HOUSING SUPPLY REQUIREMENTS ACROSS GREAT BRITAIN FOR LOW-INCOME HOUSEHOLDS AND HOMELESS PEOPLE

Research for Crisis and the National Housing Federation

MAIN TECHNICAL REPORT

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Contents

List of Acronyms

AHC	After Housing Costs
AONB	Area of Outstanding Natural Beauty
AR	Affordable Rent
AST	Assured Shorthold Tenancy
BHPS	British Household Panel Survey
BRMA	Broad Regional Market Area
BTL	Buy-to-Let
GB	Great Britain
DCLG	Department of Communities and Local Government
DIYSO	Do-It-Yourself Shared Ownership
EHS	English Housing Survey
FCA	Financial Conduct Authority (formerly FSA)
FRS	Family Resources Survey
FTB	First Time Buyer
GDP/GVA	Gross Domestic Product/Gross Value Added
GLA	Greater London Authority
HB	Housing Benefit
HBAI	Households Below Average Income
HMA	Housing Market Area
ID/IMD	Indices of (Multiple) Deprivation
IR	Intermediate Rent
ISA	Individual Savings Account
JAMs	'Just about managing' families
JRF	Joseph Rowntree Foundation
LA(D)	Local Authority (District)
LCHO	Low Cost Home Ownership
LHA	Local Housing Allowance
LTV(R)	Loan-to-Value (Ratio)
MD	Material Deprivation
MIS	Minimum Income Standard
MLAR	Mortgage Lenders and Administrators' Statistics
MHCLG	Ministry of Housing, Communities and Local Government
NHF	National Housing Federation
NHPAU	National Housing and Planning Advice Unit
ODPM	Office of the Deputy Prime Minister
ONS	Office for National Statistics
PRS	Private Rented Sector
RSL	Registered Social Landlord
RtB	Rent-to-Buy
SHMA	Strategic Housing Market Assessment
SRHMM	Sub-Regional Housing Market Model
S106	Section 106 Planning Obligations (England)

TA	Temporary accommodation
UC	Universal Credit
UKHLS	U K Household Longitudinal Survey (‘Understanding Society’)
VOA	Valuation Office Agency
W&AS	Wealth and Assets Survey

List of Figures

List of Tables

EXECUTIVE SUMMARY

There is a current backlog of 3.91million households in Great Britain with housing need (s.4.2, p.37) 3.37 million of which are in England. Around half of these are households containing concealed households.

Adding in core and wider homeless people not within private households would add 0.23 million to this figure (s.4.4, 5.8). Many households (4.65m) are in poverty after they have paid their housing costs; at least 0.25m private renters aged under 40 are in private renting but cannot afford it on our standard criteria, in addition to the above numbers (s.4.2). Thus a broader measure of backlog need including these cases would add to 4.75 million across GB.

We cannot meet all of these needs instantaneously and it will take time to build up a really effective housebuilding programme to address these existing needs plus expected future needs and demands. 15 years is a reasonable time frame to plan for such a programme.

Over that time horizon, the total level of new housebuilding required is estimated at around 340,000 *per year* for England (380,000 for GB), We estimate that the level of new social housebuilding required in England is approaching 90,000 per year (GB 100,000), with additional provision of 28,000 shared ownership (or equivalent LCHO) and 33,000 for intermediate affordable rent. [GB 32,000 and 36,000]. (s.4.3, s.5.6)

These estimates are derived from employing three partially distinct methodologies in complementary fashion (s.6.2): two based on a traditional demographic framework enhanced to reflect affordability, and the other based on a dynamic sub-regional housing market model (s.2.1) and consideration of a wide range of key outcome measures, relating to affordability, poverty, housing need and homelessness.

The analysis and the resulting quantitative estimates of housing requirements necessarily rest on a range of assumptions (c.6.3). We believe these assumptions are reasonable and would be widely subscribed to, although some might differ on some aspects, for example the affordability norms or the limits on quotas for affordable or social rented housing.

