a deeply inappropriate response to housing inner city populations. It is not the object of this report to catalogue the shortcomings and unforeseen consequences of housing people in this way – other than to reinforce the point that given the acute housing crisis that London is presently facing, this is an efficient and even irresponsible way to deploy such a significant element of the London land supply.

The planners and architects of the 1960s could not have anticipated either the scale or velocity of London's renaissance and growth. However, in destroying a vital part of London's street infrastructure, they impaired the ability of these parts of the city to adapt spontaneously to the subsequent change. Contrast this London's conservation areas which could, and did, adapt accordingly. Past local authority estate-building damaged the urban fabric by cutting off the street arteries and route capillaries of the city, creating enclaves divorced from the main city fabric. The regeneration of these estates would offer the opportunity to repair London's urban fabric and to create environments that are capable of future-resilience. We don't pretend to know what the future holds for London and how the buildings on any new streets will be used, but if reconfigured, we suggest they offer a better chance of adapting and providing a valuable piece of city infrastructure for future centuries of change and challenge.

5.3 Why Complete Streets?

This report does not set out to show that slavishly recreating the street pattern that existed prior to the building of a housing estate is the answer. To approach regeneration in such a retrogressive fashion would not necessarily create the most valuable and valued outcomes and does not sufficiently increase urban capacity and housing numbers nor accommodate modern needs such as car parking and other servicing.

What this report does show is that full 'place-potential' is more likely to be achieved if mixed use and flexible new streets are created rather than blocks of single use buildings set in open space. These new *Complete Streets* can be informed by the past but also need to take the most logical and desired routes to create a permeable and well-connected urban network and services of a 21st century standard. This can then be fully developed with a variety of flexible building forms, tenures and uses over the years, and should be able to robustly adapt to change in the future.

A *Complete Streets* approach to regeneration is not about reproducing past architecture or certain period styles, but rather the creation an optimal city geography that best allows for the maximum number of human interactions and accommodation of buildings and habitations at a human scale. This form has adapted to the needs of the city accommodating inhabitants past and current due to its fundamental compatibility with human scale and behaviour, is likely to adapt to unknown futures yet to come.

Illust.7



a) *Old streets with half basements and stairs that would not meet current building regulations*



b) *Complete Streets new 4 storey homes built to a street grid.*

5.4 The case for street-based intensification

Unit numbers and gross development values do not tell the whole story as to the viability and benefit of a scheme. Sometimes (not always) new units can be significantly smaller than existing homes or of more limited types. More significantly perhaps, the new units may not be valued as highly as they might be by inhabitants and prospective inhabitants of a scheme.

Where developers have to take established local prices and work within local market parameters with their regeneration schemes, the gross development value of a scheme is limited and, if there are insufficient new workspace, community and commercial premises created, the life chances of local residents can also be limited and the full regeneration benefit is foreclosed upon.

We suggest that regeneration schemes which replace old and failing buildings with new and shiny buildings but which do nothing to create more urban, connected places fail to achieve their full place-potential. In a successful world city like London, the achievement of place potential can allow for a significantly more intense use of land than is currently realised on some local authority owned land, especially when it is close to transport links. Because *Complete Streets* can provide more functions than just accommodating housing units and because of the urban infrastructure they provide, the *Complete Streets* approach significantly enhances opportunities for employment, enterprise generation and community uses alongside creating additional housing capacity. In this way, the approach creates more flexible urban forms and, through re-establishing the qualities referred to by estate agents as 'location', can build potentially higher land and property value both within the site, and across the neighbouring areas over the medium to long term.

Our model of calculating London place-potential suggests that, while managing to reduce the concentration of deprivation by creating more balanced communities, too many regeneration schemes risk failing to shift the inherent location value of a site significantly. This will be especially apparent in future decades if regeneration schemes prove costly or difficult to maintain and run. The 'new-build premium' can be particularly quickly eroded by high service charges, wear & tear and complex maintenance that is difficult to sustain.

We propose that where a site has sufficient prominence and scale, it can re-establish new value norms in a location by effectively changing the nature of that location. Experience and a few rare examples of built good practice, show that re-knitting a site back into the wider urban grid and changing the nature of a location, especially those sites on good transport routes, can significantly shift towards higher value norms.

In our six case studies (Appendix 3) of different sites across London we found that creating *Complete Streets* on old housing estates yielded more valuable neighbourhoods. By building a variety of unit types according to the suitability of the location, from apartments in mid-rise modern mansion blocks, through terraced street houses to small mews houses, a similar number of new homes could be created on a site to those created by *Contemporary Regeneration* schemes, however we have shown that the *Complete Streets* model often yields larger units of greater variety in a form more highly valued by residents. This meant that final development values could be significantly higher than a conventional development approach could create. On this model, we suggest that the landowner and developer become 'value creators' rather than 'price takers', establishing a new set of locational values and level of market activity.

We further propose that *Complete Streets* approach could yield 39% more floor area of commercial uses (shops, pubs, offices crèches, community uses etc.). In this way, the *Complete Streets* approach has the potential to increase on-site enterprise, community capacity and employment levels by a significant margin, and in particular if extrapolated across London.

Illust. 8 Old and new buildings of different densities and heights and mixed use within a Complete Streets framework support quality of life, local economy and place value.



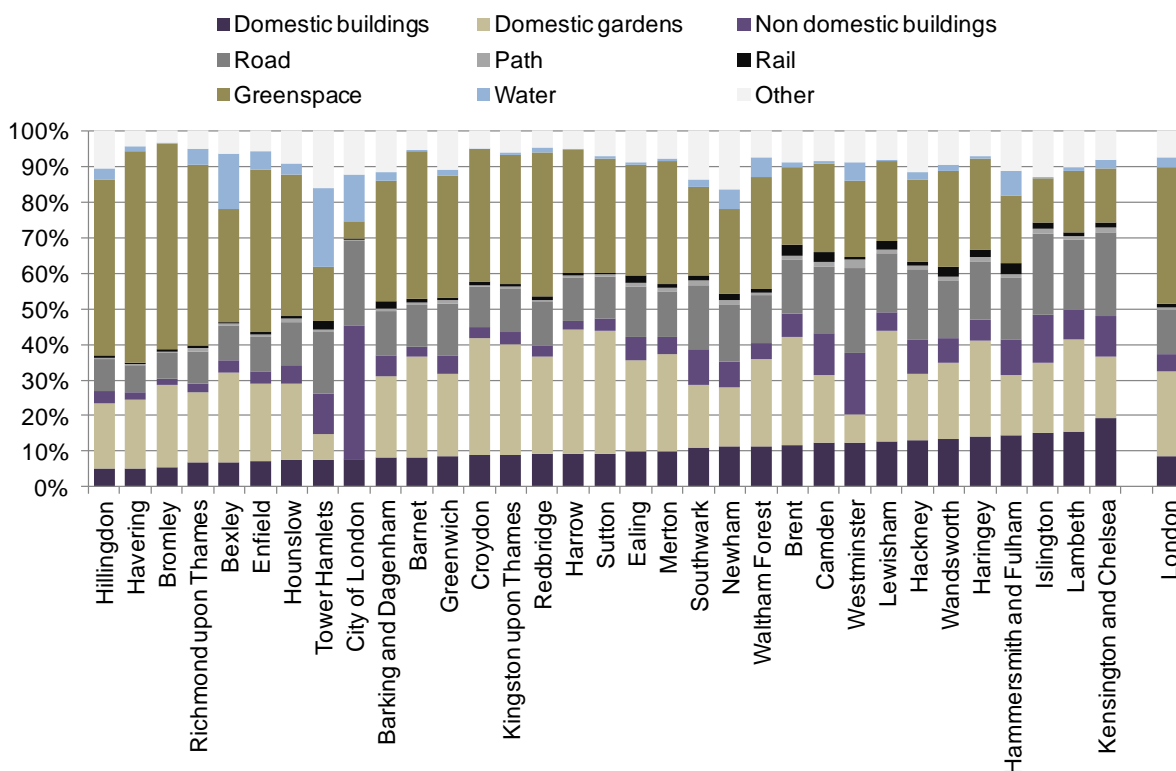
6. Land and London Authority Housing Estates (LAHEs)

6.1 Land in London

Chart 4 shows how London's 159,000 hectares of land is utilised by different building types and how this differs borough to borough.

In most London boroughs, the highest proportions of all land are taken, not by buildings, but by green space and water, followed by domestic gardens and roads. By this measure, London is already very much a 'garden city', and possibly this is one of the reasons that it has become such a globally popular residential location.

Chart 4: London's land use by borough



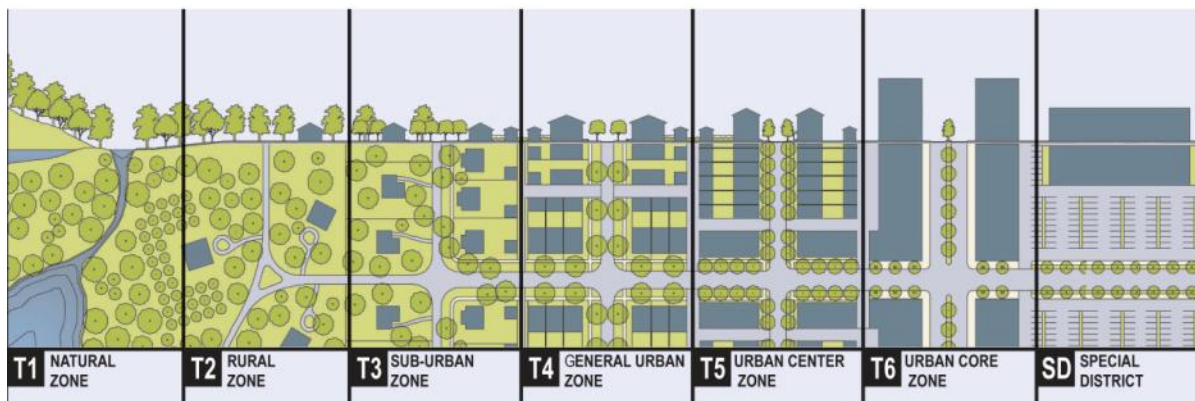
Source: National Land Use Survey

It is notable, however, that the central London boroughs with the most built-on land (and the smallest domestic gardens) are also some of the most desirable neighbourhoods. Their desirability is composed of a number of factors including proximity to the centre, historic architectural legacy and urban form. It must be noted that streets take on a greater importance in their proportionate land-take as generous 'streetscape' counterbalances taller, more dense properties and accommodates parking on-street via controlled parking regimes. This denser urban character is expectable within proximity of the central business area as part of a well-functioning urban transect¹⁵.

¹⁵ A transect is an analytical tool used by geographers and some urban designers that identifies different forms of habitat along a line cut from the centre of a city through its suburbs to its rural hinterland. The transect helps to analyse the appropriate scale, density and form of a given location. www.transect.org

Transect Diagram

Illust.9 Rural – Urban Transect, by kind permission of Duany, Plater & Zyberk/www.transect.org



This analytical tool suggests that a high level of build coverage with more limited amounts of open space is not only acceptable but in fact this intensity of use underpins the amenity and mixed use quality of the inner urban suburbs; it could be argued that this level of amenity is also underpinned by intense infrastructure provision (particularly public transport), economic strength and (in general) social cohesion. Given the very high level of market acceptability that can be demonstrated by these neighbourhoods, the question can legitimately be asked whether other areas of London could move towards this level of intensity without undermining quality of life?

This could be particularly compelling where substantial infrastructure capacity is either in place or is planned to optimise the land use efficiency of sites benefitting from high levels of accessibility and economic potential.

6.2 Local Authority Housing Estate density and land use

Density can be measured by taking the gross land area or just the footprint of the buildings involved. Comparing these densities using different measures is confusing and therefore we break down the different densities based on the land measured.

Gross, all London housing density

London's total land covers 159,000 hectares and contains homes for 3.266 million households at an average density of 20 households per hectare.

Domestic land housing density

Of all London's land, 66,200 ha (or 41%) is taken up by domestic buildings, domestic gardens and the hard standing, roads and paths that serve them (41% is green space and water). This land, which is specifically used for housing, therefore accommodates between 27 households per hectare (Bromley) to 180 households per hectare (Tower Hamlets) by this measure. The average for Inner London boroughs (89 households per hectare) is higher than that of Outer London boroughs (37 households per hectare) and the average across London is 49 households per hectare.

Social rented households are more common in Inner London, where they make up one third of all households (33%), than in Outer London where they make up just 18% of households. Therefore the density of areas with social households and hence housing estates is higher than the London average.

Table 3: Average London Housing Densities

Households per hectare			
	Inner London	Outer London	All boroughs
Gross Household density (all land)	42	15	20
Built land household density (built land only – excluding open space & water)	56	27	35
Gross domestic land household density (domestic buildings and gardens and their share of hard standing, roads and paths)	89	37	49
Net domestic land household density (domestic buildings and gardens only)	128	46	63
LAHEs	Not estimated	Not estimated	78

Source: Census 2011, Neighbourhood Land Use Survey

Housing estate density

LAHE densities are best compared to Gross domestic land density because in the main, they do not include commercial buildings and other public uses but do include domestic buildings and associated infrastructure. The density on the six housing estates studied ranges from 46 homes per hectare to 111 homes per hectare. In order to measure the average for London's housing estates as a whole, we gave each site a weighting based on the number of similar estates (estimated from the distribution of census output areas with 60% or more social renting households) and multiplied up the measures accordingly. Using this method, we found the average for all LAHEs in London to be around 78 homes per hectare, reflecting their higher concentration in inner London boroughs and appearing to be very much in line with London densities but not the high or super-high density enclaves they are often thought to be, given their predominance of towers and block apartments.

6.3 Opportunity for LAHE intensification and regeneration

By looking at the six examples of in detail we identify that housing estates in London could be redeveloped at higher densities and that these tracts of land fail to play their full part in servicing London's broader 'civic capacity' with shops, employment and business space and community uses.

The optimal density and form at which these sites could be reconfigured, varies greatly from site to site and depends on a wide variety of characteristics as has been set out above, but it would appear that there might be capacity for creating more housing and commercial/civic capacity on this type of local authority land, if the social, economic and environmental impacts can be properly managed.

6.4 What is the full LAHE regeneration capacity?

Savills estimate that around 8,500 hectares of land contain London's 660,000 households that occupy Local Authority Housing Estates (LAHEs) (This could be as few as 7,000 hectares or as many as 12,000). Had these estates been built in the past using the Complete Streets model proposed here, an additional 480,000 households could have been housed on them. If housing estates are renewed in future, a larger number of housing units could be provided on them using either a contemporary apartment block scheme or an intense, urbanised scheme but more are likely to be delivered if the 'complete streets' method of regeneration is used because more value is generated and build costs are lower.

We estimate that approximately 1,750 hectares of London's 8,500 hectares of LAHEs might be capable of this type of regeneration with the potential to provide somewhere between 190,000 – 500,000 homes on Complete Streets, representing an increase over the number of existing homes of between 54,000 and 360,000.

Table 4: Housing densities found on 6 case study sites

Housing units per hectare			
	<i>Existing Estates</i>	Regenerated housing estates <i>Contemporary Regeneration</i>	Regenerated housing estates <i>Complete Streets</i>
LAHEs	78	130	135

Source: Savills Research

6.5 Regeneration densities

This study examined two different ways of regenerating each of the six LAHE in our sample. First, *Contemporary Regeneration* methods were applied to replace housing on the estate with new mid-rise and high rise apartment blocks in landscaped grounds. Second, new versions of traditional streetscapes were applied with a consciously greater mix of building uses and a greater variety of housing types on them at low-rise and mid-rise, with retention of a single tower as an option in the most central area to the *Complete Streets* model.

We were interested to see how this affected the number of buildings capable of being accommodated on the same amount of land and also whether and how this might lead to increased numbers of housing units on an estate. Regeneration schemes would be impossible to finance let alone justify if they do not add to overall housing numbers.

On average, *Contemporary Regeneration* methods created 130 homes per hectare while *Complete Streets* yielded 135 units per hectare. In both cases this is an increase of over 50%.

There were very wide variations of density across our sample sites. One *Contemporary Regeneration* scheme yielded relatively low densities of 64 units per hectare which was increased by redeveloping on a *Complete Streets* pattern. Another more centrally located *Contemporary Regeneration* scheme yielded 305 units per hectare. This was not matched by the *Complete Streets* scheme on the same site, although density was more than doubled by this method and new employment space generated. By retaining the towers and building a complete street pattern around them the density was increased by nearly one and a half times. The retention and refurbishment of existing towers on this scheme can boost densities but, it is worth noting that it is not always possible to retain and refurbish old towers because of the sub-optimal positioning of old blocks in the new streetscape, and in addition, in some cases, retaining towers may not be considered desirable by the local community.

There is not therefore a clear-cut case for preferring either *Contemporary Regeneration* or *Complete Streets* on the grounds of density/unit numbers alone especially in very central locations. Other factors, first and foremost the popularity of the complete streets form among residents and the local community, the adaptability of the form, ongoing running costs, appropriateness for conservation areas, deliverability and commercial viability all come into play when evaluating options. Considerations of longer-term economic, social and environmental sustainability, which go beyond technical rules (building regulation) or individual planning guidance, need to be thought through and guidance may be needed to be put in place¹⁶ on the evaluation of options at a strategic policy level.

¹⁶ See for example, reference to the 'Tests of Smart Growth' highlighted at p 42 below proposed in a BRE paper.

6.6 The question of open space

It is also worth noting at this stage that a key factor in delivering high density, street-based urban form comes at the price of large quantities of public (although often amorphous) 'open space'. Large areas on LAHEs of, what is, in practice, often low-quality grassland landscape is replaced either by private gardens, well-defined or useable communal gardens and public squares, as well as tree lined streets, in the case of the *Complete Streets* model. In the case of Contemporary Regeneration, larger swathes of publically accessible parkland tend to be created, often beautifully landscaped. In some cases, adequate provision is made for the maintenance and upkeep of the open space – although this can mean particularly high service charges for residents. In other cases, little or no clear provision is made for future running costs, particularly after the developer who created them has departed, and there may be questions left around who is responsible or how the local authority will maintain open space to the necessary high standard if public resources are limited. In these cases we consider there is a real risk that open space on the new estates will cease to be an asset and revert to being the under-used, and unloved drain on residents' resources.

Illust.10 Well landscaped Contemporary Regeneration



There is evidence¹⁷ that smaller, better managed green spaces are more highly valued than larger, ill managed and sometimes dangerous, open spaces. Indeed, poorly managed green space can devalue the surrounding neighbourhood in a variety of ways, including financially. At the same time current public green space standards virtually preclude the ability to provide substantial private gardens – which in some cases would be preferred by residents.¹⁸

This is a complex dynamic and debate that needs to be well aired before the policy changes and compromises needed to create Complete Streets could be made. It is for this reason again that the involvement and engagement of the community is key – once a minimum density and other financial parameters have been set, (that allow for a variety of options), it should be down to local people, who have to bear the final burden of the choice, to decide how exactly the final decision is made. Hard and fast rules around the principal of reducing 'open space', no matter the quality, would be a barrier to residents being able to make these free choices as part of the design process.

¹⁷ CABE 'Does Money Grow on Trees?' report 2005

¹⁸ See Crown Street case study at p 23 above, where residents have much valued private and communal garden access.

6.7 Regeneration Choices

Overall then, there is not a clear-cut case for one type of regeneration over another on the grounds of unit numbers alone. We did observe that some housing departments and planning departments in London, not to mention developers and their funders, were likely to be driven toward providing maximum housing unit numbers on a site, regardless of size or type, even if this resulted in unpopular development, largely because this will meet targets and so be measured as successful.

Higher unit numbers also have the political advantage of yielding higher numbers of social or affordable housing (the percentage of affordable housing may remain the same but the actual numbers delivered will be higher on a denser scheme). Some commentators we spoke to felt that this looks better for politicians and may be pursued at the expense of a suitable streetscape or scheme density and may even effect unit mix (it is easier, for example, to deliver several hundred units if they are all small flats in blocks rather than in a mixed housing environment including family houses on a street), and the present target based mind-set fails to register the less easy to measure wider regeneration benefits of enhanced streetscape, quality of life and place competitiveness.

Consideration should therefore be given to whether the present drive for housing numbers runs counter to quality of place and, in particular, other types of use and important London urban fabric. Where reference is made to quality of place, it is often interpreted as the quantity of public green space or open space on a site, heedless of its urban quality or the costs of its future maintenance and upkeep. As can be seen from the measurement of the micro-disposition of land uses on a borough-by-borough basis at p32 above there is no correlation between the amount of green space and the relative desirability of a given borough, as measured by property value.

6.8 Regeneration quantity and/or quality?

We have made the case elsewhere¹⁹, instead that the key components that make for a successful place are well structured, mixed use and mixed tenure street-based urbanism. Of course well-conceived green space is an important element of this, but is not an absolute predicator of quality and success of a location in isolation – in fact it is the opposite if not well maintained and safe.

A further consideration is the need to balance the increase in housing density and capacity with a commensurate increase (not decrease) in the amount of space available for employment, enterprise, leisure and community uses. A significant net loss of space available for non-residential uses has taken place over recent years particularly as residential property values have recovered and escalated ahead of other uses. The trend predates the recovery however, and has been part and parcel of a liberal approach to the application of the use classes order; the sale of surplus assets by government and non-governmental bodies; and a perception that somehow this capacity will be replaced elsewhere. While on a site-by-site basis the case can be made for change of use to residential, the net effect is potentially to undermine the essential 'urban village' quality of London, and the capacity of the city to service its neighbourhoods sustainably. Furthermore this loss of capacity is affecting the business sector with a displacement of space for entrepreneurial and manufacturing business from Inner London²⁰.

In relation to our study, we contend that the *Complete Streets* approach to regeneration of the LAHEs could go some way towards restoring the mixed-use business and community capacity, and urban-village character of London as well as helping to unlock additional housing supply and affordability.

¹⁹ PP 19-27 above

²⁰ 'London's Industrial Land', Ferm J. and Jones E., Bartlett 2015; 'I'll Take the High Road', Brearley M. in Architectural Review, March 2015; Just Space Economy Group 2015

Table 5: Employment-generating-space in each scenario

Existing Estates		Contemporary Regeneration		Complete Streets	
Existing commercial space, sq.ft. per Ha		Provision of commercial space, sq.ft. per Ha	Increase in provision	Provision of commercial space, sq.ft. per Ha	Increase in provision
Site A	31,450	31,450	0%	30,240	-4%
Site B	5,751	5,751	0%	5,911	3%
Site C	12,716	12,716	0%	13,167	4%
Site D	4,727	4,727	0%	8,321	76%
Site E	9,847	9,847	0%	9,847	0%
Site F	3,463	3,463	0%	5,913	71%
Weighted average	8,831	8,831	0%	10,014	13%

Source: Savills Research

The table above shows how the *Complete Streets* pattern of regeneration creates more space for a variety of uses other than housing. A network of streets provides a more flexible built form, which allows for more employment and other uses to be accommodated on site. Overall, our sites were capable of accommodating 36% more employees than conventional regeneration schemes.

The figures in Table 4 suggest that not only are *Complete Streets* capable of delivering the numbers of housing units provided by the *Contemporary Regeneration* option of big blocks of flats in open space but should also be capable of providing a host of other urban characteristics and uses as well. They also show that even in areas with already high densities, it is possible to achieve a significant increase in the number of housing units *and* accommodate a range of mixed uses presently absent from these locations.

We show later in this report that, in addition, the value of the developments that are created are likely to be much higher than the existing layout, further ensuring that such regeneration can be cost-neutral to government or even may prove to be fiscally beneficial in the long run.

Table 6: Comparative unit numbers per hectare for different approaches on sample sites

Units per hectare	Weighting	Existing Estates	Contemporary Regeneration	Uplift from Existing Estates	Complete Streets	Uplift from Existing Estates
Site A <i>Small, Zone 1, Central, Inner London (with towers)</i>	6%	109	305	181%	279	157%
Site B <i>Large, Zone 4, East, Inner London</i>	18%	46	64	38%	124	167%
Site C <i>Medium, Zone 2, South, Inner London</i>	22%	111	144	29%	140	26%
Site D <i>Medium, Zone 3, South West, Outer London</i>	18%	71	138	94%	122	71%
Site E <i>Small, Zone 3, North, Inner London</i>	18%	72	135	87%	132	83%
Site F <i>Large, Zone 2, North West, Outer London</i>	20%	71	111	56%	109	53%
Weighted average units per Hectare: All		78	130	67%	135	73%

Source: Savills Research

Note: 'Weighted average units per hectare All' is calculated by multiplying the density for each site by its weighting and summing the total. The weighting is based on the number of census output areas of at least 60% social housing that are represented by that type of site. Site A is assumed to be representative of those in Zone 1, Site B one third of those outside of Zone 1 and 2, Site C of those in SE Zone 2, Site D one third of those outside of Zone 1 and 2, Site E one third of those outside of Zone 1 and 2 and Site F of those in NW Zone 2. This has the effect of giving higher weighting to the sites that are representative of a large proportion of sites. The variations in results obtained according to measurement methodology used highlight, once again shows, the folly of pursuing single metrics over a bigger picture view of the quality of place and urban fabric being created.



The retention and improvement of existing parks, as well as the creation of new public, communal and private gardens, is part of the *Complete Streets* approach.

The quality of the streetscape should also create an outdoor public amenity, more pleasurable to walk or cycle through than the environment it replaces.

Open space is included in the output area metrics.

6.9 Estimations of Housing Estate Land Area

The land area occupied by social housing estates is currently unknown and therefore we have had to make informed estimates for this analysis. We estimate that around 8,500 hectares of land contain London's 660,000 households that occupy Local Authority Housing Estates (LAHEs). This is both the result of our preferred method of estimation and a mid-range estimate of the alternative estimations of hectarage.

Our preferred method of calculating the hectarage of LAHEs is by applying the density estimates for LAHEs to the number of households living on LAHEs estimated from census data. The dominant accommodation type on LAHEs is purpose built blocks of flats. According to our analysis of the six estates, 76% of homes on estates are flats, 24% houses. If all social rented purpose built flats are on LAHEs and 24% of homes on estates are houses, the number of households living on estates is 660,000 according to the 2011 Census; 500,000 in purpose built flats and 160,000 in houses.

Applying the average density of estates to the number estimated to live on estates in London, the land area taken up by housing estates is 8,500 Ha. This equates to 14.1% of the hectarage of London's domestic buildings, domestic gardens, and the roads and paths that serve them or 5.3% of the total area of all London land.

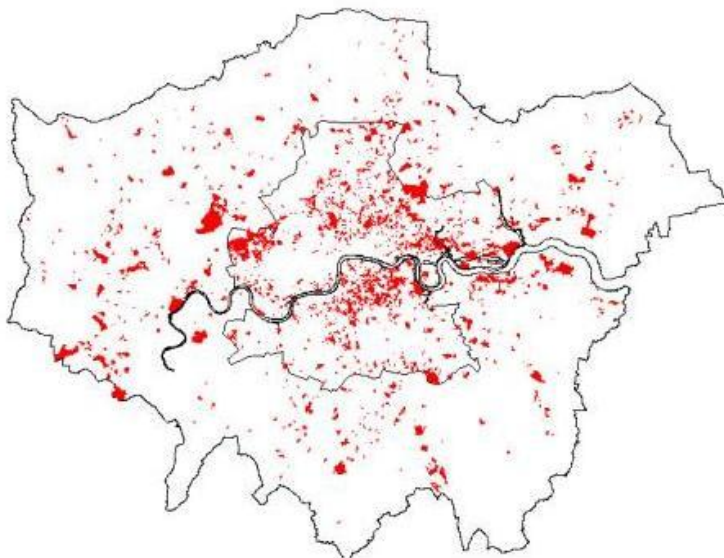
Had these estates been built in the past using the Complete Streets model proposed here, an additional 490,000 households could have been housed on them. If housing estates are renewed in future, a larger number of housing units could be provided on them using either a contemporary apartment block scheme or an intense, urbanised scheme but more are likely to be delivered if the 'complete streets' method of regeneration is used because more value is generated and build costs are lower.

The map in Chart 5 shows the distribution of sizeable areas with high social housing concentrations (over 60% social housing) which should capture most of the bigger local authority estate holdings. We know from the Hills Review²¹ that in areas that were both built as social properties and flats, on average 73% of these remain social properties, while areas that were built as social properties but predominantly houses, on average 50% of these remain social properties.²² So a 60% cut off figure begins to identify the types of slab block estates that may display the characteristics that could warrant regeneration and reconfiguration. If each of the 3,076 output areas in London which have 60% or more social rented households were a housing estate of 100 or so homes, the average borough has 96 estates within its boundaries. Some, particularly in inner south London and inner east London will have considerably more.

²¹ *Ends and Means: The future roles of social housing in England*, Hills J., ESRC 2007

²² Hills J. *ibid* , pages 88-89, 2007

Chart 5: Map to show housing estates in London (Output areas with 60% social housing)



Source: Census 2011

Three other methods using the output areas with a high proportion of social housing give an estimate of the area of housing estate land at between 7,606 Ha and 12,525 Ha. The methods are detailed below and in Appendix 4.

There are different approaches to estimating LAHE land area. These are three alternative methods that could be used instead of our preferred method outlined in above:

1) 7,606 Ha

The output areas in London with 60% or more social housing occupy an area of 9,608 Ha. Excluding the largest 35 output areas, assumed to be too large to be an estate, results in a land area of 7,606 Ha.

This assumes:

- Output areas with 60% of more social housing represent housing estates
- All area in the output area is occupied by the estate

2) 12,515 Ha

Of all the 159,624 Ha in London, 20% of it is apportioned to social housing (based on the breakdown of tenure) of which 56% is owned by local authorities. 70% of this is assumed to be on housing estates which equates to 12,515 Ha.

This assumes:

- The area land is proportional to the number of households
- All tenures have an equal share of all land
- 70% of social rented tenants live on estates

NB: This also calculates for local authority owned estates only

3) 10,181 Ha

Of the 66,185 Ha of gross domestic land in London, 15% is on estates based on the number of social tenants living in purpose built flats equating to 10,181 Ha.

This assumes:

- All purpose built flats are on an estate
- The number of households is proportional to land area
- Domestic buildings + domestic land + share of roads and paths; share of roads and paths = domestic buildings and gardens / total land excluding road, rail and paths * road and paths

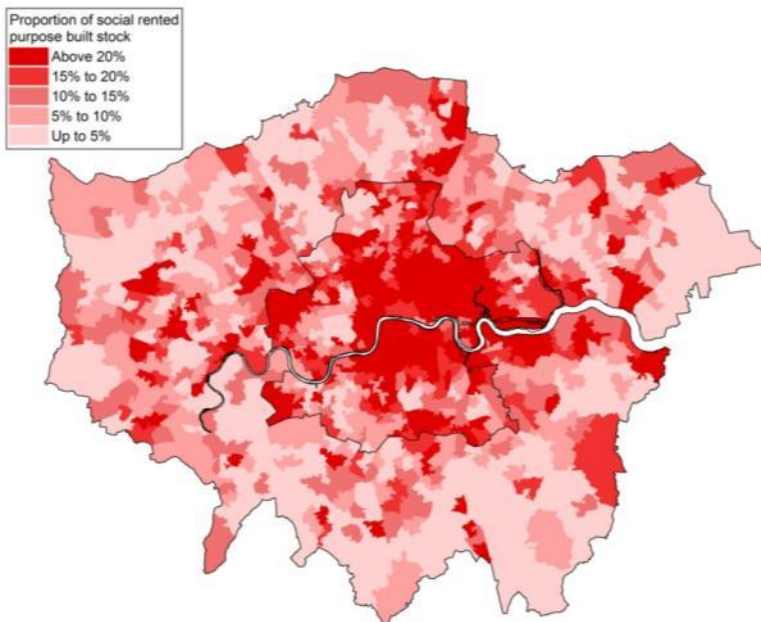
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The output areas with high proportions of social rented households who live in purpose built blocks would be a better representation of housing estates in London, however, this data is not currently available in such detail. At a wider level (middle super output area) the number of social rented households who live in purpose built blocks is available and the proportion across London is shown in Chart 6.

Again it is not the object of this report to define what these criteria are, but could include consideration of land use and infrastructure efficiency, dilapidations and cost of refurbishment, cost in use to maintain and occupier preference.

Chart 6: Map to show concentration of social rented purpose built flats



Source: Census 2011

In order to fully analyse the characteristics, efficiency and potential of London's footprint, we recommend that local authorities should compile schedules of their landholdings so that more accurate numbers can be known.

6.10 How much of this theoretical potential could actually be delivered?

In practice it would be practical for only a proportion of all LAHE to be regenerated and we recognise the political and practical challenges, as well as the fact that only a portion of sites in practice could be brought forward.

In order to establish how much of the total may be capable of re-development a different approach is taken. The homes in the output areas where more than 60% of households are social rented, more than 60% of households live in purpose built flats, fewer than half of the homes have been built in the last 10 years and the density is currently less than 135 households per hectare (the average density under the *Complete Streets* scenario) is taken as the current number on estates capable of re-development.

We estimate that approximately 1,750 hectares of London's 8,500 hectares of LAHEs might be capable of this type of regeneration with the potential to provide somewhere between 190,000 – 500,000 homes on Complete Streets. This would equate to somewhere between 54,000 and 360,000 additional homes.

6.11 A planning framework for mixed use regeneration

If urban London is to be repaired and rebuilt on the LAHEs of the post war era, (and other under-utilised land) more sophisticated measures of place quality are needed than unit numbers and open space measures. We recommend that officers and councillors look increasingly at how new schemes interact with London's broader infrastructure and streetscape; how popular they are likely to prove over time; how well-correlated with good social outcomes, and whether they bring additional jobs, amenities and culture to a site²³. Also important is how they connect with, link into and improve London's broader urban experience. Particularly in Inner London, they need to be part of the urban scene, not single use enclaves.

Particularly in the light of the extreme market forces in play in London, we would go further to recommend that a policy framework to preserve and enhance the mixed use nature of the London urban villages should be enshrined within The London Plan, and potentially within specific guidance to provide planning authorities including a framework for assessing major schemes and how well they serve the broader purpose of delivering a sustainable, resilient and competitive city fabric that achieves its full 'place potential'. We highlighted in the Hulme example (see p58) the difficulties that have been experienced in recent years of maintaining the original intention and quality of the Hulme master plan in the face of the drive to yield short term profits through densification, the negative consequences of which are set out fully elsewhere in this report. We therefore recommend that consideration is given to a strong principles based planning narrative to protect and enhance London's essential quality, overall place-competitiveness, community and commercial capacity.

We refer to a recent BRE guidance note which sets out a series of the 'tests' of smart growth²⁴, to help provide such an analytical framework to ensure these objectives are satisfied, and which could supplement and compliment the National Planning Policy Framework guidance that development should support 'sustainable development'. These Tests of Smart growth are framed as follows.

Tests of Smart Growth from BRE Information Paper IP X/12

'Smart Growth: a sustainable strategy for urban development and regeneration'

- A scheme should demonstrate that it is:
- Appropriate to context
- Infrastructure efficient
- Land use efficient relative to context
- Location efficient (walkable within site / accessible via public transport)
- Resource efficient in use (maintenance, water, waste & energy) and that it ,
- Supports 'place-competitiveness'
- Optimises local economic capture & creates local jobs and businesses
- Offers equitable access to housing and services across a range of life-stages, health and finances

²³ See for example the RBK&C Core Strategy 'Keeping Life Local', which exemplifies how planning policy can acknowledge the need to look for the preservation or reinstatement of the range of uses to support sustainable resilient 'urban village' communities that are the typical London form, and which explicitly looks for neighbourhoods to service daily and local needs on a walkable basis.

²⁴ 'Smart Growth: a sustainable strategy for urban development and regeneration', BRE Information Paper IPX/12 , Clear, Fisher & Mayhew, 2010

7. Value Model

7.1 Calculating densification versus intensification/regeneration uplifts

In order to calculate the value of homes on each site under the three scenarios the following methods were used. All values were calculated for each site individually assuming a value per square foot applied to all private properties on the site and 40% of the value of the private units applied to the social rented units. The current values were calculated from value per square foot modelling of LSOAs using average two bed property sizes and average capital values for flats in conjunction with relevant sales evidence from Rightmove.

These current values then gave a baseline value to estimate the potential value uplift used for *Contemporary Regeneration* detailed in 7.1.1 and sense checked against wider area average value per square values.

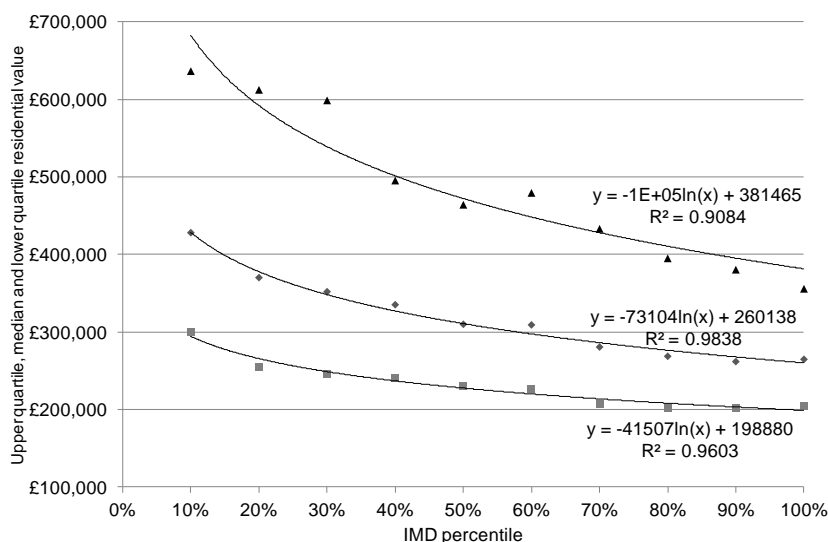
Values used for *Complete Streets* were taken from relevant sales evidence for period property in the local area.

7.1.1 Relationship between IMD percentile and residential value

The graph below shows data for all output areas in Greater London. It shows how concentrations of social deprivation decrease real estate values across London as a whole. Property values by output area are compared against the index of mass deprivation (IMD) and the lower quartile values²⁵ in each IMD band are compared with the median and upper quartile values. It also shows that regeneration on estates can shift property values simply by reducing concentration levels of mass deprivation.

Put simply, if an area's population is composed of mixed income groups, values will rise. By increasing unit numbers on an estate and introducing a broader socio-economic range of households, the index of mass deprivation (IMD) will reduce, not just through dilution but through access economic opportunity and potentially through the introduction of a range alternative lifestyle and behavioural choices. But note that the value effect of this 'dilution' on the cheapest properties is much less marked than on expensive properties. There are clearly other factors than social deprivation of populations at work in determining the value of places.

Chart 7 : Relationship between IMD percentile and residential value



Source: Land Registry and DCLG Indices of Deprivation 2010

²⁵ The median is the mid-point in the list of sales values ordered numerically, the upper quartile is the mid-point of the top half of the list of sales values ordered numerically and the lower quartile is mid-point of the bottom half of the list of sales values ordered numerically.

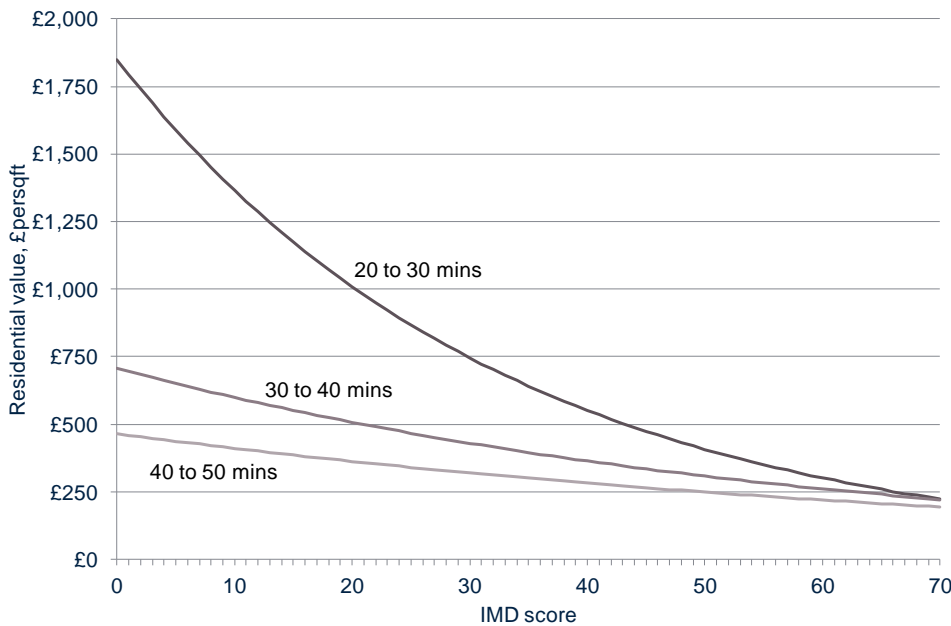
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7.1.2 Relationship between transport links and residential value

Another factor determining value is the quality of transport links. There are different relationships between IMD and value in different travel time zones. The charts below show how more transport-accessible locations have a greater scope for potential value uplift than more remote ones. This may suggest that the more central and accessible LAHEs should be prioritised in order to be self-funding and to optimise historic, embedded spend on infrastructure.

Chart 8: Relationship between IMD and residential value by travel time to central London stations



Source: Land Registry, DCLG Indices of Deprivation 2010 and Mapumental

7.1.3 Applying the theory and observing reality

Using the relationships found for IMD, residential value and travel time to central London stations, the uplift potential for each site has been calculated. In each scenario, the number of units on each site has been increased during regeneration. Assuming the same number of social housing units are retained, those moving into the new, additional units are assumed to have the borough average IMD score. A new IMD score for the site is calculated based on the new mix of people on the site.

Current values on site A, (shown below) for example, lie on the lower quartile for the 10-20 minute travel time to central London curve as shown in Chart 7. If the IMD for the area were to be improved by estate regeneration and its effect of bringing in a mix of people and offering greater opportunity to residents, reducing what are currently locally high levels of deprivation with the average IMD value for the borough, a value uplift is likely to be achieved. Staying at the same quartile, house prices could increase by 3%. However, if the site were to improve more significantly through improvements in the nature of the place itself, and were therefore to become more desirable for buyers and renters, the value could be uplifted by as much as 125% (to the upper quartile).