It is clear that this increase in housebuilding should be skewed towards regions where the pressures are greatest, which is currently London and the South, although the exact optimal balance between within-London, near-to-London and the 'Greater South East' is an issue for more careful consideration. At the same time there are significant needs relating to poverty and homelessness in much of northern England and care is needed to ensure that sufficient housing is available to address these (s.6.4, 6.5, 7.3).

Following the arguments of Barker (2004) and NHPAU (2009), affordability is seen as a key criterion for adapting housing numerical targets away from numbers inherited from previous plans or from demographic projections (s.2.2). However, the modelling undertaken in this research shows that much greater adjustments are needed to

achieve a meaningful levelling of affordability differences than those proposed by MHCLG in its 2017 planning guidance (s.5.5, s.6.4). This is part of a more general finding, that if the goal is to make a significant and proportional response to need, particularly the most acute needs such as core homelessness, quite strongly differentiated housing targets are appropriate, at both regional and local scales. (s.6.4)

Building on previous related research, it is recognised that, to reduce core homelessness substantially, additional measures both within housing policy (e.g. full application of prevention measures, housing first) and beyond housing policy (limiting or possibly reversing some welfare reforms/cuts, particularly in relation to the LHA freeze; crime prevention and reduction) are needed (s.4.3, 5.8).

The analysis explores potential upper limits to overall and social housing supply, including outcome indicators around 'reasonable' standards of supply relative to need and around the dangers of exacerbating 'low demand' problems (s.5.6). When taken down to local authority level, it is possible to factor in feasibility constraints relating to land availability (s.6.3, 6.4). Affordable housing contributions and other resource issues are not directly included in the modelling in this study, which is primarily about needs and requirements, but supplementary estimates are made building on the study's database (S.8 & Appendix A).

When applying the target-setting approach to the much more disaggregated local authority level, it is argued that local authorities should be seen in their local 'Housing Market Area' context. The recommended social housing targets are based on an averaging of LA and HMA level estimates, and a number of cases where 'the duty to cooperate' should clearly apply are highlighted (s.6.4, 6.5).

It is also found that a number of constraints, singly or in combination, serve to limit local authority targets in many cases. These constraints include potential land availability for development, the general level of demand (affecting viability and the speed of take-up of housing allocations or permissions) as well more specific indicators of oversupply, and assumed maximum feasible social rented housing targets. As a result of the interaction of these factors, in trying to hit the 340,000/90,000 figures for total and social housing, a considerable amount of local and (sub-)regional adjustment of targets is necessary (s.6.5).

We have examined the particular situation of and targets for Wales and Scotland specifically, as well as the broad regional pattern across England (s.5.7). In sum, our findings suggest that England requires more ambitious targets across the board, that Wales would benefit from more investment in affordable housing and its recently enhanced targets are not unreasonable. For Scotland, we have some more nuanced findings, suggesting that care should be exercised about the total housing volume target in view of issues of low demand and housing surplus in some areas, and that the balance of the affordable supply programme should probably be shifted somewhat from social renting to intermediate tenures.

Meeting the goals of strategies to reduce and potentially end core homelessness are challenging, and there is currently not enough social housing to meet requirements associated with this in most of England (s.5.5). Under the recommended strategies, while also including additional prevention measures and changes in welfare and criminal justice policies, this would become feasible by the mid 2020s, although a few individual local authorities might still face more challenge (s.6.4).

The analysis shows up the limitations of conventional household projections as a fixed base for determining future housing requirements, highlighting the extent of suppressed household formation and the consequent strong feedback from additional supply to additional household formation, making household growth a moving target. (Ch.1, s.2.2, s.5.9, s.6.3, 6.4)

It appears that some outcome targets are difficult to shift at all, most obviously the tenure target of increasing the share of home ownership, overall or more particularly for the younger generation (s.5.9). However, the absolute number of home owners is still expected to rise.

Policy consideration of the study findings also needs to consider the sensitivity of results to a wider range of assumptions about future conditions, including national and regional economic growth and population changes (s.7.1). It is shown that the strategy is robust in the face of a couple of key alternative scenarios, relating to lower growth and regional rebalancing (s.7.1, 7.3).