7.1.4 The 'place premium'

The extent to which any or all of this second premium can be achieved depends entirely on the ability of the new scheme to change the nature of a location so that it behaves more like higher value locations nearby. This is where street-based schemes are more likely to win out over the *Contemporary Regeneration* model, which replaces failing buildings, but fails to mend the urban fabric. If even the most lavishly landscaped and beautiful new buildings continue to be cut off from the surrounding lifeblood of London's streets and remain inward-looking, inaccessible and 'invisible' they are less likely to benefit from the 'place-making bonus'.

It is therefore the potential for estate regeneration schemes to change the location of the scheme from under-performing, undesirable and low value to one that is actively sought-after, high-performing and higher value that will make the most difference to the viability of a scheme. Ultimately, the more value that can be added to a place, the more potential there is for cross-subsidy to provide affordable housing, rented, part owned and owner-occupied accommodation.

In looking at the potential value of properties under the different scenarios, the principles set out in the above analysis have been used to inform the appraisals of property values under different scenarios, which were also informed by market experience, and direct observation of comparable properties and schemes.

The *Complete Streets* approach generally demonstrates the ability to transcend current values and 'borrow' value from neighbouring successful and higher value streets or to emulate higher value neighbourhoods in the local vicinity. As a generality, conventional regeneration built forms appear to be less effective in transcending highly localised market conditions and to break away from current value regimes.

7.2 Creating & capturing the 'place-making premium'

7.2.1 Site 'yield' – Comparative approaches

A further strand to calculating potential scheme value is to consider what people are willing to pay to be in a particular place and for a particular property type. Pricing is a useful measure of what people find desirable, and demonstrates market acceptability. This is critical as the property market is heavily dependent on historic 'comparables' to justify new developments and therefore, if an approach can demonstrate market acceptability, it has more chance of being supported and funded.

In this study, we have measured the property value outcomes of different approaches to LAHEs by measuring the full end value of a place on a per hectare basis. We do not pretend to capture all the elements that people and society value in different neighbourhoods. It remains, for example, notoriously difficult to capture the health benefits of certain neighbourhood configurations or the happiness rating of certain places over others.

However, in recording the market value of buildings, we do capture some of the social value of a neighbourhood. This is simply because good neighbourhoods, from an environmental and social point of view, are more desired by property buyers; experience higher demand than their counterparts and exhibit higher real estate values. Taking this approach, we are looking to measure the universally recognised concept of 'location' – namely the combination of urban and architectural design, with a beneficial mix of uses, infrastructure servicing and amenity. The ability to create or reinstate the qualities of 'location' is an extremely important component of what will make a regeneration scheme work, both financially and in terms of regenerating the broader London urban fabric as well as and how it improves the well-being and daily experience of existing residents.

Table 7: Comparative total end values per hectare for different approaches on sample sites

Total end value per Ha (millions)	Existing Estates	Contemporary Regeneration	Increase in value	Complete Streets	Increase in value
Site A <i>Small, Zone 1, Central, Inner London (with towers)</i>	£33.7	£111.1	229%	£175.0	419%
Site B <i>Large, Zone 4, East, Inner London</i>	£3.6	£11.6	226%	£28.3	694%
Site C <i>Medium, Zone 2, South, Inner London</i>	£15.6	£41.0	163%	£47.2	203%
Site D <i>Medium, Zone 3, South West, Outer London</i>	£9.5	£52.8	455%	£47.6	400%
Site E <i>Small, Zone 3, North, Inner London</i>	£6.9	£36.1	420%	£34.9	402%
Site F <i>Large, Zone 2, North West, Outer London</i>	£13.2	£35.2	166%	£41.5	214%
Weighted average value per hectare All	£11.5	£40.0	249%	£48.1	319%

Source: Savills Research

The table above suggests, at a very simple level, that street based urbanism is more popular than housing estates and that developments produced to this model are more highly valued as a consequence. The average value of real estate (all uses and tenures) on one hectare of *Complete Streets* development is an extraordinary 319% more valuable at the end of the development period than the existing value of the LAHE. Four of the *Complete Streets* schemes are more valuable than *Contemporary Regeneration* with the average value per hectare of land being £40m or 249% higher.

This is very significant value differential and would seem to be, at face value, a strong incentive to achieve successful street-based regeneration. Further, if an optimal investment vehicle and land value capture mechanism can be put in place, it could significantly argue for regenerating and intensifying underperforming land in London through this mechanism.

Although the gap between costs and end asset values may be larger for *Contemporary Regeneration* than complete streets, some *Contemporary Regeneration* schemes may be rendered viable because of a focus only on new build values by conventional developers and housebuilders. The end asset value matters much less to them than it does to landlords and long-term landowners.

If the new build premium available to developers is sufficient to bridge the gap between higher build costs and value, then schemes will go ahead using the contemporary development model. This does however introduce greater market risk into the delivery process. At times when the new build premium is weakened or eroded, development may be rendered unviable.

We note that, while absolute values are greater in the central London case study, the very high values and relatively stronger place-values that prevail within the centre (as opposed to the weaker 'place' value of the other case studies), make it more difficult to make the case on financial grounds alone for the *Complete Streets* route. Here, the place-making premium is overtaken by value creation through densification – if evaluated in pure monetary terms. This raises wider questions around the role of the planning system and conservation regimes to operate to maintain London's inherent streetscape quality in new development through acting as a counter-balance to market forces which would tend to densify the city on a site-by site basis. Equally there is an argument for a strong planning position to maintain development at densities that the underlying city infrastructure is able to absorb.

7.2.2 Current delivery rates and durations

One of the key findings of this report is that there is no comprehensive, London-wide record of all Local Authority Housing Estate Land. This is currently being rectified by the GLA London Land Commission survey of publicly owned land in London which should eventually quantify these holdings but, until this is available, we have had to estimate the extent of these holdings.

We have calculated that around 8,500 hectares of land is owned by Local Authorities as purpose-built housing estates within Greater London. This number may be as little as 7,000 or as many as 12,000.

Some estates may be easier to redevelop than others. The easiest would be estates which do not have a large amount of recent building already taking place on them; estates with relatively low levels of right to buy take up, and; estates with lower than average housing density.

7.2.3 Stakeholder Buy-In

The streamlining and speeding up of regeneration schemes depends upon support from a wide range of stakeholders in the process. The most important of these are existing communities.

If confrontation with residents and delays due to dissent are to be avoided, then intense, honest and genuine consultation is needed at the outset of a regeneration programme. One of the problems found in this survey was that local people are naturally distrustful of both developers and local authorities and of consultations that seem to be more cosmetic than real. Developers and Local Authorities need to find ways of fully engaging communities and stakeholders in the project development process, to understand local concerns and build trust. Design workshops, 'charrettes', enquiry by design and similar techniques of community engagement in early stages are often helpful in creating a positive dialogue and community input. This must be backed up with a genuine intent to deliver a product that is responsive to the intelligence received through this process.

Illust.12 Cut off often means shut down – and a loss to the wider social and economic fabric



Meanwhile, communities themselves are suffering from several years of fruitless communication /consultation fatigue. If levels of estate regeneration are to be increased, then winning over communities and having them support and 'own' a scheme can be a critical success factor. This is where street-based regeneration can come into its own. The majority of our interviewees preferred the Complete Streets options presented to them, and a significant number also suggest that this approach would be preferred by residents too. Street based urbanism offers a flexible and robust environment into which a variety of building types to meet a variety of needs can be placed and, by knitting with the established London street pattern, breaks down the distinction between 'estate' housing and the mainstream market.

7.2.4 Consolidating ownership and Right to Buy

We are well aware that consolidating ownership is an extremely difficult area where it is fragmented, and in the case of LAHEs, one which has been significantly complicated by 'Right to Buy'. This is because disparate leasehold owners of former social housing stock not only add to the number of incumbent residents with occupier rights, but also to legal and financial ownership rights, giving rise to questions of compulsory purchase, valuation and compensation. Many such residents would find it difficult to obtain accommodation of a similar size off-site and so may have to be offered accommodation on a like-for-like, however for-sale basis, alongside social tenants, adding to the cost of a project. Consideration needs to be given to how ownership can be consolidated and these property and occupation rights fairly reflected in new arrangements.

7.3 Value Capture

7.3.1 Capturing the place-making premium

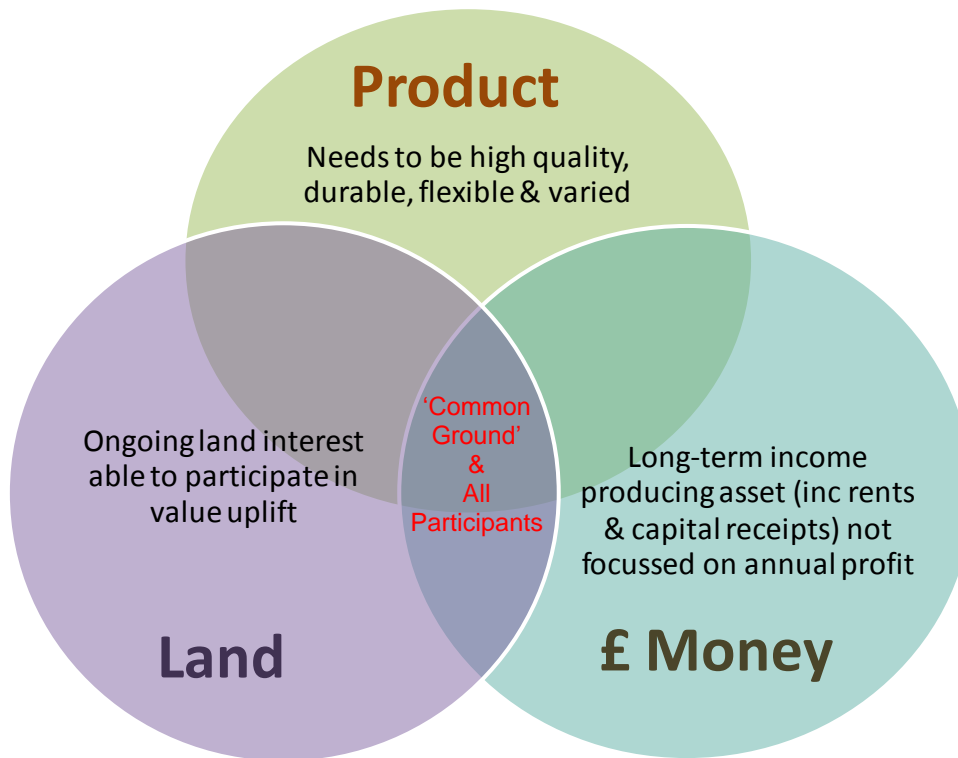
Our previous studies of value, development and regeneration have led us to believe that there are three elements of success in delivering viable, sustainable and optimal schemes. Due to the specific nature of the LAHE land under consideration and the fact that it is presently generally in public ownership and occupation, we highlight a further overarching dimension in resolving how such land might be brought forward, namely community interest. Only when all of these factors come successfully into alignment, can new development and regeneration occur.

This ties in with many of the observations of the experts interviewed in this study. Most of the barriers to regeneration identified are due to:

- Product (design, building regulations, form etc.)
- Land (ownership, land use, property issues etc.)
- Money (costs, viability, profit margins, duration of funding etc.) and,
- Community (public support, existing occupiers, local authority regeneration & affordability objectives, Right to Buy owners, decanting issues).

While different respondents emphasised different aspects or combinations of these factors, each has to be resolved for optimal regeneration to take place.

Figure 5: Diagram of Land, Product, Money & Community interest considered & structured together for optimal outcome

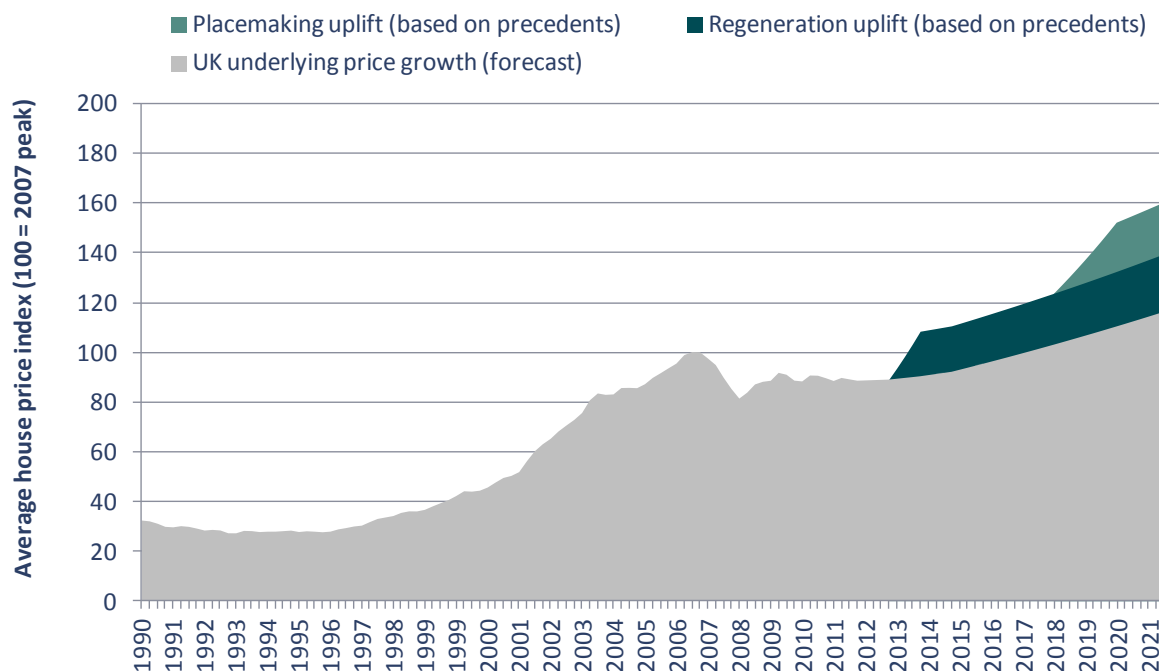


In line with other findings from reports and case studies of sustainable urban developments²⁶, this observation raises the fundamental question: to whom, by what development method and when does the value accrue, and what is the optimal business model for matching this so as to underpin an optimal product and built environment outcome?

Given that it is the final value of a regeneration scheme, of whatever stylistic type, that we are measuring here and that an element of the enhanced value derives from the changing nature and desirability of the location itself, interesting questions arise as to the timeframe of optimal returns, and what mechanism most appropriately captures these in particular given the public nature of the land ownership; and further, how this predicted uplift in value interacts with the question of providing for and maintaining affordability.

²⁶ 'Valuing Sustainable Urbanism', *ibid*; 'Back to the Future: The Need for Patient Equity in Real Estate Development Finance', Leinberger, C.B., Brookings Institution 2007, Washington D.C., 'Delivering Sustainable Urbanism – a strategic land investment model', Princes Foundation, Nottingham Trent University & Knight Frank 2010

Chart 9: Long-term nature of place-making value uplift



Source: Nationwide, Savills Research

The above chart is based on a variety of observations we have made of regeneration (of all types, not just housing estates) and successful place-making over the last fifteen years. It applies this to a hypothetical scheme starting construction in 2013. It shows how the act of providing something new and better on a site will result in an immediate premium which takes prices on to a new level. It is this pricing point (mark on chart with dotted line/new colour) that most developers will use in their financial modelling, but future value uplift beyond that point is pegged to a rise in the general market.

It is a product of three factors:

- First the value of the location in which a development site sits. In this respect, developers are price takers, they can only build to the price point of the established market, and they cannot take account of the transformational effect a scheme may have if well executed on values.
- Second is the extent to which the quality and new condition of a property commands a premium above the value of existing second-hand stock. This can vary over time and in different places and times of market but might typically average around 15-20%. This is the only premium that a developer, measuring returns on an annual basis, may have a hand in both creating and receiving and in depressed markets can be a discount.
- Finally, it is a product of the nature of the finance that is being deployed – in the case of speculative housebuilding this is usually short term – often with a requirement for annual return on capital from an early date

The uplift that results from this new-build premium tends to be seen as soon as construction on a scheme is underway and the marketing, first phase, show-homes etc. give a fair indication that it will happen. Thereafter, prices on a scheme may be expected to rise in line with general house price rises in the surrounding area and will perform in alignment with this unless the scheme achieves a critical mass to begin being classed as a different neighbourhood.

Account should also of course be taken of extraneous factors such as, for example, investment in new tube or over-land rail service, which will create new locational conditions. At present some of the costs of such new transformational infrastructure may be met from CIL payments, however it should be noted that property within the second hand market generally takes whatever value benefit that accrues without consideration.

All of the above, is predicated on a development and sale model, rather than an investment perspective, which instead would look for long term income streams, which are enhanced over time as a location develops and becomes more attractive, and uplift in property value captured as the location becomes established.

If the regeneration is particularly popular and well executed, we argue that there can be additional and significant further value uplift as the place starts to distinguish itself from its past and competes with a different set of local neighbourhoods and starts to attract a wider range of new neighbours. This can be 5-10 years after the scheme starts construction, depending on build rates and the size of the scheme. At some point, a patient investor/developer become a price setter rather than price taker.

An essential factor to consider here is when the 'place-making premium' occurs. It is very difficult for the initial stakeholders (landowner and occupants) to benefit without retaining a stake in the real estate over the long-term. Perhaps, most importantly, it is almost impossible for a developer, measuring returns on an annual basis and selling real estate to owner-occupiers and investors, to benefit from place-making value uplift except in the later stages of longer-term schemes.

In cases where the developer has purchased the land outright, neither does the benefit of place-making accrue to the landowner. In some schemes, there will be overage agreements or joint-venture agreements which mean benefits (super-profit) will be shared with the landowner but this will reflect short term developer profits, rather than a longer term accretion in value of the site.

There are two key implications of this:

1. The developer most responsible for the design and implementation of the place takes only limited benefit from the quality of place created, and therefore has a limited interest in optimising this as the benefit generally flows to others (occupier, property purchaser, property investor, local authority).
2. Participation by all relevant parties in a long-term land and property ownership and management model is required if the full benefits of good design are to be enjoyed.

A consequence of the above, is that instead of being motivated to engage in high quality 'place-making' developers instead are motivated to maximise returns over the shortest possible time horizon (in line with their return on capital requirements, which are short term and shareholder driven) and to minimise risk by containing exposure to the market on a given scheme for the shortest possible timeframe. Equally they are strongly motivated to maximise profitability on short-term sales; rather than look for solutions that build value over time. All of the above contributes to their attachment to a built form that optimises internal returns in the short term, but which is potentially sub-optimal from the point of view of occupier preference; land owner value (in this case local authority); and multiplier effect on London as a whole.

This is not to argue that a place-making led approach is market un-acceptable, but it may involve different sectors of the development, investment and finance community, and involve new players.

We would put the case that given:

- the broader scope to optimise occupation of the LAHE land (both for housing and other uses); the fact the land is in public ownership (and therefore should look to optimise public benefit in its deployment);
- the very considerable political obstacles to overcome to engage with existing occupiers to cooperate in a programme of regeneration;
- the volume of public finance and support of other forms that will require to be applied to unlock the opportunity;
- the identification of a more suitable business model that captures uplift for all participants against the time frames involved is a priority. Furthermore, such a model should align the interests of the key parties as far as possible such that the achievement of long term and social/place value is the central objective, rather than a by-product that one party is trying to achieve potentially in conflict with other participants through the conventional tax-based s106 mechanism.

7.3.2 Multiplier Effect & Value Capture

In some cases, the biggest beneficiaries of regeneration will be the residents of surrounding streets. If poor design and layout of a nearby social housing estate has had an effect on their property and is replaced by something better and which adds value to the whole neighbourhood, they will benefit as well. A successful scheme can then impact on a much wider swathe of neighbouring property producing a regenerative *multiplier effect*.

To simply say that estate regeneration 'gentrifies' places is to vastly over-simplify the process. Some schemes may achieve no more than broadening the tenant mix and attracting some owner-occupiers. Meanwhile more visionary and popular projects can transform a location to the extent that surrounding land and property owners start to experience value uplift as the calibre of the neighbourhood changes and residents start to benefit from increased job opportunities, amenities and quality of life.

At a practical level, these findings suggest that, to enjoy the benefit of value uplift that derives from a successful scheme, capital receipts on a regeneration site should be taken as near the end of a development period as possible. Whether through maintaining full ownership or maintaining a share in the underlying land value through a joint venture structure, landowners should consider the merits of retaining a significant stake for as long as possible, or even maintaining ownership in perpetuity to yield an income stream, and potentially enable them to maintain an affordable housing stock.

7.3.3 De-densification and recovering lost value

Most of the estates we studied were developed in the post war era of the 1950s, 60s and 70s when local authority house building was at its zenith. The chart below illustrates at a national level how, despite very high levels of new output, the scale of demolition at this time meant that net stock levels grew much less rapidly than the build rate would suggest.

Chart 10: House building and the net change in dwellings over the last 162 years



Source: Weber, *British Historical Statistics 1988, DCLG*

It seems likely that most Local Authority Housing Estate (LAHE) development in London in the post war era displaced more dwellings than it replaced due to the often (though not always) high levels of overcrowding it was designed to replace and modernist approaches to architecture and urbanism adopted which sought to create new, non-street based urban forms.

It is perhaps worth noting here the contrast in values between the old streets that LAHEs replaced and the value of the LAHE now. These estates have, acted as a strong counter-weight to the potential of the remaining traditional streets to regenerate. The average value of £12.5m per hectare seen on the average LAHEs in our sample compares to £23.5m on the old streets that they replaced. This is testament to the lack of quality of place and lack of desirability of neighbourhood that LAHEs have created over the years. It is incredibly important that any new regeneration does not repeat the mistakes of the twentieth century but returns neighbourhoods to London that all residents are pleased and proud to live in – for generations to come.

Perhaps this analysis and at the previous sections, illustrates the folly of concentrating too much on empirical measurements of build density: what is highly appropriate and liveable in one location may not be in another and there is no 'correct' level of density for London, and further highlights the need to retain that which is good from the past (intense street form) while supporting an architectural response that meets the needs of the present.

7.4 Delivery Capacity & Models

The current model of estate regeneration, where a council or housing association contracts a major developer to deliver a few units a month, is simply not going to deliver London's housing at a fast enough rate.

It is recognised that most estates with potential for regeneration will be long-term projects, often involving a development period of over 10 years, sometimes considerably more. The long-term nature of estate regeneration transcend both local and national policy cycles and any solutions need to be well-supported and robust enough to survive 5 year government terms.

What this report starts to show is that the timescales involved in estate regeneration require ownership and management structures that transcend political cycles and which are able to measure returns over many years not a 'return on capital employed' profit measure every year. This means both that replacement and additional housing is delivered faster, and the investor retains a long-term relationship with the place being built.

7.4.1 Regeneration Capacity within Local Authorities

Given the leadership capacity and technical skills available to most Local Authority housing and planning departments, it would be extremely difficult for most to manage more than one or two big sites at any point in time.

This makes a case for providing additional capacity and resources, perhaps from a GLA funded level to assist Local Authorities in bringing forward regeneration sites. This could consist of anything from a team of experts on the model of the HCA ATLAS team²⁷ who could be drawn upon to support a local authority in bring forward a scheme, to the formation of bespoke vehicles such as the English Cities Fund²⁸, that understand and can apply the most effective techniques in all areas of development from consultation, through design, funding, build and, perhaps most importantly but often overlooked, to ongoing management and maintenance.

7.4.2 Partnership Working

Local authorities will likely wish to retain a strong role in driving the nature and form of regeneration of their estates, and may wish to retain the land and or a long-term financial interest in the new property that is created. Equally, there will be a need to draw upon the resources and skill set of the regeneration and property sectors to enable a substantial step-change in delivery levels, and the complex funding and delivery arrangements that would be required.²⁹

This suggests that a new generation of public/private partnership delivery vehicles will need to be created, potentially backed by public/private debt and equity.

It will be the role of these partnership bodies to propose options to the local community, to draw up proposals, implement them, and, within clear rules set out by government, to implement these changes. DCLG would have a role in monitoring such bodies. There is little prospect that solely relying on council departments will produce the level and quality of delivery that is currently.

Equally, to create an efficient fund-raising mechanism, to spread risk and undertake fund-raising on a global basis the argument could be made for the creation of a fund – a '*London Land Fund*' - supported by government in its inception and with the retention of a 'golden share', however leveraged with private sector investment from a variety of sources looking for long term returns and growth in the absolute value of the underlying land and property. This could be located within a government backed entity such as The Green Bank for example, or could be procured to be run by a private sector partner, or could combine both or other approaches.

²⁷ See link: www.atlasplanning.com/page/index.cfm

²⁸ See link: www.englishcitiesfund.co.uk/about.html

²⁹ '*Unlocking Growth through Partnership*' British Property Federation and The Local Government Association, 2012

7.5 Value Capture Vehicles

7.5.1 Precedents – long term investment vehicles in land & property

Having scanned the market, there are a number of different precedents for such a long term land and infrastructure model, which potentially begin to identify how a vehicle for restructuring whole neighbourhoods could effectively work³⁰. All of these are predicated on the adoption of a more patient investment perspective.

- Public/Private Partnership
- Long term urban estate management
- Institutionally backed strategic land investment vehicle

7.5.2 Public/Private Partnerships

We have many examples largely originating in the 1980s and generated by the priority of regeneration activity that took place in the wake of the Toxteth and Brixton riots. Equally in Scotland a number of these emerged where the regeneration of 'sink' estates had become a problem of critical magnitude. Leading examples of public / private partnership formed to reconfigure housing estates considered no longer fit for purpose and impacting as a drag on the land use functioning of the wider city were Crown Street in Glasgow, referred to elsewhere in this document for the quality for the place making achieved, and Hulme in Manchester.

At Crown Street, Glasgow City Council entered into a partnership with the Scottish Development Agency and the New Gorbals housing association to produce a visionary masterplan for the regeneration of the notorious tower blocks at the Gorbals which had become synonymous with deprivation and anti-social behaviour, to replace most of these towers on the basis of an updated version of the original street plan and low-rise tenemented street form, arranged around rear garden greens. The scheme has been successful in transforming the occupation of the area, establishing demand for market housing whilst retaining a strong element of affordability. Developers were brought in on a competitive basis on each phase, subject to compliance with the masterplan and a strong design code.

Similarly at Hulme, Manchester City Council established The Moss Side and Hulme Partnership was established in 1997 with a 5-year remit to complete the ambitious regeneration program of failed social housing. The Moss Side and Hulme Partnership managed the delivery of several regeneration programmes in the area, including the Government's Single Regeneration Budget, Capital Challenge and European funding programmes. Over £400million of private and public sector resources was invested into the restructuring of area by the Moss Side and Hulme Partnership. Again, private developers and housing associations were responsible for delivering discrete phases and projects within the site subject to the masterplan.

While there is much to learn from these outstanding examples of effective partnership working, they were products of their era and property market. The present condition of the London market creates a unique opportunity to potentially shift much of the cost and risk of the regeneration of LAHE land into the private sector, however with strong controls and conditions such as to ensure an optimal place-making, land use and social equity objectives are served.

³⁰ See Appendix 6 which highlights the potential characteristics of long term regeneration and investment vehicle

7.5.3 Long Term Urban Estates

Up and down the country, one of the principle forces in the development of our cities in the 18th and 19th centuries were long term investors who retained an interest in the underlying land, taking their benefit through an initial leasehold sale; the annual payment of ground rent or comparable mechanism (fee-duty in Scotland), and ultimately through reversionary interests as leases came to an end. In some instances these were private family interests who were the original owners of agricultural land that had become urbanised. In other cases, in particular in Edinburgh³¹, charitable trusts whose purposes were to provide long term income streams for educational institutions (initially) and subsequently for pension-holders, became the key driving force in the residential expansion of the city.

This form of development clearly distinguished the role of the land promoter and investor (who put in place the masterplan and infrastructure) from that of the builder of the properties – which, then as now, was a speculative, short-term activity. Central to the success of the land promoter/investor role is the creation of a masterplan that produces a high quality place; that engages with an optimal mix of uses and occupiers; and which ensures that amenity is protected over time through an effective management regime. In this way there is a much greater convergence of interest between land interests working in this way with the interests of a public authority in seeking and protecting public benefit.

Further, this form of city building is inherently flexible to vagaries of the market; and adaptive to changing occupier requirements, as at certain junctures, property that has become inappropriate or defunct can be brought back in hand and redeveloped to contemporary purpose. This means that whatever solution we may put in place to meet the social, demographic and commercial needs of today, at some stage in the future, land held in this way can be reconfigured and developed by future generations to meet the needs of their time as part of an evolutionary process. Equally property may be sold off once the full uplift in value has been realised.

A raft of 20th century legislation has swept away many of the legal devices that enabled the long term holding and management of underlying land, and, were a new form of long term land investment to be considered the appropriate way forward to underpin the reconfiguration of the LAHEs, an in-depth review of the legal underpinning of the potential interaction of leasehold and freehold title would need to be undertaken.

7.5.4 Institutionally-backed strategic land investment

A further critical area that needs to be reviewed in considering models for how an effective vehicle for the restructuring and investment in LAHEs could be achieved is the engagement of institutional investment in strategic land and regeneration. There are a relatively limited number of scenarios where institutional finance has been engaged in fundamental land restructuring and regeneration in England in recent years. This is a critical area however, as it further engages with the fundamental issues of how funds with an appetite for UK strategic property can be channelled, even incentivised, into the creation of the underlying prime product (possibly instead of imposing an ever greater weight of money on a finite 'retail' residential property market). There is evidence also of substantial commitment of sovereign funds to strategic land projects in particular in established areas of London, and increasing interest on the part of US based pension funds.

³¹ *The Transformation of Edinburgh: Land, Property and Trust in the Nineteenth Century*, Richard Rodger, Cambridge University Press 2001

Table 8. Examples of institutionally backed projects

Developer	Fund(s)	Project
Argent	BT Pension Fund	Kings Cross Regeneration
Igloo Regeneration Fund	Aviva Investors	Brownfield locations around England & Wales
English Cities Fund	Legal & General	Brownfield locations around England
MUSE	Legal & General; Aviva Investors	Sites across England
Charterhouse Estates	Water Authorities Superannuation Fund	Liverpool Ropewalks & London city fringe sites
Places for People	Legal & General	Housing across England
Central Saint Giles Partnership	Legal & General & Mitsubishi Property	St Giles Circus

8. Build & Life-Cycle Costs

8.1 Toward assessing viability

The costs of building on any given site varies according to context and site specifics, and the cost of delivering of differing solutions varies also. It is no use finding a form or type of regeneration that yields higher value or better outcomes if the costs of delivering that solution render the scheme economically unviable.

We have not attempted to conduct a full site appraisal on each of our sample sites (Appendix 3). What we have done is to examine any major differences in build cost involved with developing sites in different ways. We have not measured any of the costs that would be the same on each site (including 'abnormals') but we have measured those costs that would differ, depending on whether the *Contemporary Regeneration* or *Complete Streets* approach is taken.

Build costs in this section have been calculated and expressed on a per hectare basis so as to be directly comparable between different size sites. What is striking is that, in all cases the build costs for a hectare of *Complete Streets* is significantly lower than building a hectare of blocks in open space. The average build cost (excluding VAT, allowances for abnormal ground or site conditions, decontamination etc., and demolition where it is identical for both types of scheme). This is the case even where towers are retained. Retaining towers reduces demolition costs and creates savings by refurbishing rather than rebuilding but can be unpopular with residents so it is not appropriate in all cases. (Sites A and D contain towers that are retained in one or both scenarios). The full details of how build costs were calculated and how they compare is detailed at Appendix 1.

Table 9. Build costs per Ha (£ million)

	Contemporary Regeneration	Complete Streets	Saving (Complete Streets over Block Renewal)
Site A	£44.4	£42.7	£1.7
Site B	£12.5	£17.5	-£5.0
Site C	£23.1	£22.7	£0.5
Site D	£25.6	£18.6	£7.0
Site E	£23.8	£20.0	£3.9
Site F	£16.6	£13.4	£3.2

Source: Savills (costs as of August 2014)

In all cases except one, the build costs per unit are lower for the Complete Streets scenario than the Contemporary Regeneration, by up to 25%. This is largely the result of there being more large units (houses) in the case of Complete Streets. This is to illustrate the folly of concentrating on build costs per square foot or per unit. It is land that is the scarcest resource here and the yield per hectare and cost per hectare is the critical measure – comparable across all sites.

Table 10. Build costs per unit

	Contemporary Regeneration	Complete Streets	Saving (Complete Streets over Block Renewal)
Site A	£145,452	£153,146	£7,694
Site B	£193,706	£146,131	-£47,575
Site C	£161,034	£195,134	£34,100
Site D	£185,254	£149,038	-£36,217
Site E	£176,211	£150,907	-£25,304
Site F	£171,633	£148,723	-£22,911

Source: Savills (costs as of August 2014)

The costs exclude any design or professional fees, home loss, CPO disturbance allowance, grubbing up of existing roads, and underground service diversions, upgrades and terminations. The build costs calculated also exclude demolition costs. For most of the sites complete demolition is assumed and therefore the associated cost would be the same, however, for site A and D where towers are retained the costs associated for demolition are different. The cost of retaining towers and refurbishing them rather than complete replacement may be cheaper however, VAT is applied to these build refurbishment costs, whereas it is not applied to new build.

8.2 Street form and the potential for costs savings

8.2.1 Build cost efficiencies

There may be an opportunity to reduce build costs through the *Complete Streets* model which is not available on bespoke block-based layouts. Plot-based development on a traditional street grid opens up the possibility of supply chain efficiencies as house and apartment types can be repeated extensively, without undermining urban quality. The classic London terraced house was built on this model, often with standardised layout, proportions and components with minor modifications dependent on context, aspect and quality. Without detracting from the opportunity for creative architectural responses, an element of standardised construction could help to save costs and speed the construction process.

Illust.13 Rational House have produced a system that reflects the traditional London terrace and can be replicated in configurations to respect street form.



8.2.2 Reducing life-cycle costs

A growing body of analysis in the US highlights the fact that street based urban form is less expensive to the public purse to service on an on-going basis³². It is further accepted that certain forms of housing type can generate life-cycle costs savings whether through reduction in maintenance costs and through on-going energy consumption for householders. Both areas are worthy of further consideration within the context of estate renewal in London, and the introduction of a longer term dimension to cost and viability assessment.

³² 'Municipal Finance and the Pattern of Urban Growth', Slack E, CD Howe Institute 2002, Canada; 'The Fiscal Implications of Development Patterns', RCL CO with Smart Growth America 2015.

9. Important Note

All the case studies in this report are based on real sites but have been disguised and anonymised because, although realistically based, they are intended to be hypothetical, generic and representative and do not represent any current, existing or proposed scheme currently pertaining to those sites and should not be construed as such.

Finally, in accordance with our normal practice, we would state that this report is for general informative purposes only and does not constitute a formal valuation, appraisal or recommendation. It is only for the use of the persons to whom it is addressed and no responsibility can be accepted to any third party for the whole or any part of its contents. It may not be published, reproduced or quoted in part or in whole, nor may it be used as a basis for any contract, prospectus, agreement or other document without prior consent, which will not be unreasonably withheld.

It should be noted that all the capacity numbers cited in this report are theoretical and based on assumptions in the absence of concrete data on the numbers and size of existing estates. Even the numbers of existing units on housing estates has had to be estimated.

Our findings are based on the assumptions given. As is customary with market studies, our findings should be regarded as valid for a limited period of time and should be subject to examination at regular intervals.

Whilst every effort has been made to ensure that the data contained in it is correct, no responsibility can be taken for omissions or erroneous data provided by a third party or due to information being unavailable or inaccessible during the research period. The estimates and conclusions contained in this report have been conscientiously prepared in the light of our experience in the property market and information that we were able to collect, but their accuracy is in no way guaranteed.

10. Acknowledgements

We are hugely grateful to and would like to thank the following for their expertise and input into this report. Without their time, knowledge and support, this work would not have been possible.

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Rational House: Robert Dalziel, Tim Battle

Smart Growth Associates: Gail Mayhew

Report produced by:

Savills Research: Yolande Barnes, Lucy Greenwood, Paul Tostevin, Chris Buckle

11. Appendices

1. Case Studies
2. Space Syntax Analysis And Commentary
3. Case Study Details
4. Estimations Of Housing Estate Land Area
5. Stakeholder Survey
6. Survey Question Results
7. Recommendations For Further Research
8. Characteristics Of An Innovative Long Term Estate Regeneration & Investment Vehicle
9. Assumptions

Appendix 1

Case Studies

A.1 Site Density, Value and Cost Method

Six sites were selected to represent typical Local Authority built and owned or Local Authority built and RSL owned social housing estates across London. A mixture of sites were selected to represent different:

- Sizes of Estate – Small, Medium and Large
- Distance from central London – Travel zones 1, 2, 3, 4
- Inner and outer boroughs
- Compass points – North West, North East, South East, South West
- Socio-economic conditions in surrounding areas – Deprived to Prosperous.

A.1.1 Three Scenarios

Three scenarios were examined for each site:

- *Existing Estate* – the layout today
- *Contemporary Regeneration* – a layout typical of recently built regeneration schemes
- *Complete Streets* – a revised layout based on popular urban design principles and optimal street patterns, connectivity, permeability and neighbourliness, as defined in the report and by Space Syntax analysis (see Appendix 2)

A.1.2 Sites – Assumptions and Definitions

The extent of the area covered by the site was defined by the centre of bounding roads and the edge of adjoining railway lines. These natural boundaries separating buildings and other areas enabled land areas and densities to be calculated on exactly the same basis in each case and new schemes or new streets to be modeled within the boundaries.

Existing Estates

The population density for the current scenario is calculated from 2011 census data for the output areas that most closely match the area of the site.

Contemporary Regeneration

Contemporary scheme layouts and buildings from *Contemporary Regeneration* schemes were superimposed on the site, taking into account existing and retained buildings, facilities (e.g. Schools) and road layouts, where appropriate.

Complete Streets

Complete Streets were connected to the surrounding area and the broader London Network using analysis from Space Syntax to inform the design (see Appendix 2). Repeated studies have shown that streets which are globally connected and permeable (not simply connect inside a site boundary) are more highly valued by residents than disconnected or only locally connected places.

A.1.3 Site Value

The values in this report are not intended to indicate gross development value or development viability. Rather, they are an indication of 'end asset value' as might be experienced in a re-sale market. This is of particular relevance to long-term land owners and landlords who have longer term interests in the assets created on their land.

Each site was valued under current conditions and future scenarios. Social and affordable housing values were applied to units which are either currently in, or would be in. Local Authority or RSL ownership on each of the schemes.

Full, open-market, vacant possession valuations were made on the remaining existing and proposed units under each scenario. Valuations were based on local market comparables, taking into account the changed nature of the location in the regenerated schemes. In selecting appropriate comparable locations and properties, reference was made to the place improvement and deprivation-value uplift models described earlier in this document. Values for the *Contemporary Regeneration* scenarios were based on the modeled uplift potential and values for the *Complete Streets* scenario were based on achieving values in adjacent higher value streets.

Values were calculated as full, second hand market value in a fully completed scheme. There is therefore no 'recently built new-build premium' attached to these values nor any allowance made for phased completion and the adverse impact that the early stages of estate regeneration might have on values achieved (through being on a building site or in a yet-to-be-established location and on a 'to-be-tested' scheme, for example).

The basis for value comparison was the same in each case so long-term value outcomes in each case are comparable.

The indications made in the report of 'end asset value' over build costs point to a degree of development feasibility inasmuch as they highlight cases where build costs are higher than, or very too close to, end value. However, it may be possible for short-term developers to make low margin schemes viable in strong markets where a high new-build premium can be achieved. There is therefore, a difference between longer term investor 'viability' and short-term developer 'viability'. This report does not seek to establish any of these viabilities.

Appendix 2

Space Syntax Analysis and Commentary

A.2 Space Syntax Assessment

A.2.1 Introduction

Space Syntax Limited is an expert consultancy advising on the analysis, planning and design of building and urban environments. Their analysis is based on a unique, science-based, human-focused approach. Combining extensive global experience with robust and sophisticated technologies, they forecast the effects of planning and design decisions on the movement and interactions of people in buildings and urban areas. Their analysis of the regeneration outcomes, from a spatial perspective, has been made on sites A, B, D and E included with each of these site's descriptions in Appendix 3.

A.2.2 'Complete Streets' Design objectives

Residential value

Space Syntax analysis has found that better connected street systems generate higher property values. City-wide network connectivity in particular has been found to support residential value. This urban layout property ensures that residents can easily access their jobs and important amenities.

Diversity

A clear hierarchy of the local street network creates potentials for a variety of neighbourhood activities and movement levels such as neighbourhood centres with local shops, local streets and well used parks and playgrounds.

Mixed-use potential

Streets that are important for a variety of scales of journeys attract a wider catchment of users and can better support retail and other commercial activities. These qualities support residents' access to uses such as shops, restaurants and public transport.

Sense of place

A legible street network structure supports better way-finding, organises movement and helps creating a spatial identity. Entrances and windows facing the street provide natural surveillance, keeping the streets safe.

A.2.3 Space Syntax Methodology

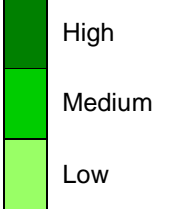
Each of the London Estate regeneration case studies has been analysed in terms of its existing and proposed "Spatial Layout Accessibility" patterns (see "Appendix – Spatial Layout Accessibility Methodology" for an explanation). The result of this analysis have been used to rank the degree of improvement of each proposal compared to the existing conditions.

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A.2.4 Spatial conclusions and key findings

The assessment has demonstrated that each of the London Estates redesign proposals improves the spatial conditions that are related to residential value, diversity, mixed-use potential and sense of place. The assessment results are summarised in the table below.

	Site A	Site B	Site D	Site E	
Residential value	High	High	High	High	Level of improvement 
Diversity	High	High	High	High	
Mixed-use potential	Low	High	High	Low	
Sense of place	High	High	High	High	

Picture 1 A quiet path in a housing estate with blank walls, garages, fences and no front doors.



Picture 2 Typical London terraces with active entrances and frontages facing the street



Research by Space Syntax has found that well connected street systems generate four kinds of beneficial impact:

Residential value

Better connected street systems generate higher overall property values. Highly disconnected estates risk social isolation and, when located close to town centres, were strongly associated with London Riots incidents.

Diversity

A balanced mix of more and less well connected streets creates a range of property values as well as a network of busier and quieter places.

Mixed Use Potential

If sufficiently connected, certain streets become suitable for retail, commercial and civic uses as well as residential ones. High connectivity is a prerequisite of a sustainable, mixed-use urban economy.

Sense of place

Simpler, more straightforward street layouts make way-finding easier, whereas labyrinthine estates confuse users, especially visitors.