Chapter 1

Introduction

This is the full technical report of a project commissioned at the beginning of 2018 by Crisis and the National Housing Federation (NHF) to assess housing supply requirements across Great Britain for low-income households and homeless people. It is not difficult to argue that such a study is both important and timely in the current policy juncture. To the greatest extent in more than a generation, there is a cross-party consensus that Britain needs to build a lot more housing and tackle its crises of housing affordability, housing availability and homelessness. Policies and resources are being deployed to address this challenge, but current plans for housing supply appear strangely incomplete, with little clear commitment to the scale, form and nature of new housing provision which can be expected to address the needs of lower income and homeless households. This research is intended to provide an authoritative and evidence-based assessment of those housing supply requirements, set within a clear picture of the overall housing market, both current and prospective.

It should be noted that this project was carried out over a period of less than a year, with the first stage (effectively Chapters 1-5) completed in four months. The researcher shared the client organisations' desire to make an early impact on the issue of getting social and affordable housing requirements into the broader planning and housing supply and public spending agendas during 2018. This meant that considerable reliance had to be placed on existing models and frameworks and on a body of prior analysis of and familiarity with relevant datasets. Fortunately we actually had a working set of models, currently in use and under further development with CRISIS and other organisations[1], which enabled us to meet the essential requirements of this Brief, while allowing particular parameters and assumptions to be varied or tested in consultation with the client organisations. At the same time, some aspects of the Brief encouraged us to explore somewhat differing, complementary approaches to assessing housing requirements, while also refining the inputs to and outputs from the main projections model.

While the research brief rightly highlighted the need to focus on the poorer end of the socio-economic spectrum, with a particular attention given to homelessness, to unmet housing need backlogs, and to households who clearly could not afford to buy or even to rent in the open market, we argued that the overall study should aim to place these in a context of overall housing requirements, including intermediate sectors (both rental and LCHO forms) and first-time homeownership in the market. Such an integrated overall picture is necessary to inform the land use planning system, as well

[1] In particular, the study of Homelessness Projections for Crisis reported in Bramley (2017 and forthcoming) and the policy simulations undertaken for the Joseph Rowntree Foundation as part of its 'Solve UK Poverty' initiative reported in Bramley et al (2016) *What Would Make a Difference?* Report.

as the political/policy system, where issues of access in the middle of the market and aspirations for home-ownership play a significant role.

This research is mainly about quantifying the need for, or most appropriate scale and mix of new housing supply in different parts of Great Britain. Inevitably, in developing policy to bring about such an appropriate scale and profile of supply, regard must be paid to practical feasibility and economic viability. This research is not primarily addressed to those questions, but it does make assumptions about what are the most plausible (including deliverable) forms of housing at different levels of affordability. It does also examine and utilise evidence on aspects of feasibility relating to land use constraints and to the viability of developments which are expected to meet a range of planning obligations, relating both to infrastructure and to contributions to affordable housing.

Recent analysis, such as that presented through the Homelessness Monitors (Fitzpatrick et al 2018), also underlines the critical interactions of homelessness and housing needs among the lower income population with welfare system settings and reforms, for example the role of the Local Housing Allowance (LHA) freeze. Thus the approach to modelling and forecasting/projecting needs/requirements should be sensitive to these key factors. In our recent work for CRISIS modelling 'core homelessness' (Bramley 2017 and forthcoming), we show that significant factors affecting homelessness outcomes include not just the levels of overall and social housing supply but also welfare cuts/reforms, regional imbalance in economic growth, prevention activity, and other social factors like crime rates. Notwithstanding the significant focus on homelessness, it should be emphasized that this study is not addressing in detail additional special needs, among this and other groups, which may require more specialised forms of housing or housing-related support.