A.2.6 Space Syntax Spatial Accessibility Methodology

A.2.6.1 Space Syntax and urban analysis

Space Syntax specialises in the analysis and design of urban environments and, in particular, the design of pedestrian linkages and public spaces. We make direct observations of pedestrian and vehicular activity patterns, identify the physical and spatial factors that influence these patterns, and then use purpose- designed computer programs to forecast the effects of physical and spatial changes such as new spatial linkages, new land use attractions and new transport connections.

A.2.6.2 “Spatial Layout Accessibility” analysis

Central to the Space Syntax approach is the analysis of “Spatial Layout Accessibility” – a key property that extensive research has shown to significantly influence the movement of people on foot, on bicycles and in vehicles.

Spatial Layout Accessibility is calculated by first drawing the longest lines of sight and movement that pass along the network of routes that make up a movement system (Figure 1). The resulting pattern of intersecting lines is then analysed using a bespoke software package to establish the amount of movement that is likely to flow along any street segment when people are moving from all possible origins to all possible destinations. Routes are calculated based on the least angular deviation from any origin to any destination.

A Spatial Layout Accessibility Map (Figure 2) uses colour to denote the likelihood of any route being selected, from red (most likely) through orange and yellow to green and blue (least likely).

A.2.6.3 Space Syntax Spatial Analysis – Site A and Site B

In the cases of site A and site B (as opposed to A2 and B2) only the local integration analysis was used.

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A.2.6.3 MultiScale Spatial Layout Accessibility

Spatial Layout Accessibility values can be calculated across multiple scales in order to identify the most accessible routes for e.g. pedestrians moving at the local scale to the most accessible routes for e.g. vehicles moving at a larger, more global scale. Some routes are more likely to be selected for more local journeys, some for more global journeys and some for both.

Research by Space Syntax has found that locations with stronger multi-scale accessibility values are more likely to support "movement-sensitive" land uses such as retail and commercial uses. This happens because such locations attract multiple scales of movement and therefore a broader catchment of people. MultiScale Spatial Layout Accessibility is established by first selecting the top 10% of locally accessible routes (highlighted in blue in Figure 3), then the top 10% of globally accessible routes (highlighted in green). Route that occur in the top 10% at both scales – the MultiScale routes – are highlighted in red.

Figure I

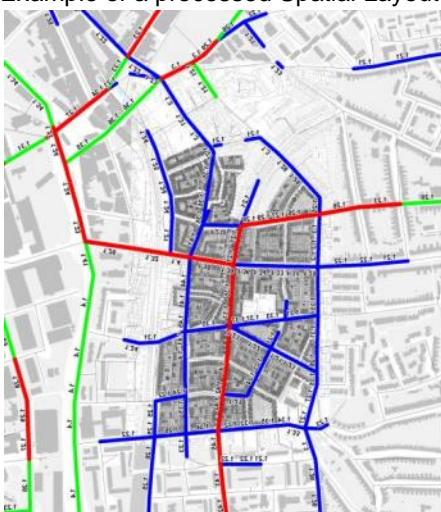
Example of an unprocessed Spatial Layout Accessibility Map

Spatial accessibility
 _527_AX_ex_000_P by Int_R3



Figure II

Example of a processed Spatial Layout Accessibility Map after values are assigned to each line



Appendix 3

Case Study Details

The following pages draw together the relevant metrics for each of the six case study sites. They contain key information, maps, Complete Streets design layout, density, value and build cost results and space syntax analysis for each of the six sites studied.

Site A

Small, Zone 1, Central, Inner London Borough

A.1 Existing Layout

The existing layout of the estate currently provides 109 units per hectare. When built in the 1960s and 70s, towers and maisonettes replaced five storey, Victorian terraced streets with large gardens.

Historically there used to be two roads running through the site connecting it more effectively to the surrounding streetscape but currently there are 65% more units on the site than the low density streets they replaced.

The *Existing Estates* site is accessible only from the a few barriers off the bounding roads and only to the periphery of the site. This makes it, like many of the LAHEs in this study effectively a 'gated' estate.

Map to show existing estate A



Buildings like those on site before the 1960s



Buildings like those after post war development



A.2 Complete Streets Layout Version 1 (used for analysis)

Designing Complete Streets on site A, while retaining and refurbishing the towers, yields 279 housing units per hectare, which is more than double the amount of housing currently on the site. It also provides 119,000 sq. ft. of new commercial, retail and workspace units.

A street of mews houses at the back of the office block would provide the option of an adaptable commercial space which could alternatively be used as residential or mixed use.

Retaining the three towers on the site is possible because of the very central location. They are retained within a new street pattern which means the experience at street level is fine-grain and intimate, despite the tower behind.



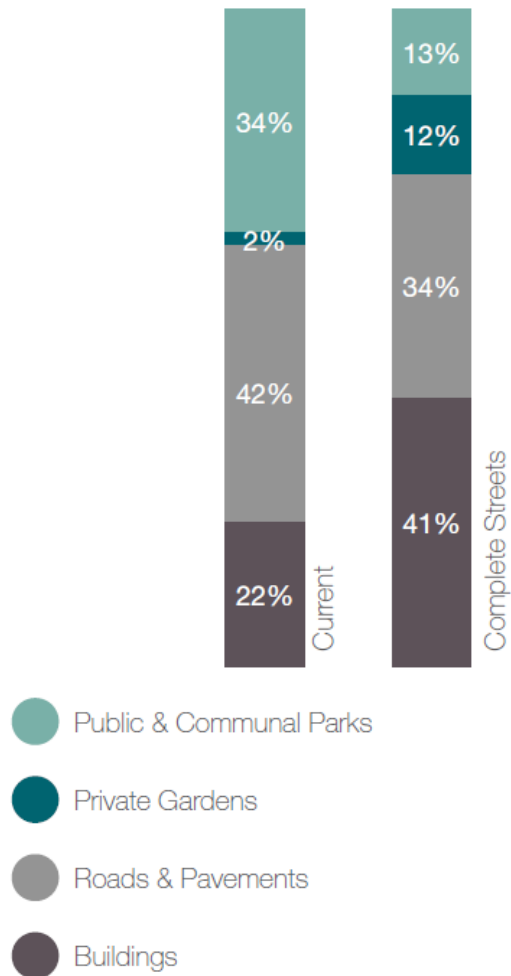
A.3 Complete Streets Layout Version 2 (not used in analysis)



Map to show Complete Streets on site A1



Land use breakdown



The division of land on site A currently has a high proportion of roads and pavement which includes car parks. Just 22% of the land is taken up by buildings and very little of the land is given over to private gardens. The new street pattern gives more land to buildings and provides more gardens than currently provided although less open space than currently.

A.4 Contemporary Regeneration Layout

A conventional regeneration layout of more, new buildings in open space would also yield higher densities than are on the site currently. We calculate that *Contemporary Regeneration* might yield 305 units per hectare, which is higher than the 'complete streets approach but costs so much more to build that it would be less viable, despite the higher number of units.

High massing of new blocks yields high densities but also higher build costs



Site A1	Existing Estates	Contemporary Regeneration	Complete Streets
Unites per Ha	109	305	279
Increase in units per Ha	-	181%	157%

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A.5 Spatial Accessibility

This analysis shows that the Complete Streets plan improves the connectedness of the site to the surrounding city which improves its sense of place within the city. The new layout does not create obvious opportunities for commercial uses, especially retail within the site – largely because almost half of the edge of the site remains cut off by railway lines. (This is a common issue for many LAHEs).

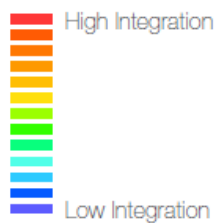
At this broader scale, the Complete Streets create a mixture of more connected places along with some 'quieter' places, suitable for residential use. It removes the large areas of 'cut-off' space that currently dominate the site.

Local Integration Site A1

Existing Estate



Complete Streets



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The level of connectedness at the local level (i.e. to surrounding neighbourhoods) is currently fairly low on the site. The Complete Streets would increase this connectivity considerably and is likely to make it much more visited and accessible to locals. Clear through routes from surrounding neighbourhoods have been created which is likely to lead to more local eyes on the street and opportunity for neighbourly interaction than existed before while not exposing residents to high levels of city-wide traffic. Again, the area that is quiet and inaccessible (often perceived as dangerous) in the *Existing Estates* layout has been reduced to little calmer pockets rather than intimidating expanse.

In summary, the Space Syntax analysis shows that the 'complete streets' scheme improves the permeability of the site. It would create a significant local through-route which would increase local interactions within the scheme while leaving quieter enclaves at a manageable and beneficial scale.

Meanwhile, there are significant city-wide as well as local routes on both sides of the site which would allow for intensification and commercial uses at street level. Overall, the Complete Streets have the potential to 're-knit' this site into the urban fabric of central London, despite the constraints of the site caused by adjoining railways.

Site A2

An alternative layout was originally designed for Site A on which the full Space Syntax analysis was undertaken. These are the results.

City-wide Integration Site A2

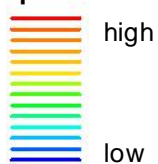
Existing



Complete Streets



Spatial accessibility



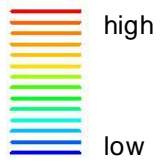
Local Integration Site A2

Existing

Complete Streets



Spatial accessibility



Multi-scale Integration Site A2

Existing

Complete Streets

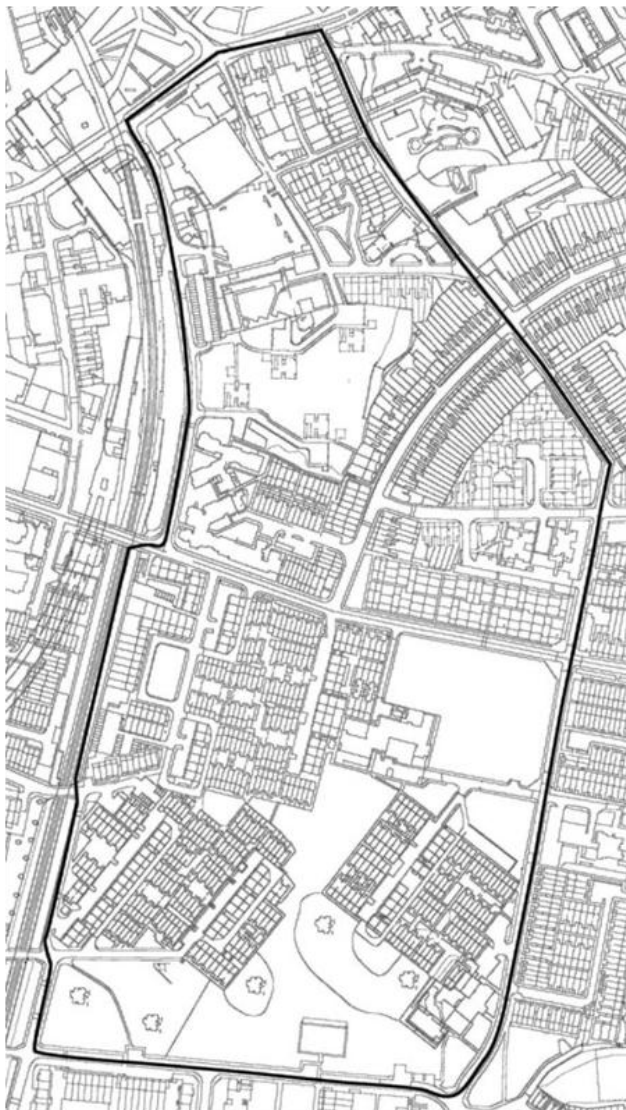


Site B

Large, Zone 4, East, Inner London

B.1 Existing Layout

Currently, towers set in open spaces and modern style terraced properties are the main feature of this local authority estate. When built, they replaced an intense streetscape of terraces which contained more housing units than was replaced on the estate. Many of the old roads were cut off and the *Existing Estates* layout is very poorly linked with the surrounding area, if at all. Each block of terraces is in a cul-de-sac and only accessible from one point. Currently, the housing estate provides 46 unit/ha.



B.2 Complete Streets Layout (used for analysis)

A Complete Streets layout streets could provide 124 homes/ha. The revised street pattern replaces the towers and modern terraces with terraced housing, mansion blocks and mews.

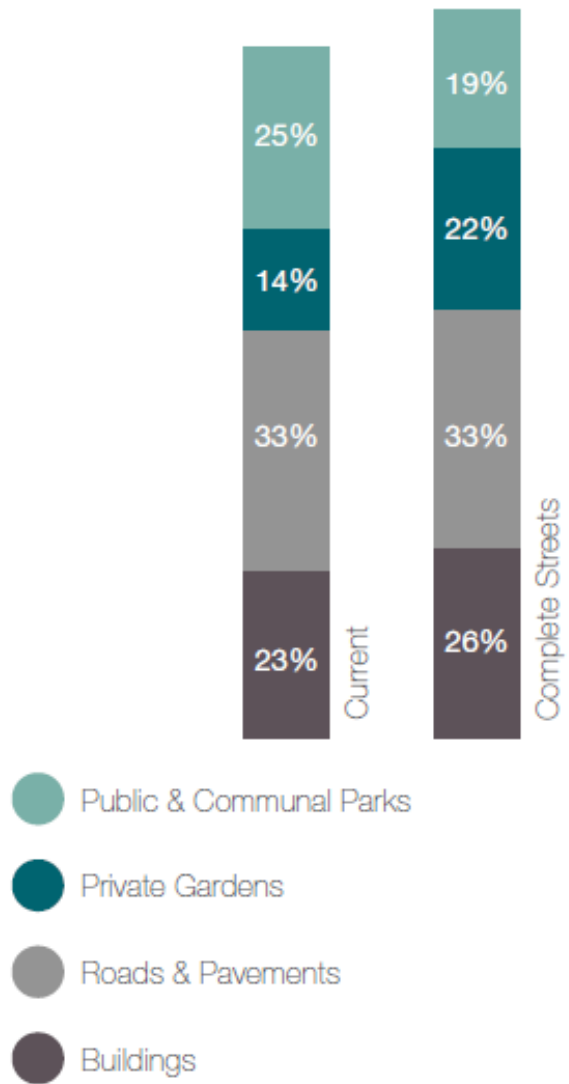
The new streets could provide 167% more units than currently on the site while only occupying another 3% of the land. Private gardens would then occupy 22% of the land in the complete streets, considerably more than the current 14% open space would reduce from 25% of the land to 19%, in very different, smaller, managed, landscaped and usable parks, squares and gardens.



Map to show Complete Streets on site B



Land use breakdown



B.3 Complete Streets Layout Version 2 (not used in analysis)



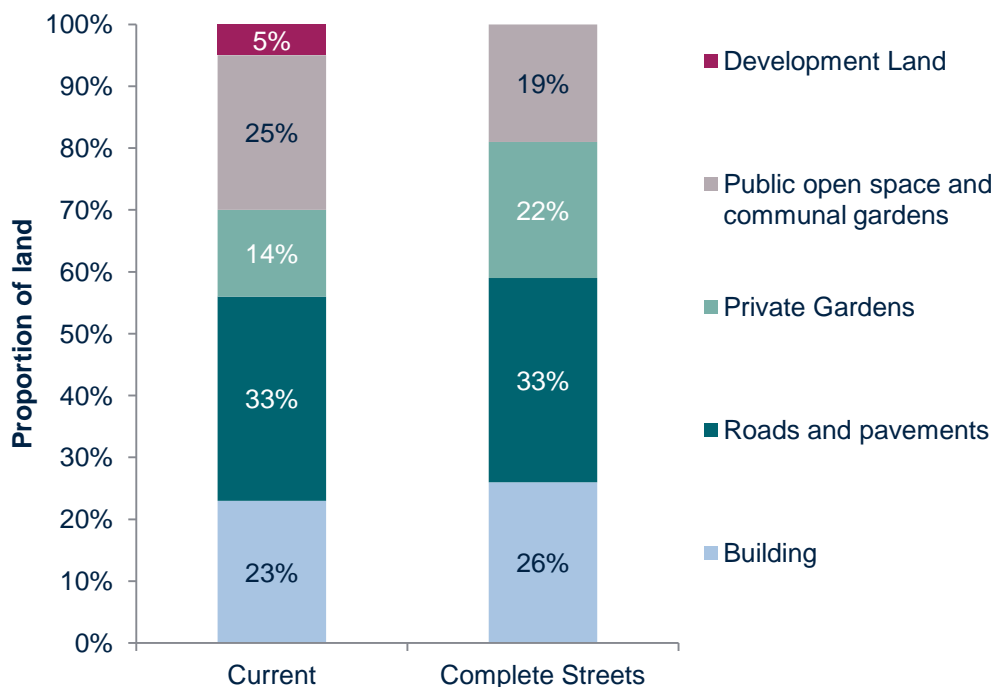
B.4 Contemporary Regeneration Layout

A conventional regeneration layout of more, new buildings in open space would also yield higher densities than are on the site currently, but only marginally more because we have assumed that urbanisation and densification would not take place in this location without the introduction of a new, intense and fine-grain street pattern. *Contemporary Regeneration* would probably involve the replacement of apartments only in the flatted areas of the site. We calculate that *Contemporary Regeneration* might yield 64 units per hectare over the whole site.

Replacing apartment blocks only yields low densities for *Contemporary Regeneration* on this site.



B.5 Land Use Breakdown



Source: Savills Research

Site B has a considerable amount of green space is provided on this site, appropriate for its location in zone 4. In the Complete Street scenario there is less public open space but a greater proportion of land taken up by private gardens and an overall increase in greenspace.

Site B	Existing Estates	Contemporary Regeneration	Complete Streets
Units per Ha	46	64	124
Increase in units/Ha	-	38%	167%

Source: Savills Research, Census 2011

B.6 Spatial Accessibility

Local Integration Site B1

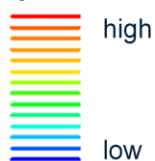
Existing Estate



Complete Streets



Spatial accessibility



The above analysis shows that the 'Complete Streets' plan improves the connectedness of the site to the surrounding city which improves its sense of place within the city by creating a new route from the east and south of the site's boundaries.. This new layout should create some opportunities for commercial and community uses, including local retail, within the site.

It might be possible to create an even more connected place by completing the new route to the west of the site – beyond the boundaries of the estate in question. This inter-relatedness of estates with neighbouring land ownerships is one that needs to be explored further by landowners and planners. Urban repair doesn't have to stop at site boundaries – and joined up planning could improve urban values for a wider community.

At this broader scale, the new streets create a mixture of more connected places along with some 'quieter' places, suitable for residential use. It removes the large areas of 'cut-off' space that currently dominate the centre of this site.

Local Scale Spatial Accessibility Site B

The level of connectedness at the local level (i.e. to surrounding neighbourhoods) is currently reasonable on the main routes around the site but very poor in the centre of the estate – which will create an isolated, unvisited and uncomfortable places in the heart of the neighbourhood. The new streets as designed would significantly increase the local connectivity and permeability of the site while leaving manageably quiet places for residential use.

The whole area becomes animated, visited and populated again leaving much greater scope for human interactions within the local community. Clear through routes from surrounding neighbourhoods have been created which is likely to lead to more local eyes on the street and opportunity for neighbourly interaction than existed before.

Again, the area that is quiet and inaccessible (often perceived as dangerous) in the *Existing Estates* layout has been reduced to little calmer pockets rather than intimidating expanse.

Accessible routes at different scales Site B

In summary, the Space Syntax analysis shows that the new streets on this scheme improves the permeability of the site very significantly. The new streets become animated and useable at a local and city-wide scale, potentially improving the life-chances of people on the estate by providing greater employment opportunity and less isolation. The new street scheme would create a significant local and city through-route which would offer opportunity for a significant neighbourhood centre at the intersection. This street pattern brings life to the heart of the site and offers a wide range of routes through the scheme but also preserves some accessible but less active places conducive to quieter residential uses.

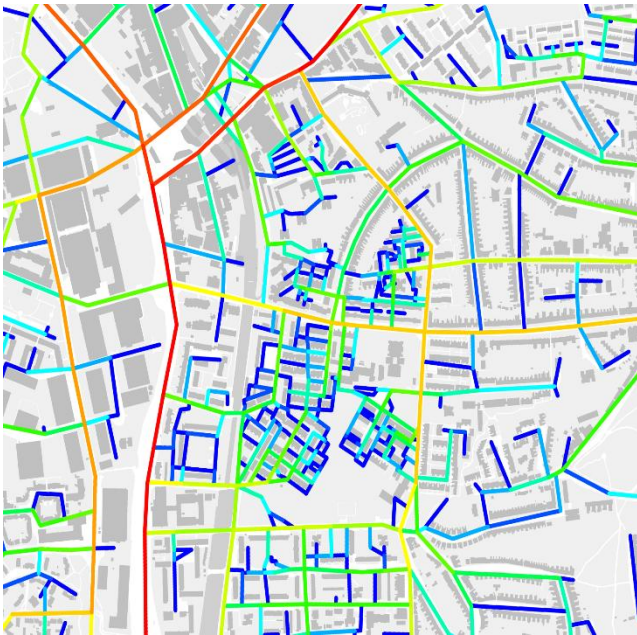
Overall, the new streets have the potential not only to 're-knit' this site into the urban fabric of central London, but also improve the accessibility of adjoining neighbourhoods.

Site B2

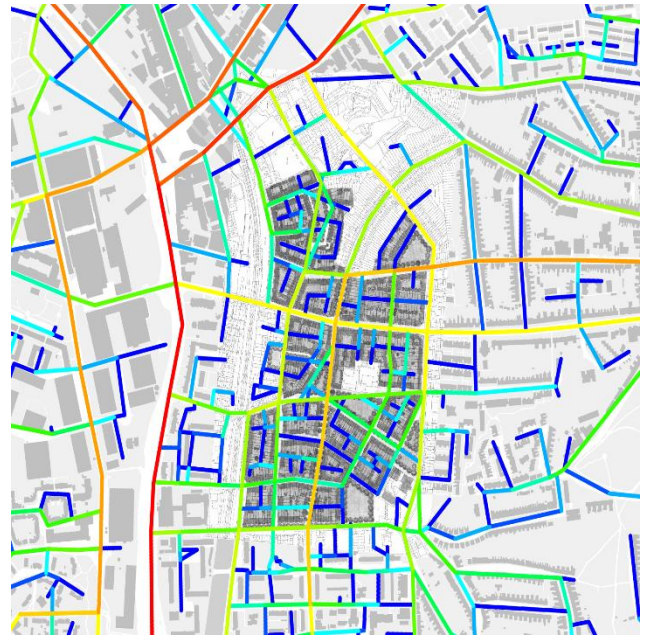
An alternative layout was originally designed for Site A on which the full Space Syntax analysis was undertaken. These are the results.

City-wide Integration Site B2

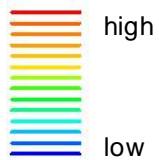
Existing Estate



Complete Streets

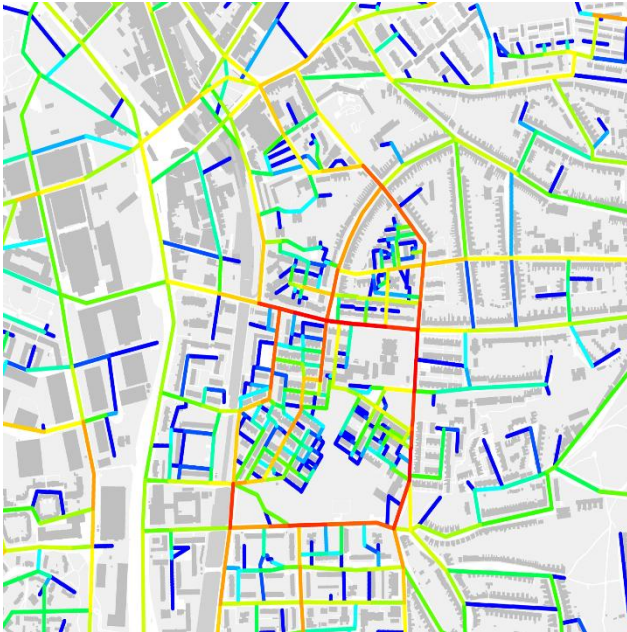


Spatial accessibility

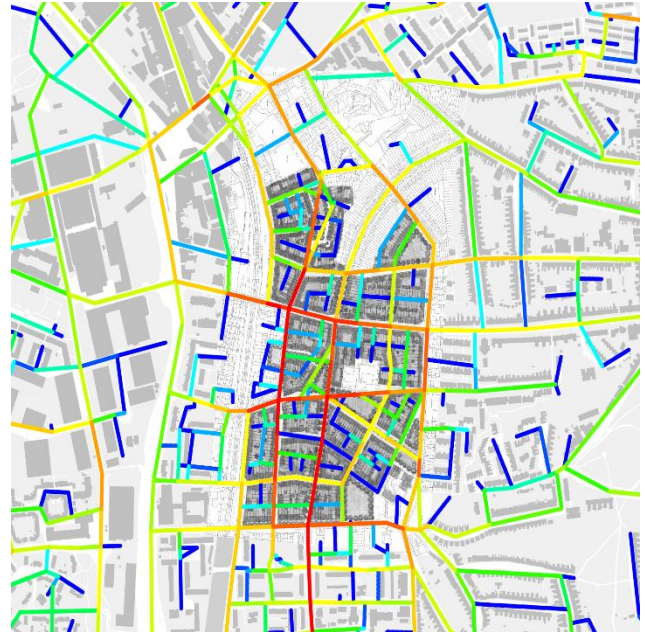


Local Integration Site B2

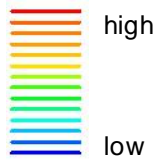
Existing Estate



Complete Streets

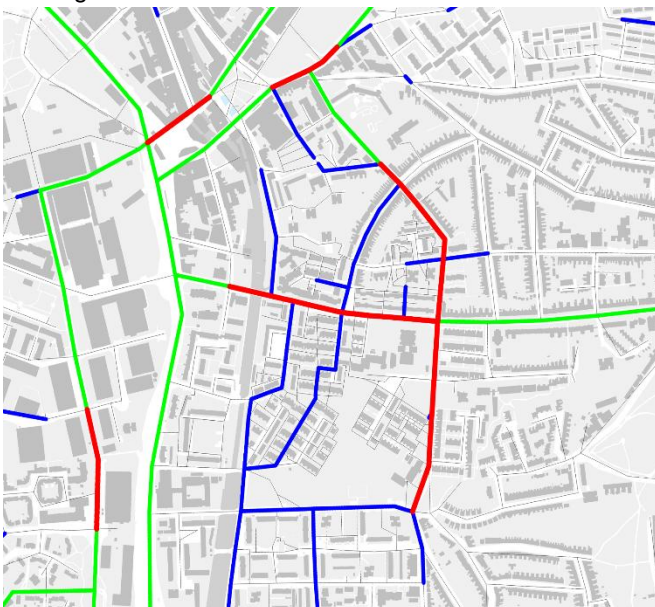


Spatial accessibility

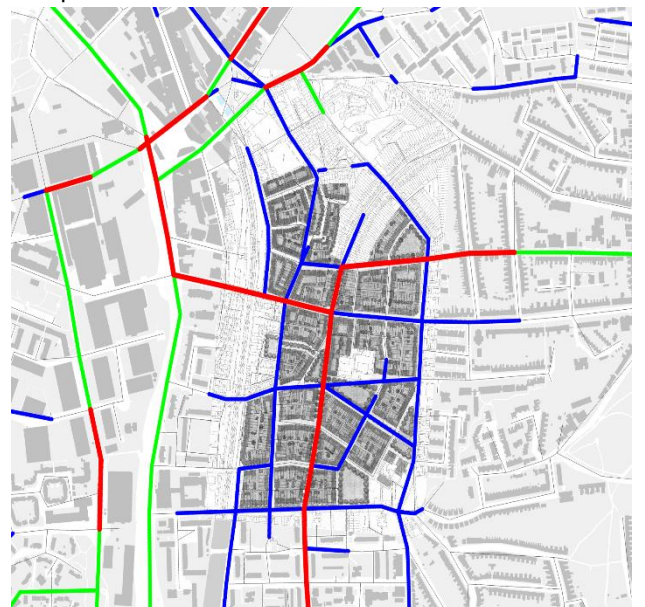


Multi-scale Integration Site B2

Existing Estate



Complete Streets

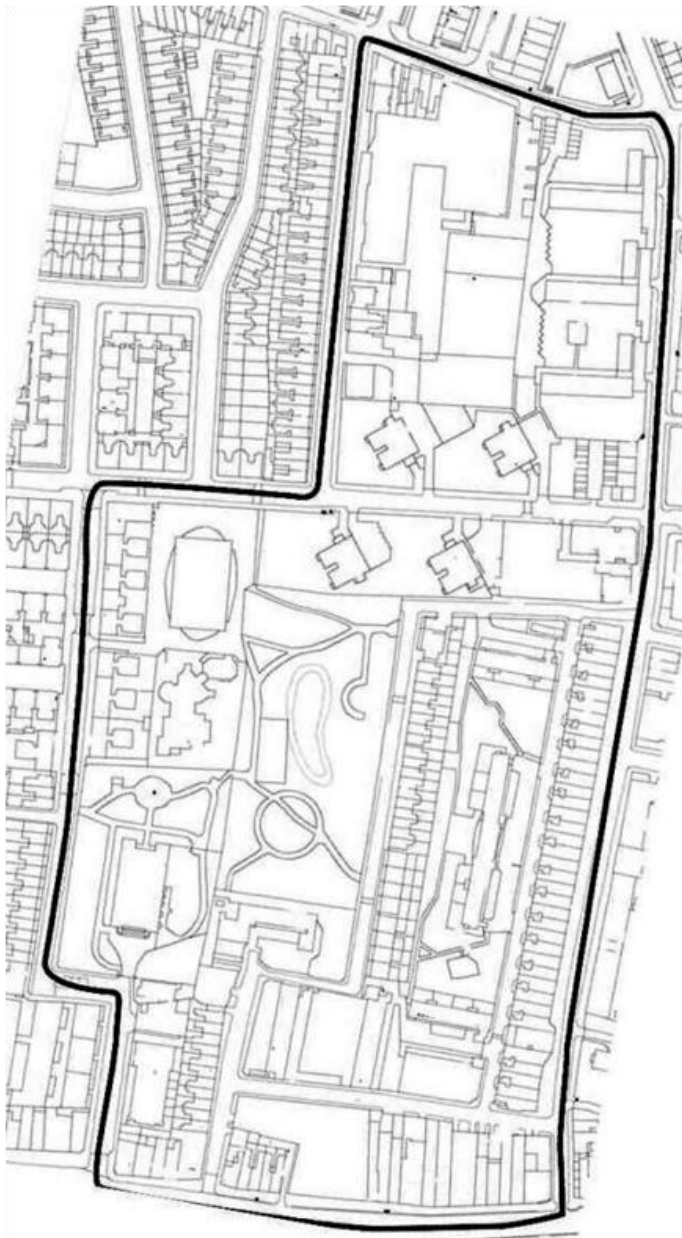


Site C

Medium, Zone 2, South, Inner London Borough

C.1 Existing Layout

Existing Estates provide 111 units per hectare



Several streets of terrace or mansion block style housing remain on site C from the historic streetscape but much has been replaced with medium rise blocks, towers and a park in addition to some modern terraces.



Historically there were many more roads and intense terraced housing on the site.



Despite some existing high rise blocks there are only 2% more units than there were before the site was developed in the 1960s/70s.



C.2 Complete Streets Layout



Complete Streets could provide 140 units per hectare.

On site C the revised street pattern yields 26% more units than currently provided on the site.

The new streets retain the managed park in the centre of the site and the units on the high street used for retail and commercial purposes.

A mix of apartment blocks and terraced houses are provided with some mews.

Many more roads are introduced into the site allowing increased access to the park and primary school on the west of the site.

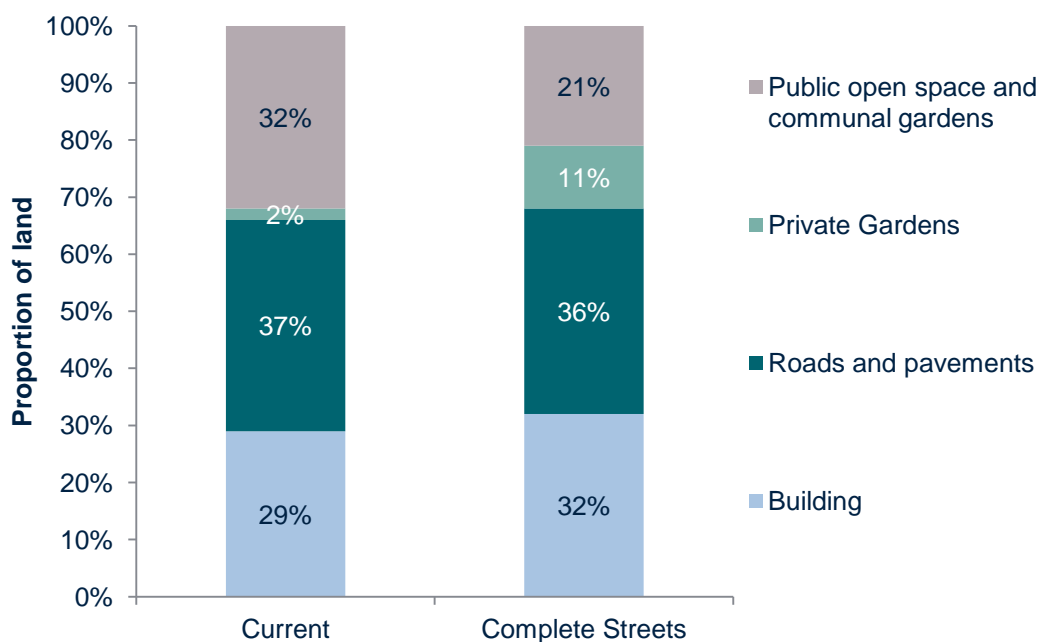


C.3 Contemporary Regeneration Layout

On this site, *Contemporary Regeneration* could provide 29% more units than currently on site



C.4 Land use breakdown



Source: Savills Research

Currently, the roads, pavements and car parks on this estate occupy more land than anything else. In the 'Complete Streets' pattern much of the public open space is preserved but more space is given over to private gardens. The land take for buildings is increased by 3% of the whole, to give 26% more homes.

Site C	Existing Estates	Contemporary Regeneration	Complete Streets
Units per Ha	111	144	140
Increase in units per Ha	-	29%	26%

Source: Savills Research, Census 2011

Site D

Medium, Zone 3, South West, Outer London Borough

D.1 Existing Layout

Existing Estates provide 71 units/ha



Site D historically had a few terraced streets which were mostly replaced with the present-day, intense arrangements of blocks, towers and modern terraced properties.



The original street pattern has been retained to some degree although not all roads are navigable by car and more of the site has been developed.



D.2 Complete Streets Layout



The Complete Streets scenario for this site incorporates commercial units along the main road along one side of the site, industrial units and flats, houses and mews.

Complete streets add 71% to the current number of housing units on the site.

New roads open up the site on both axes through the site, improving accessibility and permeability and linking the site back into the popular and desirable urban fabric to the East of the site.

This new 'permeability' also unlocks industrial land to the west of the site.

Importantly, the development of an urban, eastern edge re-animates and commercialises a major thoroughfare with shop fronts and workspaces. This almost doubles the commercial space and offers scope for more employment-generating use.

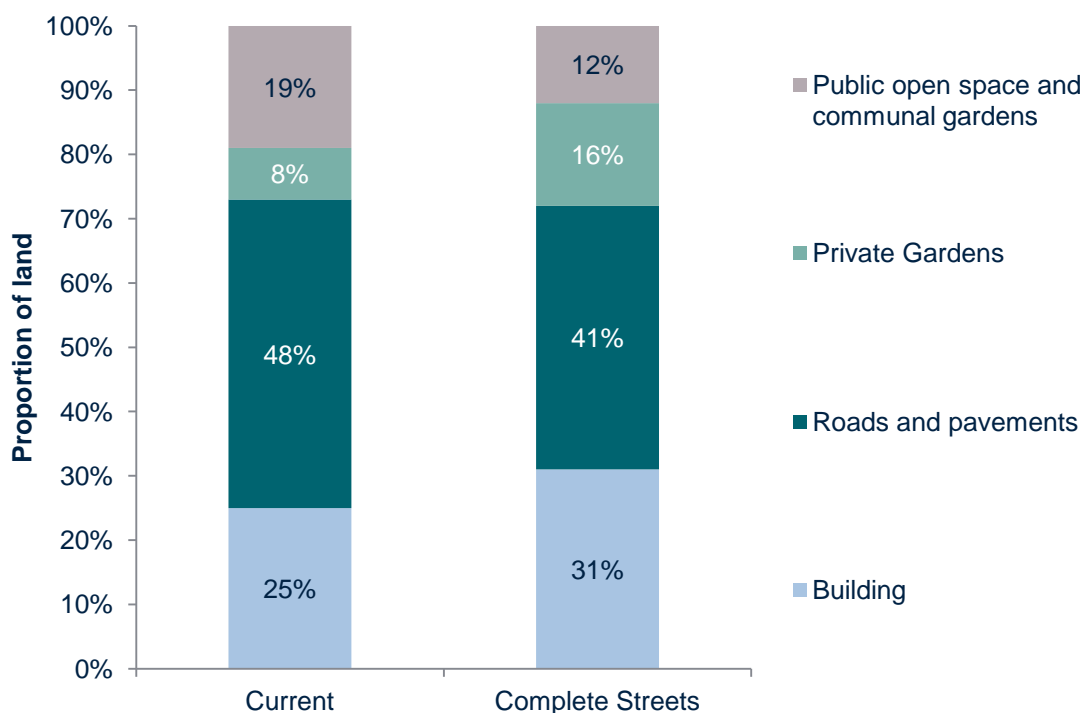
This site best illustrates how complete streets can change the nature of a whole location which has potential impact beyond the boundaries of the site itself.

D.3 Contemporary Regeneration Layout



Contemporary Regeneration could provide nearly twice the number of units currently on the site but only allows for very little mixed use, commercial and retail space.

D.4 Land use breakdown



Source: Savills Research

The land use for each site is similar for the Complete Streets and Existing Estates scenarios. Roads and pavements (including car parks) take up nearly half of the site currently, which is slightly reduced by Complete Streets. The new streets afford a slightly greater amount of public and private open space.

Site D	Existing Estates	Contemporary Regeneration	Complete Streets
Units per Ha	71	138	122
Increase in units per Ha	-	94%	71%

Source: Savills Research, Census 2011

D.5 Spatial Accessibility

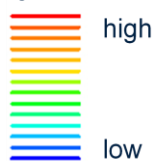
Existing estate



Complete Streets



Spatial accessibility



The above analysis shows that the 'complete streets' plan creates an effective city 'grid, offering a much greater choice of globally accessible routes through the scheme which re-knits the site into surrounding streets while also offering quieter back-streets and mews-like enclaves.

The improved connectedness of the site to the surrounding city creates a new east-west route at the southern end of the site which opens up possibilities for mixed uses to complement the route with intensive commercial potential on the eastern edge of the site.

These 'commercial routes' offer the opportunity for the landowner to diversify risk away from residential property and potentially create income from commercial rents, to cross-subsidise social housing or offset service charges, for example.

It is worth noting that the connectivity of some surrounding streets, off site and in different ownership, are improved by the 'complete streets' development of the site. This is likely to add to real estate values, which are higher in well-connected streets and lower in disconnected ones.

Local Scale Spatial Accessibility Site B

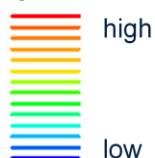
Existing estate



Complete Streets



Spatial accessibility



The level of connectedness at the local level (i.e. to surrounding neighbourhoods) on this site is currently probably better than many but there is far lower levels of connectedness than the site has potential for. The 'complete streets' scheme not only improves the local connectedness of the site very considerably but also improves the connectedness of adjoining neighbourhoods by offering a choice of routes from one neighbourhood to another.

Once again, the creation of proper streets means that the whole area becomes animated, visited and populated leaving much greater scope for human interactions within the local community. Clear through routes from surrounding neighbourhoods have been created which is likely to lead to more local eyes on the street and opportunity for neighbourly interaction than existed before.

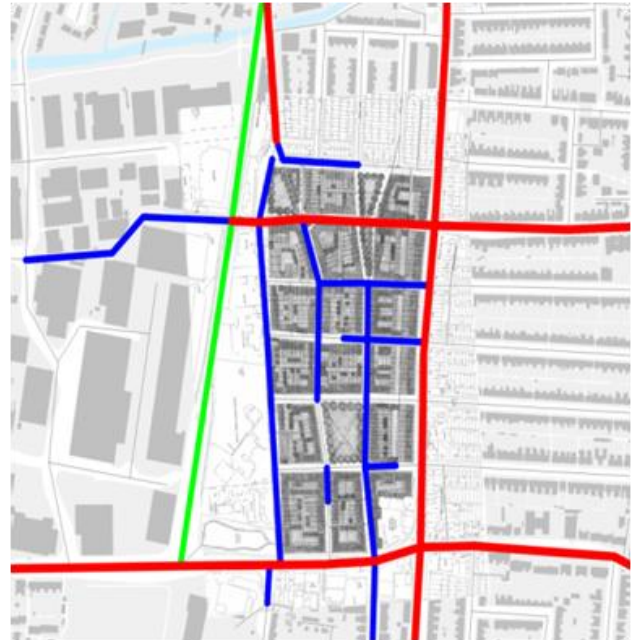
Again, the area that is quiet and inaccessible (often perceived as dangerous) in the *Existing Estates* layout has been reduced to smaller pockets of calm rather than intimidating dead ends.

Accessible routes at different scales Site D




Existing estate



Complete Streets



Highly accessible routes at different scales

-  Primary at both city-wide and local scales (multi-scale)
-  Primary at city-wide scale
-  Primary at local scale (c.a. 10 minute walking distance)

In summary, the Space Syntax analysis shows that the Complete Streets on this scheme creates a new east west-route of both city-wide and local significance as well as a stronger network of local routes. This potentially offers scope for successful neighbourhood and commercial uses on site.

Site E

Small, Zone 3, North, Inner London Borough

E.1 Existing Layout

Existing Estates provide 72 homes per hectare

The current layout on the site is relatively dense and provides 43% more units than is the site was terraced like the surrounding area.



E.2 Complete Streets Layout



New streets could provide 132 units per hectare.

The new streets are a mix of houses and flats and yield a much higher density providing 83% more units than are currently on the site.

The revised street layout changes the road pattern, putting houses onto the tarmac that currently backs onto the existing stock. New roads are inserted within the blocks to allow more movement as well as access to river frontage.