The study methodology is discussed further in the next section. Variant methodologies have been used in the past to make quantitative estimates of current and future housing needs and requirements, as reviewed for example in Bramley et al (2010). The best-known national studies have perhaps been those undertaken by the late Alan Holmans and associates in a series of projects for bodies such as Shelter and the Town and Country Planning Association. Like most typical local or regional assessments, these rely heavily on the Government's household projections. For reasons set out more fully below, we do not regard this as an adequate basis for such assessments.

Overall, the approach that we espouse and do attempt to apply here is one which focuses on *outcomes* - what are the desirable outcomes we are targeting, in terms of housing need situations, affordability/poverty levels (after housing costs) and so forth, and (given what we know about behaviour and market interactions) what level and mix of housing supply would best achieve those outcomes across the system?

Chapter 2

Methodology

The centrepiece for our approach to this study is an existing Sub-Regional Housing Market Model (SRHMM), developed by the author over the last 9 years. Therefore, we first provide an outline of this before addressing the specific requirements of this Brief.

2.1 Sub-Regional Housing Market Model

The SRHMM was primarily developed and intended to inform planning decisions on housing provision in the decentralised planning framework in England. This economic model builds on previous work (notably Meen 2011; Leishman et al 2008, ODPM 2005, Bramley & Leishman 2005; as reviewed in Bramley 2013) but goes beyond it in terms of using a more appropriate geographical framework of sub-regional housing market areas, explicit modelling of the supply process as a function of planning, economic modelling of demographic change, and linking component models in an integrated simulation approach which takes account of spatial interaction between markets. Its outputs were initially primarily intended to provide a critical missing element in the evidence basis for localised planning decisions and an ability to assess the performance of the whole system in promoting supply and affordability. However, in recent applications we have used it as a basis for longer-run forward forecasts of a range of economic and housing market variables influencing poverty at (sub-)regional level in a mutually consistent fashion (Stephens et al 2014) and on testing impacts of a wider range of policy options on poverty and housing need outcomes (Bramley et al 2016). Most recently it has been used to develop conditional forecasts of core and wider homelessness across Great Britain over a time horizon of up to 25 years (CRISIS 2017, Bramley et al 2019 forthcoming)

The model was developed out of a feasibility study commissioned by the National Housing and Planning Advice Unit (NHPAU), the government agency then charged with advising regional planning bodies on housing numbers and affordability (Andrew et al 2009, 2010). Although the NHPAU was wound up following the change of Government in 2010, it was possible to develop the model further in work for a particular group of local authorities (Gloucestershire County and Districts). The current model built further on that work, on opportunities to update using information from the 2011 Census and other sources, and informed by experience of developing a similar model for New Zealand. The fullest account of the model in a peer-reviewed monograph length article is in Bramley & Watkins (2016), although this refers to v.14 of the model, whereas the current operative version is v.18w.

Main characteristics of the model

The characteristics of this model which make it suitable for the purposes of this study can be set out as follows.

- It is a *long run* model, which focuses on annual changes over a period of 20-30 years.

- It recognizes the *spatial structure* of the housing market in England, by being constructed at the level of 'housing market areas' (HMAs[2]), while reflecting the interactions between spatially-related market areas as effected through mechanisms of migration and price spill-overs.

- It handles the important role of *demographic numbers and processes* by going beyond extrapolative household projections and explicitly modelling migration and household formation as processes which respond to housing market and economic conditions, while at the same time influencing and modifying them.

- It recognizes that *housing supply* has important impacts on the housing market in the long run and that this supply is a dynamic economic process, albeit constrained significantly by planning and physical limits on land availability.

- The model generates *household income levels and distributions* which are important for affordability, when taken in conjunction with house prices. It also generates *labour market indicators* (employment and unemployment rates) which are useful for the analysis of poverty while being consistent with the economic and demographic scenarios.

- The model represents a national system which is *internally consistent*, respecting key identity relationships (e.g. linking households and dwellings) and given national totals for e.g. population.