E.3 Contemporary Regeneration Layout



Contemporary Regeneration could provide 135 units per hectare.

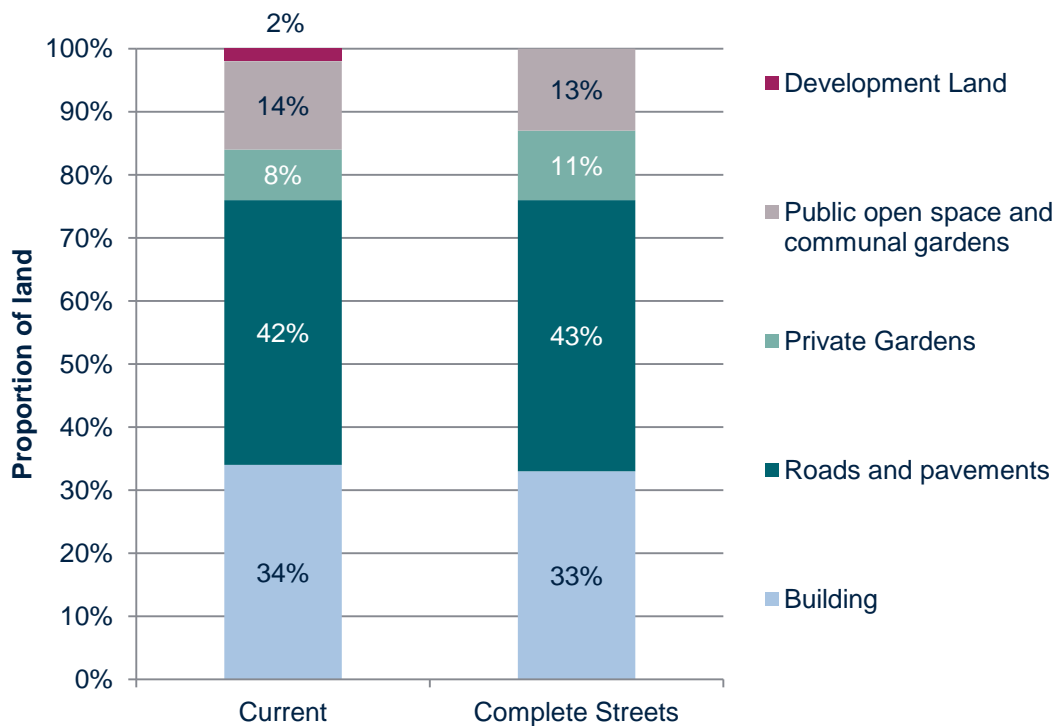
The site could have the capacity for 87% more units than currently provided under *Contemporary Regeneration* if regenerated using conventional methods.

This would add no additional uses onto the site.

Completing London's Streets

Savills Research Report to the Cabinet Office

E.4 Land Use Breakdown



Source Savills Research

The land take on both the *Existing Estates'* relatively dense site, and the *Complete Streets* site are almost identical. Because it is a small site, there is a high proportion of roads and pavements. In the case of complete streets, they will benefit surrounding buildings and neighbourhoods too and not just provide access to buildings on site as the current tarmac does.

Site E	Existing Estates	Contemporary Regeneration	Complete Streets
Units per Ha	72	135	132
Increase in units per Ha	-	87%	83%

Source: Savills Research, Census 2011

E.5 Spatial Accessibility

City wide spatial accessibility Site E



The above analysis shows that the 'complete streets' plan creates more globally connected routes through the site which will enhance the sense of place and tie the site into the cityscape. Having said this, the city-wide connectedness of this site, though improved, is not as great as some of the other sites.

It is worth noting that, once again, improving the street network of the site in question benefits other streets around the site, potentially opening up land for development of other uses by third parties.

This benefit to surrounding landowners could be significant if regeneration is successful and begs the question as to whether this land betterment could be capitalised to help fund the regeneration scheme on this and other sites.

Local Scale Spatial Accessibility Site E

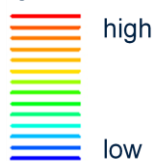
Existing estate



Complete Streets



Spatial accessibility



Compared to some estates, this one is better connected and more permeable than most. Nevertheless, the new streets bring a great deal more local connectivity onto the site, especially to the North West corner of the land. This suggests that more local people will find routes to and from their homes, potentially adding to the success of local neighbourhood facilities, including local community and commercial uses.

Again, the local connectivity, as well as the global connectedness, of neighbouring streets and communities is improved by the Complete Streets scheme on this site alone. Nearby streets that were once little used are more likely to become animated, with higher potential land values.

Accessible routes at different scales Site E




Existing estate



Complete Streets



Highly accessible routes at different scales

-  Primary at both city-wide and local scales (multi-scale)
-  Primary at city-wide scale
-  Primary at local scale (c.a. 10 minute walking distance)

In summary, the Space Syntax analysis shows that the complete streets on this scheme create more accessible routes, further onto the site. Primary accessibility could probably be improved if the main north-south route could be extended or linked into major networks to the south of the scheme. This is beyond the scope of this small, single site regeneration but might be achieved if an area-wide improvement scheme were considered. Certainly, the potential of adjoining land to be both augmented and to augment other sites should be considered where housing estates adjoin.

Site F

Large, Zone 2, North West, Outer London Borough

F.1 Existing Layout



Existing Estates provide 71 units/ha.

At present, the number of units on this site are slightly less than were there historically when the streets were terraced.

Many of the old streets are no longer in full use although there rows of terraced housing that survived to the present.



Other terraced housing has been replaced with high blocks, and modern terraced properties. The site was and remains a mixed use site with a school, shops and industrial and commercial premises.



F.2 Complete Streets Layout



Complete Streets would provide 109 units per hectare.

The complete streets scenario provides 109 housing units per hectare and increases the density on the site by 53%, through reinstating streets.

Terraces, apartment blocks and mews replace the existing stock.

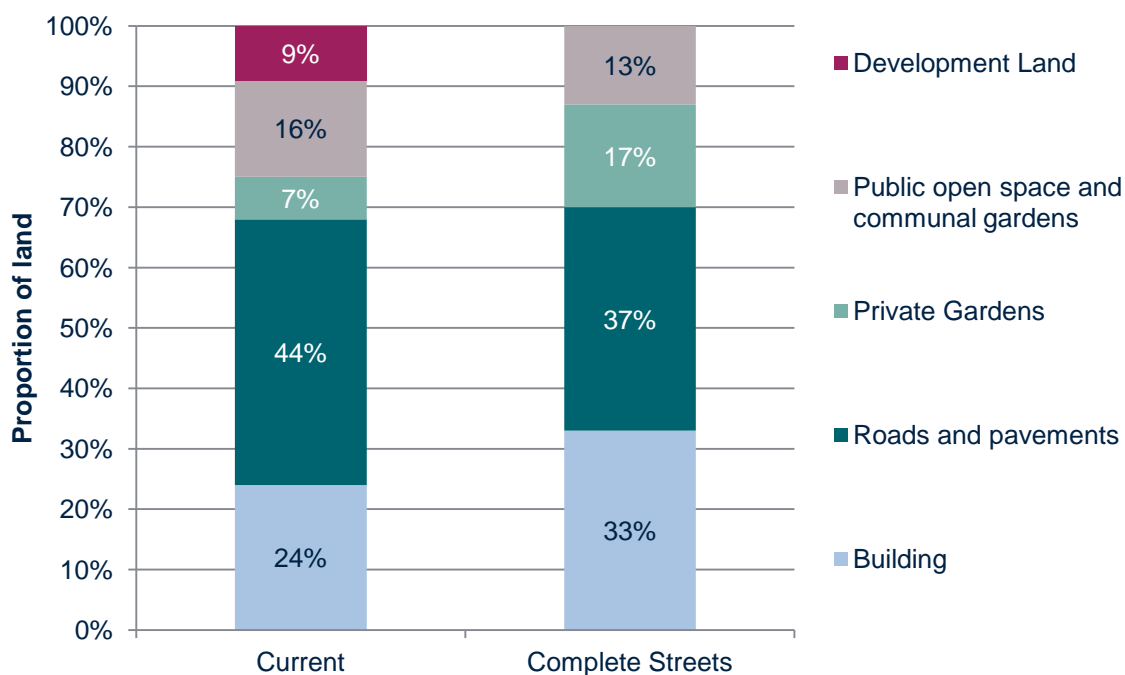
The new street pattern closely resembles the historic streets allowing greater accessibility through the site which has several community buildings and schools.

F.3 Contemporary Regeneration Layout

Contemporary Regeneration could provide 111 homes/hectare. The contemporary design for this site increases the density of units on the site by 56%.



F.4 Land use breakdown – Site F



Source: Savills research

Currently, much less of the land on this estate is taken up by buildings than it would be if redeveloped as Complete Streets. Conversely, much more land is taken up by roads and pavements than would be the case in the Complete Streets scenario. Although 9% of land is vacant and in the process of being developed, the amount of gardens and open space would be increased by a Complete Streets scheme.

Site F	Existing Estates	Contemporary Regeneration	Complete Streets
Units per Ha	71	111	109
Increase in units per Ha	-	56%	53%

Source: Savills Research, Census 2011

Appendix 4

Estimations of Housing Estate Land Area

Three different land areas are estimated using different methods:

1) 8,476 Ha

Dividing the total number of households living on LAHEs (661,112; 502,445 in purpose built flats and 158,667 in houses) by the average household density on LAHEs (78.0 hhds/Ha) gives a land area of housing estates of 8,476 Ha.

This assumes:

- All social rented purpose built flats are on LAHEs
- 24% of homes on estates are houses (weighted average of the six estates studied in this report)
- The weighted average density of the six estates studied (78.0 hhds/Ha) is representative of all estates in London

2) 7,606 Ha

The output areas in London with 60% or more social housing occupy an area of 9,608 Ha. Excluding the largest 35 output areas assumed to be too large to be an estate results in a land area of 7,606 Ha.

This assumes:

- Output areas with 60% of more social housing represent housing estates
- All area in the output area is occupied by the estate

3) 12,515 Ha

Of all the 159,624 Ha in London, 20% of it is apportioned to social housing (based on the breakdown of tenure) of which 56% is owned by local authorities. 70% of this is assumed to be on housing estates which equates to 12,515 Ha.

This assumes:

- The area land is proportional to the number of households
- All tenures have an equal share of all land
- 70% of social rented tenants live on estates

NB: This also calculates for local authority owned estates only

4) 10,181 Ha

Of the 66,185 Ha of gross domestic land in London, 15% is on estates based on the number of social tenants living in purpose built flats equating to 10,181 Ha.

This assumes:

- All purpose built flats are on an estate
- The number of households is proportional to land area
- Domestic buildings + domestic land + share of roads and paths; share of roads and paths = domestic buildings and gardens / total land excluding road, rail and paths * road and paths

Appendix 5

Stakeholder Survey

Industry expert review of barriers to intensification of streetscape and housing supply on Estate regenerations in London. By Create Streets.

1. The analysis

In July and August 2014 we interviewed over 30 developers, local government and RSL employees, architects, surveyors, investors and other professional advisors. We shared with them the four alternative plans for two of the sites (Site A and Site B) examined in this study.³³ We then asked the following questions.

- a) In a perfect world, which route would you take? Why?
- b) What would you say are the top three barriers that might make it hard to achieve *approach four (Complete Streets) as shown here with this existing density, volume and proportion of social housing and urban form?*
- c) Conversely, what might be the three greatest enablers to *this regeneration as shown here with this existing density, volume and proportion of social housing and urban form?*
- d) How might the barriers and enablers change (a) in different locations (b) in estate regenerations of different sizes and (c) in Inner or Outer London?
- e) I am going to read out to you a specific list of potential barriers that have occurred to us or been suggested to us. For each of them could you please score them from 0 to 10 where 0 is "not relevant as a barrier to this built form in any way" and 10 is a "crucial likely barrier." If you have no idea what impact this issue does or does not have then please just say don't know

This appendix sets out the findings from these interviews and associated analysis. Questions two and three are referred to as the spontaneously identified barriers and enablers. Question five is referred to as the prompted analysis.

³³ The first 4 interviewees were only shown Site A as the plans for Site B were not yet ready.

2. Our findings

- a) **Most industry experts interviewed think the street-based approach is clearly the right one.** A strong majority (68%) of the industry experts interviewed think the street-based approach is best and is the one they would personally choose if they had a free hand. Only 6% would choose the *Contemporary Regeneration* approach. (26% were undecided, thought that the right answer would be site-specific or should be a mixture of approaches).
- i) The main drivers for this preference was a consistent perception from many interviewees that a street-based approach would be more popular, would be more “sustainable” or would be better for communities with lower crime, greater resident satisfaction and lower long term running costs
- i. **Pete Redman**, the former MD of housing at Lambeth, Southwark and former CEO of Notting Hill Housing summed it up as; *“I favour the street pattern as the long term value is greatest, and the stock flexibility is greater.”*
 - ii. **Steve Skuse** of Willmott Dixon agreed; *“From a pure builders’ perspective I’d go for new streets any day. You can work round the site with continuity. It’s much more difficult to do that in high rise... we knock too many things down that are high and not that old because they have not worked. By experience the high density blocks don’t tend to be sustainable.”*
 - iii. **Elliot Lipton**, MD of First Base, was clear that *“we know that [a street-based approach] creates better and safer environments for residents and passers-by. We know that people have a greater sense of ownership if they are responsible for the dwelling. And we know that in delivering the housing form that is familiar, we are more likely to gain support from communities and from local planning committees. .. It is better for people, better for the community and more popular. I’d add safety to that list and [lower] management costs... there are big advantages.”*
 - iv. **Nigel Franklin**, a quantity surveyor and MD at Calfordseaden who has worked on multiple estate regenerations stressed the long term advantages of streets very emphatically: *“The Longevity and sustainability issue... it’s a lot easier to deliver sustainable solutions in this type of street pattern... Developments with pitched rooves, minimising internal circulation space... they’re just more likely to last 100 yrs plus... we should be asking: ‘Will it last longer?’ What sort of plan will last?” I know of schemes from 1978 and 1993 which are to be demolished.”* He also stressed their lower long term running costs: *“the advantage of building housing that minimises the amount of internal common space is that it is mainly managed by the occupier.”*
 - v. **Jeremy Grint**, Director of Regeneration at Barking and Dagenham agreed: *‘we’ve got approach.’*
- ii) Some who favoured a contemporary approach disagreed that most people favoured a conventional urban form. **Matt Bell** of Berkeley Group was clear that people are *“not screaming for street-based”* developments. Others who did not support streets were quite frank that they did not regard such matters as important. One very senior figure who has been involved with many large regenerations and constructions conceded with admirable frankness; *“I see all this as very secondary. It does not particular concern or interest me.”*

- b) **There is widespread though not universal concern about what we are building at the moment and a real fear, from some, that this could lead to dramatic problems and high costs in the future.** Though some believe that we have learnt lessons from the past many others think we are replicating too many errors. Many interviewees were very clear about their concerns to us.
- i) **Chris Brown** summed up his concerns succinctly; *“Generally the blocks of flats we build are pretty shoddy”*
 - ii) The most acute concern was over future maintenance costs with several echoing a statement in *‘Living at Superdensity’* that *‘there is little evidence of a move to impose higher standards of management as a pre-requisite for approving new schemes.’*³⁴. One very senior industry insider who has personally worked on many towers being built in London was alarmingly clear about the consequence of his work: *“This is a ticking bomb as more and more will need maintenance. There are long term issues around renewing cladding, lifts etc. in tower blocks – how will this be funded and who will be willing to? I worry that we are creating ghettos of tall buildings.”* **Geoff Pearce**, Director of Regeneration and Development at **Swan** Housing Association, agreed. *“You need to think about the cost in use. For some very dense developments I get concerned about future service charges & how the cost in use will pan out. ... You need lots of lifts, lots of indoor circulation space with not lots of ownership, not lots of natural surveillance. It just needs more maintenance”*
 - iii) **Anna Mansfield** of Publica added that, *“there is quite a big gap between what we are building and how people want to live.”* Her colleague at Publica, **Lucy Musgrove** agreed: *“We learnt through the 60s that we could create hectares of space left over after planning. My fear is that we’re doing this again, that the master planning we are doing now is leaving lots of hectares of space left over after planning... Quite a lot of our environments are quite hostile because of their amplified scale... it’s an absolute powder keg, we could have a disaster over the next 20 years.”*
 - iv) That said, many felt there were places where high rise was right and appropriate and a very small minority were satisfied with the current situation. *“Non-street based developments do work”* said **Alex Ely** of Mae Architects while stressing *“the desire to have breathing space within the city.”*

³⁴ *‘Living at Superdensity’* Design for Homes, HTA, Levitt Bernstein, Pollard Thomas Edwards Architects and PRP (2007), p. 7.

- c) **One of the hardest thing to get right in all estate regeneration is the politics.** Working with existing tenants to secure support and managing the cost and process of Compulsory Purchase Orders (CPO) can be very hard. In our survey of what interviewees spontaneously identified as barriers to estate regeneration, 19% of total responses (weighted by importance given) reflected this issue. Four of the highest scoring issues in our prompted survey of barriers to street-based regeneration also reflected this (Generalised mistrust of developer – 7.7; Fear / belief that rents will be higher in the regenerated scheme – 7.3; Cost of buying out / moving existing owners – 7.2; Process delay from buying out owners – 6.9))
- i) Some experts interviewed felt they or their teams knew how to do this and that this process was known and manageable. Most felt there was a fundamental dearth of industry experience and expertise in this area. **Mike De'Ath** of HTA Architects was clear: *"We need to get far better at the process of engagement... There is a real paucity of skills to do this... You can count on one hand the number of developers who have right complex of skills to do this."* **Jonathan Smales**, MD of Beyond Green, agreed, *"There's definitely a problem in the culture of real estate and regeneration. We don't have the skill mix, the process skills."*
 - ii) This barrier was not, however, felt to be a relative barrier to street-based regeneration *per se*. If anything it was a relative advantage due to the broadly perceived far greater popularity of street-based regeneration. Even those, such as **Michael Hill** of CP plc, who were not supportive of a ubiquitous street-based approach conceded that, *"it is highly likely that the average resident of an existing housing estate is going to be more disposed to streets than a contemporary approach."* In fact, in our survey of what interviewees spontaneously identified as enablers to street-based estate regeneration, **33%** of total responses (weighted by importance given) stressed that streets' greater popularity and their enabling role for good social outcomes, political support, lower crime and more family housing.
 - iii) Although evidence on overall public preferences for streets and a conventional urban form are fairly overwhelming, it should be conceded that there has been no specific recent research on this point for current estate residents. What is clear (and see Part III below) is that much current estate regeneration has become very unpopular with local residents but also that it is necessary, and difficult, to disentangle issues of urban form from the right to return, process delays and (often) a sense that consultation has not been genuine. **Sally Taylor** of the West Kensington Tenants and Residents Association, giving evidence to the London Assembly Planning Committee in July 2014 expressed simultaneously a disinclination to move, a frustration with the process and a cynicism with the proposed replacements: *"All we have heard today is demolition and promises that are not promises at all. They are absolute lies sometimes. If I hear 'like for like' again I will scream because a house to me is a house not a duplex."*

- d) The critical *relative* barrier to street-based regeneration is that due to the perceived lower density yielded by street-based regeneration compared to *Contemporary Regeneration* it is felt to give lower returns in the short term to a council selling the land or to a conventional house-builder investing in the site for the short term. In our survey of what interviewees spontaneously identified as barriers to estate regeneration, 32% of total responses (weighted by importance given) reflected this issue of poor short term returns to the public and private sectors. Two of the highest scoring issues in our prompted survey of barriers to street-based regeneration also reflected this (*Need to build higher unit numbers to achieve financial viability – 7.3* and *Need to build higher unit numbers for council to meet 'Best Value' test – 7.2*). As **Alex Ely** of Mae Architects put it, "*if it comes down to viability, the denser the better.*" **Alastair Stewart** of Westhouse Securities added; "Cash flow is easier for the developer in the *Contemporary Regeneration* scenario"
- i) Several of our interviewees were quite clear that a very patient approach to value-generation was required to over-come this problem. **Andy von Bradsky**, MD of PRP Architects, was one of many who called for "*a longer term model for patient capital.*" **Louise Sherwin** of Grosvenor Estates explained how this could be done; "*Our mission is to create a secure income stream. IRR gets weighted by fact that we're planning to hold for 40 years not that we'll be in and out in 10 years*"
 - ii) Others set out how Local Authorities needed to think for the long term via JVs rather than falling into the trap, encouraged by the Best Value test, of measuring financial viability in a very short term way which leads to maximising density. "*It's a massive problem*" felt **Alastair Mellon** of Providence Developments.
 - iii) Many felt that the industry was to blame for "*maximising short term returns at least risk and cost*" (**Jonathan Smales**) rather than maximising returns via patient capital. **Chris Brown** agreed; "*One of the huge flaws is the current way we procure development. New housing is the sell one build one model... In London on sites over 250 homes, the average sales rate is four a month. In the rest of the UK it is 2.6 a month. That's why it takes years. And two thirds won't buy from any volume house-builder.*"