The model is implemented in an Excel workbook format, so that the evolution of any variable in any area over time can be observed. In total there are 30 worksheets containing nearly 150 variables which vary over time (annual from 1997 or 2011 to 2041) and space (114 Housing Market Areas or HMAs across GB) together with additional sheets for 'cross-sectional' and 'time varying' national indicators, control parameters, predictive formulae, results summaries and sensitivity tests. In addition to blocks of variables relating to population and household demographics and migration, economic and labour market trends, incomes and poverty, housing tenure, prices, rents and affordability, planning and new housebuilding, there are blocks of variables on specific housing needs (overcrowding, concealed/sharing households etc) and an additional set of variables added to measure and model core and wider homelessness in 2017. Many variables in the model are driven by econometric functions calibrated on a variety of data sources including large scale and longitudinal household surveys as well as LA-level data, often in panel form. Other variables are derived using simpler logical functions or, in some cases, trend extrapolation. Further details and insight into the model may be gained from Bramley et al 2016, *What Would Make a Difference?*

[2] The HMAs are based for England on interim output from the study by Jones et al (2011), for Scotland on Leishman et al (2008), and for Wales on a commonsense geography as used in Bramley et al (2016).

Report, Appendix A, which identifies the key economic functions in the model, what drives them, and the evidence base upon which these functions are based[3].

In the above Bramley et al (2016) study for JRF, which was intended to inform the latter's Anti-Poverty Strategy, the SRHMM is linked to a large scale micro/household dataset (UK Household Longitudinal Study) which enabled us to generate a more detailed picture of the situation of different groups within the population at selected points in time. However, this linked model is not used in this study.

2.2 Key Tasks in the Research

Task 1: Analysis of current housing profile

The first task within the project was to provide a baseline profile of population, households and their current housing, including key tenure and cost/affordability characteristics, for the relevant geography. We proposed that this geography should be primarily Housing Market Areas (HMAs) nested within broad regions and GB countries[4]. In practice, the first phase of the project focussed mainly on analysis and outputs at the broad region and country level, while the second phase went down to the local authority level, while still seeing HMAs as key analytical unit in terms of modelling housing market responses.

Although there are112 HMAs across GB, these vary greatly in size, and there is a case for breaking some of these down, notably 'Greater London Plus', although in many cases the HMAs make good sense as 'City Regions'. It has been possible to create an LA-level breakdown of key indicators, and to use this in the development of targets, as discussed in Chapter 6 and later in the report. This has value in adding realism to the analysis, as housing market conditions and also the constraints and opportunities affecting potential housing development also vary sharply at local level. For future forecasts, HMAs are the best analytical unit to use when modelling market adjustments, and LA-level breakdowns are generally on a pro rata basis informed by the base period estimates.

The base year for the study is effectively 2015/16, although for some variables values would have been projected or forecast forward from an earlier date for which firmer data was available (e.g. 2011 Census). Considerable use is made of key large scale surveys, particularly 'Understanding Society' (UKHLS) and 'English Housing Survey' (EHS), to describe recent housing profiles and conditions at national and regional levels. The most recent wave of UKHLS available for use at the commencement of the

[3] Similar detail for the more recent homelessness and related functions will be included in the forthcoming *Homelessness Projections Technical Report*.

[4] The four broad regions of England used are North (i.e. NE, NW, YH), Midlands (EM and WM), South (SW, EE, SE) and London. While London is normally based on the GLA area, the SRHMM HMAs use a 'Greater London – plus' HMA which includes some adjacent districts in surrounding Counties. Wales and Scotland are included but Northern Ireland is not included in this study.

study was wave 7 (2015/16)[5], while for EHS we can access the general version of this for 2016/17[6]. Local level estimates will be discussed in more detail in a later section, but these are necessary to update the HMA level analysis, including potentially values contained with the forecasting model. A range of variables can be updated from different sources, including ONS population estimates, 'Annual Population Survey' estimates of employment and unemployment rates and occupational mix, earnings data, house prices, market rents (see Appendix B on data sources).

There could be as case for including within the baseline profile a report of changes over the last 5-15 years, as this would help to point up the problem areas in terms of adverse trends in certain key indicators, for example tenure by age, affordability, specific needs, homelessness. However there was insufficient time, resources and space in this report to consider past trends.