- e) **Many felt that a secondary *relative barrier to street-based regeneration is the complex array of rules and requirements which can make it harder to take a street-based approach to estate-regeneration.*** In our survey of what interviewees spontaneously identified as barriers to estate regeneration, 28% of total responses (weighted by importance given) reflected this issue. This issue was far more complex as different interviewees highlighted very different issues. This reflected different personal experiences with different councils on different regenerations. It also reflected different types of institutional experience. Some practitioners felt they had evolved adequate work-arounds which allowed them to deliver good schemes under the current rules. *“Planning and design is not a barrier”* said **Alex Ely** of Mae Architects who also felt that the London housing design guide made it *“easier for streets.”* Others felt very strongly that the *“standards required by those who lay down the rules”* (**Pete Redman**) meant that *“attractive streets just don’t confirm.”* This is leading to disconnects between market preferences and the built environment. *“The scheme behind Kings Cross gas works is one example of a street style regeneration. It works, but it was difficult to get past the planners & highway planners”* continued **Pete Redman**.
- i) **The most widely and profoundly felt rules-based issue was the need to meet the Best Value Test** already mentioned above. *“If they [councils] sell they are constrained by best value considerations to maximise density”* said **Elliot Lipton** which in turn forces very large buildings. In our prompted survey of barriers to street-based regeneration the *‘Need to build higher unit numbers for council to meet ‘Best Value’ test* achieved the second highest overall score of **7.2**, second only to mistrust of developers
 - ii) **A majority felt that highway rules acted as a barrier to street-based regeneration.** In our prompted survey of barriers to street-based regeneration the *‘Need to build wider or different streets to meet council rules’* achieved a score of **5.9**. Many industry practitioners were particularly vocal on this point with some of the most emphatic comments we received criticising the impact of highway engineers on good design and place-making via issues such as required turning circles, refuse collection standards, lines of site and road access. **Alastair Mellon**, of Providence Developments, was clear that *“Highways engineers should not be allowed close to any development. They insist on a whole series of regulations that kill a development.”* **Mike De’Ath** of HTA Architects agreed; *“the worst streets are designed by highway engineers and refuse collection people. They’re dead but technically proficient.”* Others complained about inappropriate minimum road widths. **Luke Riley** of East Thames Housing felt they were *‘too prescriptive.’* There was, however, a sense that the situation was improving with **John Spence**, an architect at calfordseaden one of several commenting, that their impact *“seems to be getting less.”*
 - iii) **A majority felt that London Plan density targets acted as a barrier to for street-based regeneration.** In our prompted survey of barriers to street-based regeneration the *‘Need to build higher unit numbers / volume to meet London Plan density targets’* and the *‘Need to build different unit /building types to meet London Plan density targets’* achieved scores of **5.9** and **5.5** respectively. This issue can be simple. As **Richard Blyth**, Head of Policy and Practice at the RTPI put it *“there is a drive for numbers at the exclusion of nearly all else.”* It can also involve a complex interaction between high level rules, density targets, economics and the physical constraints of a particular site. As **Mike De’Ath** put it *“The issue in the London Plan we find is that it mitigates against certain approaches to creating density that work quite well. So although we’re great fans of double aspect, it is not the case that single aspect is always bad for market rent.”*

- iv) **Next highest in our survey were rules on open space where a majority felt that they undermined the potential for good street-based regeneration.** In our prompted survey of barriers to street-based regeneration the 'Need to include more open space to meet the London Plan' and the 'Need to include more open space to meet local council's requirements' both achieved scores of **5.7** and **5.8** respectively. **Geoff Pearce** of Swan Housing called this 'the biggest barrier.' It was generally felt that planners cared about this more than residents. In the same survey the 'Need to include more open space to satisfy local residents' only achieved a score of **4.9**. **Ingrid Reynolds**, Director in Housing and Public Sector at Savills summarised the majority view when she said that, "The reduction of open space is potentially a barrier. It is more likely to be the planners saying you've got keep or add to the open space than residents. Part of the general planning strategy is to retain public open space"
- v) **Although it was not the majority view, a clear minority felt that the accessibility rules in the London Plan made it harder to achieve street-based regeneration.**³⁵ In our prompted survey of barriers to street-based regeneration 'Difficult to build this form of flats and comply with London Plan' achieved a score of **4.0**. 'Difficult to build this form of houses and comply with London Plan' achieved a score of **3.6**. The impact of national rules on building terraced flats and houses was felt to be less. (**3.4** and **3.1** respectively to the same questions). **Andy von Bradsky** who leads one of the architectural practices designing many homes London at present commented; "Lifetime homes are potentially a barrier... [for example requiring] level access from street to threshold. But sometimes a raised ground floor is a benefit in terms of house typology." **Alastair Mellon** also complained about "the insistence on elevators over four storeys." **Nigel Franklin** of calfordseaden was more concerned about the impact on spatially efficient terraced houses: "The London plan works well for flats. It is less easy for houses. Stairs have to be shallow pitched – this needs more floor-space. The through the floor lift is easy for two storeys. It is difficult for three or four storeys. It adds challenges all round and costs as well as less ideal storage provision due to the area required for stairs and lifts." Others, while recognising the rules' constraints on spatial efficiency, felt that it was a necessary price to pay for the growing elderly population in London.
- i. The issue of London gold-plating of national standards has already emerged at the GLA level. One of our interviewees, **Richard Lavington**, commented to the GLA Planning Committee in March 2014: "One very efficient way of delivering family housing at a certain density is with narrow-frontage terraced houses, but actually Lifetime Homes is very obstructive to making that work particularly well. Once you get to three bedrooms, you need a very large bathroom on the entry level and that actually obstructs the width of the plan; which means you have to go into a very narrow kitchen and through that into a living space at the back... you are prioritising the lifetime use of the home and disabled access over its efficiency and use for a family; a family without disabled kids and things like that, admittedly. We are applying that across every new-build single home in London.'

³⁵ The London Plan embeds Lifetime Homes rules via the London Housing Design Guide.

- ii. This challenge was recognised by the Mayor of London, **Boris Johnson**, in the London Assembly when he said: *“One of the difficulties of course is that within the London Plan there is this stipulation that any building above 3 storeys must have a lift. Now we could take that out and say that you wouldn’t need to have a lift till you were at 5, 6, 7, 8, 9 storeys. The trouble is that I think we’ve got to the stage now where people would find that suddenly a restriction on the accessibility of the building and people would say ‘are you really seriously taking going to take lifts away when we have so many elderly people, so many disabled and so on and so forth. Walk ups which are so attractive are limited in their flexibility. And that is one of the problems that we face. If you put in a lift for a building of 4,5,6 storeys people will say well why, the economics of it won’t add up. You’ll be spending an awful lot on the core and shaft of the lift and not actually maximising the potential habitation in the building.”*³⁶
- vi) **Although it was not one of our prompted questions, others highlighted the impact of Secured by Design in preventing a street-based approach.** Alex Ely, of Mae Architects, who in general does not believe that rules act as a barrier to good place-making, nevertheless recalled how on one estate regeneration he worked on, *“We had real arguments with the Secured by Design officer. ...There was no reasoned conversation with him. The computer says don’t connect to streets.”*
- vii) **Finally, although not a prompted question, some stressed the desire either from planners or from developers to maximise car parking spaces as a barrier.** Mervyn Jones, Housing & Public Sector Director at Savills asked *“What will planners do to it? They don’t like trade-offs. They will ask where’s the car parking not are those nice roads that people will like.”* Luke Riley at East Thames Housing agreed. *“Depending on the local authority this can be very restrictive.”*

³⁶ London Assembly, 23 July 2014.

Recommendations

A series of recommendations emerge from our interviews and analysis.

1. Encourage patient capital in estate regeneration

- a. The government should encourage the role of patient capital (seeking returns over a 30-40 year timeframe at the least) in this sector.
- b. As appropriate or as public policy determines, this could be a mixture of private capital or RSLs or councils able to borrow cheaply and take a very long term view. Such organisations could potentially group together to form Special Purpose Vehicles.
- c. This recommendation emerged consistently from our interviewees. In our survey of what interviewees spontaneously identified as enablers to street-based estate regeneration, **21%** of total responses (weighted by importance given) stressed the need for patient capital and its capacity to take advantage of the cheaper long term management costs of **street-based regeneration**.

2. Remove barriers to and/or encourage alternative business models especially long term project-promoters and custom build.

- a. This also helps reduce the need to maximise short term returns.
- b. It can also increase the speed of subsequent sale due to the unpopularity of volume house-builder constructions with some of the public.
- c. A project promoter can be paid by fees but also by exposure to a small percentage of long term value created.
- d. **Chris Brown** of Igloo summarised this recommendation well: *"You'd never ever procure a house-builder to do a scheme like this. The same applies to the big Housing Associations. You need a project promoter, someone who will do all the upfront stuff; design, planning, putting the infrastructure in, parcelling it all up to the various tenures...Custom-build sells a lot quicker. [To make it work you need to] create a panel of home manufacturers" who can provide a custom build mortgage, sell the plot, help the customer choose from a panel of home manufacturers and customise. "They can do it in 3 days in Holland. In UK it takes 4 – 6 weeks."*
- e. Regulatory barriers which can act as an additional cost or disincentive to custom build should be reviewed and removed

3. Publish improved guidelines to show councils that the Best Value obligation categorically does not need to require maximum short term value but can focus on maximum long term value.

- a. Some councils may need help with the technical aspects of understanding and calculating the net present value from long term income streams rather than immediate sale
- b. In our prompted survey of barriers to street-based regeneration the *'Need to build higher unit numbers for council to meet 'Best Value' test* achieved the second highest overall score of **7.3**. second only to mistrust of developers

4. **Make it very clear in all over-arching planning policy documents and guidance to planners that they strategic presumption of the planning system is for what people want above all else.** There should be few or no barriers to this end. Planning rules or practice which act as a barrier to this end should be removed or interpreted differently.
5. **They should be a genuine and privileged role for the local community in estate regeneration which is not just a *post hoc* consultation.** Much (though not all) current estate regeneration has clearly become very unpopular with many residents and future approaches need to be clearly distinguished from some contemporary practice.
 - a. This will help make estate regeneration more popular and could involve approaches such as Enquiry by Design and binding local referenda. As **David Lunts**, Executive Director of Housing at the GLA put it: *“it is less “you must have streets” more “follow this process & you will usually get streets.”*
 - b. **Meryvn Jones**, Director of Housing & Public Sector at Savills was one of several who commented about how *“cynical”* many estate residents had become about consultation and regeneration. His answer was to engage people at *“the earliest possible moment, treating them as adults.”*
 - c. This cynicism, and the deeply flawed nature of some current consultation emerged clearly from evidence given to the Housing Committee of the London Assembly on 10 July 2014. **Derrick Chung**, Chairman of the West Hendon Resident’ Association told the committee: *‘The decision-making process for the regeneration of West Hendon was a consultation that was an ultimatum: you either take it or there is a bus going that way. We were not allowed to take part in the decision-making process’* Many others at the evidence session agreed with him. **Jakob Secker** of Haringey Defend Social Housing commented; *“The consultation has been shocking.”*
 - d. Although we have not investigated this point, it is possible that the current requirements of statutory consultation actually prevent real consultation. That was certainly the view of Lucy **Musgrove** of Publica: *“Because of statutory consultation, most consultation exercises are purely information-giving. This issue of public mistrust is a consequence. Rightly so. Unlike other countries, where they are much more transparent there is not a real engagement process. What happens is that it is a whole spurious exercise. It should be engagement rather than consultation. People should be able to engage. But the business model is already decided. I would scrap public consultation”*

6. **Presumption should be that in estate regeneration, tenants are only moved once.** **Nicky Gavron AM** Chair of the London Assembly Planning Committee summarised this point clearly: *“If you're going to do any regeneration on the estate – there should only be one move. Tenants should move from the home they are in, to the new home they will be moving into.”*
- a. Doing this badly is certainly a real barrier to estate regeneration. **Roger Helpher**, Head of Planning at Savills explained; *“The logistics of decanting can be quite difficult to arrange without unacceptable disruption to lives of residents.”* Barriers associated with mismanagement of this process also emerged as important components of the overall political risk. *“The political risk of the re-housing process”* and *“Lack of expertise in managing the re-housing schedule”* scored 6.7 and 6.4 respectively in our prompted survey.
 - b. Minimising disruption should make estate regeneration more popular and should be more compatible with a street-based approach. As **Steve Skuse** of Willmott Dixon put it: *“The New streets layout is more attractive to build because you can phase it.”* This can actually help speed up the experience of individual tenants. The protracted nature of the current process has certainly been a consistent complaint. **Manoranjitham Saravanamuthu** of the Carpenters Estate, told the London Assembly Housing Committee: *“In 2005, they started to decant the residents and they said that they were going to demolish the properties. Still they have not done anything for ten years.”*
7. **Specific changes to the London Plan and national standards should be considered to make it easier to build high density conventional streets of maximum spatial efficiency and flexibility in London and in other cities.** **Alastair Mellon** was one of several who called for this stating *“like a ship covered by barnacles, the rules accumulate over time but slow the whole ship ... The London housing design guide needs a complete bloody revamp ... [we] should rip it to pieces.”* Rules that need reviewing include
- a. **Highway Rules** and how they are interpreted at national and local level
 - b. **Targets and rules on Open space** which seem to be more demanding than residents. One option would be to permit gardens to count as well as public or amenity space for targets. This was suggested by **Geoff Pearce** of Swan Housing:
 - c. The degree to which it is appropriate to gold-plate **national access standards such as Lifetime Homes** in the London Plan
 - d. **Density Guidelines.** **Barnaby Collins** of DP9 was one of several who called for *“tighter, more enforceable planning guidelines that dictate density caps.”* **David Lunts** at the GLA agreed: *“There needs to be some sort of realism and acceptance of how much value can realistically or sustainably be taken out of a site. A lot of the super-dense schemes are very difficult to calibrate with good quality street-based design. It seems to me that we are moving from traditional / medium density to high density... this has commercial and planning policy imperatives that need to be challenged.”*

Appendix 5

Survey Question Results

Table I – Preferred Approach to estate regeneration³⁷

<i>Approach</i>	<i>Level of support from 31 interviewees</i>
1. Status quo	0%
2. Old street pattern	0%
3. Contemporary Regeneration (blocks in space)	6%
4. Complete Streets	68%
5. Can't say or chose a fifth option	26%

Table II – Barriers to street-based regeneration spontaneously identified by interviewees³⁸

<i>Barrier</i>	<i>Degree of support (weighted by ranking given by interviewees)</i>
1. Need for more volume / short term economic model of most developers	32%
2. Rules or requirements at national, London or local level	28%
3. Managing existing tenants or leaseholders	21%
4. Lack of expertise, culture or desire to do this in design / development industries	6%
5. Insufficient public funding / need to lift borrowing cap	4%
6. Planners having insufficient power or ambition	2%

³⁷ Long tail of individual responses not shown.

³⁸ Long tail of individual responses not shown.

Table III – Potential enablers to street-based regeneration spontaneously identified by interviewees

Barrier	Degree of support (weighted by ranking given by interviewees)
1. Fact that is more popular, easier to get local residents on side plus better for communities	33%
2. More patient capital / better understanding of long term cash flows / cheaper long term management	21%
3. Support for street-based regeneration in local policies or from local political leadership. Changing rules that make them harder	19%
4. Better educated, imaginative or enlightened developers or local government	8%

Table IV – Major prompted barriers to street-based regeneration identified by interviewees in prompted survey

Barrier	Score (0= no barrier; 10 = crucial barrier)
1. Generalised mistrust of developer	7.7
2. Need to build higher unit numbers / volume to achieve financial viability	7.4
3. Fear / belief that rents will be higher in regenerated scheme	7.3
4. Need to build higher unit numbers / volume for council to meet Best Value Test	7.2
5. Cost of buying out existing owners	7.2
6. Process delay from buying out existing owners	6.9
7. High cost or required ratio of social housing compared to available units	6.9
8. Political risk of re-housing process	6.7
9. Political risk of Compulsory Purchase Order	6.5
10. Lack of expertise in managing the re-housing schedule	6.4

Appendix 7

Recommendations for Further Research

- National government should require each local authority and major RSLs in London to list and map each and all of their housing estates to **create a comprehensive register of LAHE land**. This should *inter alia* detail the size of the estate, the number of flats on the estate (and how many of which have been sold to occupiers or other landlords under Right to Buy or other schemes), the number of houses on the estate (and how many of which have been sold to occupiers or other landlords under Right to Buy or other schemes), the number, type and size of other uses (community, retail, commercial etc.) on the estate. Condition surveys should be undertaken, and the number of units that are due for replacement should also be indicated along with the number that have already been regenerated, newly built or substantially refurbished.
- Further areas for consideration should be the cost of the respective estate to manage on an on-going basis, and the lifetime energy and other costs of individual homes.
- Methods to consolidate ownerships on LAHEs, including buy-back mechanisms need to be investigated in order to underpin strategic regeneration. Consideration should be given to exempting estates earmarked for regeneration **from Right to Buy** and other property sales.
- Local Authorities Housing Estate Schemes (LAHES) need to find **innovative and longer term ways to hold value and share value between stakeholders**. One key player may be pension funds, who need long term and stable investment opportunities but this would require approaches to invest not conventionally employed by property fund managers within those institutions. We recommend that a review of how pension funds and other long-term investors can help the regeneration of London's estates through the creation of long-term regeneration and ownership vehicles that will help to finance the redevelopment of these estates and who would look to receive their returns over the medium-long term.
- A review of the potential of **public/private partnership arrangements** between local authorities and the private sector has already been undertaken by the Local Government Association³⁹; this should be built upon with a particular focus on the LAHE opportunity and challenge, undertaking detailed post-hoc analysis of successful historic partnership estate regeneration schemes and considering in detail what can be learned from these to produce template legal structures and business models.
- A parallel study to identify **policy barriers** to the emergence of long-term approaches to regeneration and investment of public sector land should also be considered.
- Consideration will also need to be given as to optimal **estate management and governance structures** might be put in place and mechanisms by which revenue can be created through value-enhancing actions over time. Such entities should be able to benefit, alongside investors, in order to maintain and adapt neighbourhoods for the long-term benefit of residents and other Londoners. It is appropriate that residents and occupiers should have a stake in, and role in the management of such vehicles.
- A further study should consider the relative **cost-in-use and fiscal generation** of alternative development and land reconfiguration scenarios, to consider how efficiencies can be driven into the costs of on-going servicing and overall public value generated.

³⁹ *Unlocking Growth through Partnership*, Joint publication by The British Property Federation & The Local Government Association, 2012

- We recommend also that research be undertaken of how exemplar schemes interact with the city's broader infrastructure and streetscape, how popular they are likely to prove over time, how well-correlated with good social outcomes and whether they bring additional jobs, amenities and culture to a site – to **identify and potentially quantify likely multiplier effect** across a range of financial and non-financial measures, and consider the potential and effectiveness of value capture mechanisms.
- A detailed and wide-ranging **occupier preference analysis** of house types and urban forms should be undertaken so as to gain a detailed understanding of London's housing preferences across a range of tenures and types.
- A parallel study to **review of scope of land in disruptive / sub-optimal use in other use classes** (e.g. Retail Warehousing; Superstores) which may nevertheless be well-infrastructure and subject to cyclical redevelopment, should be commissioned to consider scope for restructuring to unlock housing and regeneration capacity on 'greyfield' model.
- **Strengthened planning framework** within the context of London, and extreme market forces driving the sterilisation of land use towards residential and densification on a site by site basis to the detriment of the overall 'place potential' of sites, and to support optimal regeneration, street form and mixed use outcomes for London, reinforcing its traditional 'urban village' built form and with explicit preference for schemes that repair London's urban fabric.
- An analytical exercise using established GIS and property value mapping should be undertaken to produce a detailed understanding of the spatial, geographical, density and demographic characteristics of successful London residential neighbourhoods to produce well **informed benchmarks** to build on existing data and support informed future land use decision-making.
- Finally, we recommend that the package of research and analysis outlined above should be conducted on the basis of a **centre of excellence** , potentially hosted by a leading academic establishment with the range of real estate, planning, analytical and business specialisms so as to properly resource the exercise and build expertise in city building and repair. This may lead to competitive and business opportunities nationally and internationally, and would aim, to gain objective professional and academic input and remove the analysis/prognosis from the political sphere. The aim would be to review, as objectively as possible, solutions that are based on the interests of London and Londoners and informed by leading market practice.

Appendix 8

Characteristics of an Innovative Long Term Estate Regeneration & Investment Vehicle

1. Retains land interest in perpetuity
2. Explicit objects:
 - To optimise long term value across a range of financial and non-financial measures; to minimise revenue costs in use and to demonstrate resource efficiency in use
 - To maintain affordability on at least a % of housing stock
 - To maintain an % of properties in non-domestic use
 - To support wider neighbourhood regeneration and optimisation
3. Governance structure should contain strong representation from the existing local community and representatives of the future and eventually enlarged occupier community.
4. Calculates scheme value with reference to 25 year cash flows (including outgoings and capital receipts)
5. Not to sell any kind of property interest on the estate for at least the first 5 years (either to a developer or owner-occupier/investor) or sale via revised form of leasehold tenure.

Appendix 9

Assumptions and exclusions

Within this work several assumption and exclusions have been made, they include the following:

- The six sites chosen are representative of London's social housing estates
- *Contemporary Regeneration* is piecemeal block renewal without changing the exiting layout of the estate
- *Complete Streets* is successful reintegration of the site into the surrounding urban fabric which can achieve values equal to those of the neighbouring period homes
- The terms 'LAHE' and 'social housing estates' include both local authority owned housing estates and housing association owned housing estates
- Planning rules may be altered
- New build values are ignored
- Decanting is ignored
- Demolition is ignored