Homelessness, we argue, is best reported using the framework of core and wider homelessness devised with CRISIS in the recent projections project (Bramley 2017 and forthcoming). Income and affordability potential is reported and analysed in the base period using micro-household level data in UKHLS referring to 2015/16 and/or the preceding five years. Income distribution measures within the SRHMM are enhanced using supplementary more detailed distributions estimated using UKHLS data and a battery of local proxy measures developed as a by-product of two other research projects[7].

Task 2 Analysis of the backlog of unmet need for affordable and accessible products

The 'backlog' of need, in local/regional housing needs studies, is usually taken to be the sum of those people/households who have some recognised shortfall in their housing situation relative to some normative standards, whether measured through surveys, waiting lists (suitably filtered) or census and other 'proxy' indicators. At national level, the numbers reported in the periodic CRISIS Homelessness Monitors for 'Hidden Homeless', or within the current projections project as 'Core' plus 'Wider' Homeless, would be examples of such backlog measures. We aimed to measure and report these numbers under Stage 1 above (see Section 4).

The intention of the research Brief, however, extended an additional meaning to 'backlog', namely a subdivision of households (including potential households) into those who could afford (various) sub-market housing products, but who currently cannot afford market housing (even if they are living in it 'unaffordably'). Such a

[5] Wave 8 is now available at the time of concluding this report.

[6] We often, however, pool together several years of data from these surveys to increase the number of observations in the analysis. It should also be noted that MHCLG no longer publish geographical breakdowns of EHS below the level of three very broad regions, one of which combines London with the South.

[7] 'Local Level Household Income Model' developed for Scottish Government, but tested on UKHLS data for England; and 'Index of Affordability' developed for MHCLG as part of the Indices of Deprivation 2015 and 2019 projects.

breakdown would combine information on income and household composition with assumed possible generic affordable housing models and what they would cost in particular HMAs, given market values. This group would overlap with the backlog of households with needs as conventionally measured.

The affordability bands and thresholds used in this exercise are discussed in more detail in the Section 3. below. The housing need problem indicators in the main projections/simulation model are based on those developed in the DCLG study *Estimating Housing Need* (Bramley et al 2010), based mainly upon the Survey of English Housing (S.E.H., now incorporated in EHS). These were modified somewhat in a subsequent study (Bramley 2016) when the approach was extended to the UKHLS and its predecessor panel survey (BHPS). Not all of the original set (for example aspects of dwelling unsuitability) could be replicated closely in UKHLS. At the same time, the set of indicators used from UKHLS went somewhat further including aspects of physical house condition and a better definition of concealed households (as used in the Homelessness Monitor).

While these indicators based on sample surveys can provide estimates at national and regional level, and with a pooling of samples over a run of years also at the level of larger sub-regional HMAs, for individual Local Authorities and smaller HMAs these need to be supplemented by local information. 2011 Census data on occupancy, household composition, dwelling types etc. were used to make such estimates as well as to update earlier S.E.H.-based estimates.

On the affordability side, local estimates of household income distributions for younger households are generated using a synthetic model, whereby information about income patterns among households in a large scale household survey (UKHLS) and their relationships with other socio-demographic characteristics, are used to generate predicted income patterns for smaller areas (including local authorities) using census and other data about local populations. This builds on ongoing research into local income distributions in Scotland (undertaken in partnership with David Simmonds Consultancy for the Scottish Government), earlier work for Scottish Government and the Improvement Service (Bramley & Watkins 2013), and work for the DCLG on developing an indicator of housing affordability for England in the 2015 Indices of Deprivation. The synthetic income distributions are combined with actual house price and market rent information published by ONS, HM Land Registry and the Valuation Office Agency (VOA) at local authority level.

It should be noted that we do not use Housing Waiting List or Register information as measures of need in this study, for reasons which were set out in the *Estimating Housing Needs* study (Bramley et al 2010). It is recognised that such lists /registers can, in the context of local studies where the basis of local eligibility/priority policies and administration (including review) is known, and these factors have not changed over the time period of study, provide valuable local evidence of needs of different types. However, significant inconsistency over time and space in these key factors, as

well as in the prospects of being housed through a waiting list, render such data highly questionable as a basis for measuring backlog need comparatively over space or time.

One further problem with this profiling of backlog needs concerns 'potential households' – while we can identify the pool of these (as in the periodic Homelessness Monitors), it can be difficult to estimate the rate at which they would emerge to become actual households and the type of households which they would form (some would partner up, some would have a child(ren), some would choose to share). Possible responses to that are to use the profile of those who have recently formed, or the profile of younger age households who have already formed. We combine both of these two approaches using UKHLS data.

A further interpretation of this concept might attempt to estimate retrospectively the 'missed opportunity' to provide such affordable housing over the preceding period e.g. 5-15 years – our model could potentially do this for the last 5 years, but not really for further back than that. There are a number of complications to any such exercise, including the fact that model-based estimates in this time period comprise a mixture of actual and model-predicted values. Therefore we do not pursue this as a priority.

It is important to underline that one cannot make a simple read-across from the number of households 'in need' or in 'unaffordable' or otherwise 'unsuitable' housing at a point in time to the number of new housing units of different kinds which need to be supplied. While there is no standard way of doing this in established housing needs and requirements study methodologies, there is a general recognition that part of the solution to these identified housing problems is a reallocation of existing households and dwellings, so that more households end up in suitable and affordable housing. We illustrate at the end of Section 4 what such a reallocation would need to look like, in broad terms, and what sort of implications and challenges this might pose in terms of changes in housing supply and, potentially, other policy interventions. Such a reallocation may indeed be very challenging, even with a relatively generous infusion of new supply, as there are limited policy instruments available to, for example, encourage under-occupying home owners to downsize or Buy –to-Let landlords to pass their stock to social landlords.

While such a notional reallocation analysis is of value, both in identifying the scale of the challenge and indicating the direction of required change in the configuration of supply, we would not regard it as the sole of main basis for determining future supply requirements. Our preferred approach as already indicated relies upon utilising a conditional forecasting model (the SRHMM) to generate hopefully realistic scenarios of future development and to track the results in terms of key outcomes (which will include predicted levels of backlog needs and affordability related problems). These forecasts will take account of both direct and indirect effects of supply on needs and affordability, including certain behavioural feedback effects. The most obvious example here is that additional housing supply can contribute both directly to tackling need and affordability problems, by providing additional affordable housing for people

to move into, as well as indirectly by progressively reducing levels of prices and rents in the market. While this illustrates a form of virtuous circle, whereby direct positive impacts are enhanced, other aspects of the behavioural responses to housing supply may be more mixed in their effects. A key example here is that enhanced housing supply, both directly and through lowered prices/rents, will lead to additional household formation; some of those additional households would not have been counted as being 'in need' before the change, and some of them might remain in a situation of poverty/unaffordability after the change.

Task 3: Analysis of Future Housing Requirements

While it is conventional to start assessments of future housing requirements with the government's official *household projections*, we do not believe that this is the most appropriate approach. It is well established that household formation is influenced by economic factors (incomes, employment, poverty) and housing market conditions (prices/rents, availability e.g. of social housing) as well as by the basic number and age structure of the population (Bramley & Watkins 2016). There is even more overwhelming evidence that the direction and volume of internal migration is strongly influenced by where housing is available and its cost. It follows that to start from a trend-based household projection in determining need is to engage in a circular process and to risk getting into a cycle of chronic undersupply in some regions, while also being in danger of getting out of phase with the economic cycle and making quite questionable inferences about the appropriate division of supply between adjacent areas (Bramley 2016b)[8].

This is not to say that there is not particular information of value within the projections – for example, we use the projected trends in household type composition in our baseline future scenario, while allowing these to change in response to changes in headship. We are also willing to provide a forecast 'consistent' with the official projection to show its implications (see below).

In our recommended approach, we start from assumptions about the future general level of economic growth and an associated assumption about population (including international migration) – in practice the central assumption here would be close to the ONS central population projection at national level. We then plug into the Sub-Regional Housing Market Model (SRHMM – as described above) a level of supply based on current plans and past behaviour of the supply system, and see what happens, in terms of actual household growth in different areas and a whole other range of outcomes, including house prices/affordability and different kinds of housing need (including homelessness). We then ask the question: – how far different are these outcomes from what we would regard as a desirable trend and pattern, and what

[8] A particularly extreme case of household projections providing perverse signals in the context of assessing housing requirements has arisen following the publication of new projections in autumn 2018 by the Office for National Statistics – see discussion in the blog https://www.i-sphere.hw.ac.uk/household-projections-and-housing-need-death-spiral-or-death-knell/

changes do we need to make in supply to get close enough to the desirable pattern? This is what we mean by an *outcome-based approach*.

Within this general approach, we can certainly treat the level of household growth (or features within it such as 'headship rates') as an outcome of interest, and indeed we can (as mentioned above) see what level of housing supply, in combination with other settings, would produce approximately the same level of household growth as is suggested in the official household projections. That is one interpretation of 'housing requirements' – how much housing would be required to make this level of household growth happen.

But we would argue that a more appropriate basis for 'housing requirements' is to find what level and mix of housing supply is going to generate the pattern of outcomes which we would regard as desirable. That is likely to involve tangible reductions in key indicators of need including homelessness, greater reductions in areas where initial needs or baseline forecast needs are greater, and so forth. We can also explore what combination of current indicators gives a good prediction of what those relative needs for investment are in different areas.

In practice, public spending resources are unlikely to be generous enough to build enough housing to eliminate all adverse housing need outcomes for all households in all areas. There will be some areas, however, where model indicators will suggest that diminishing returns are setting in and that there may be a build-up of vacancies and possible problems of low demand. It is also desirable to subject proposed supply scenarios to *sensitivity testing* with respect to other assumptions, particularly around the economy, international migration, key financial indicators, regional balance and so forth. This may suggest further risks to high supply levels in some areas, but also conversely risks of outcomes not improving as much as desired in other cases.

While in general we favour reporting a range of housing need and other adverse outcome indicators, we have found that particular combined indicators can give a very good signal of how the system is performing, and in a readily comprehensible way. In particular, the indicator measuring the forecast probability of a household 'in need' (one or more of a list of problems) being rehoused in the social rented sector within a year is particularly useful in this respect. Similarly, the level of core homelessness as identified in the recent CRISIS study is another good summary indicator.

Task 4. Breakdown of current and future housing requirements by tenure

It can be seen that this is possibly the crux of the project, the particular output which is of strongest interest to the policy community. There is close to a consensus that we need to build more housing in total; it is less clear *how* to do that; and there is quite a wide range of views on what mix of tenures and price/rent levels of housing should be provided.

Our modelling can provide estimates based on *normative* affordability standards, typically based on various ratios or multipliers, and this was a fairly standard approach in typical housing assessments (SHMAs) in the 2000s. There has generally been a lack of firm commitment to a normative affordability standard in UK, although for a time 25% of gross income appeared to be a norm (CLG 2007), and there is a good case for this in terms of evidence of adverse effects of excessive ratios (Bramley 2012). People may actually choose to spend more than this (although with mortgaged home ownership, prudential lending rules may enforce upper limits), or not to spend that much: that is the basis of effective demand. In practice at present a general concern is that many younger households in private renting are paying more than this conventional norm.

This affordability standards issue is discussed further in Chapter 3 where we propose some refinements to these earlier benchmarks.

Our model is set up to readily estimate proportions of (younger) households able to afford to buy in the market, to buy a typical LCHO product, to rent at market rates, or to rent at 'affordable rents' set at some specific discount below that. With LCHO, it is important to recognise that, although there may be a nominal 25-30% discount on market cost, this is eroded by the difference between second-hand entry level prices and new build values, not to mention less competitive rental/service charges or mortgage deals. With the emergence of the issue of the 'LHA gap' (between actual rents and the Local Housing Allowance frozen at close to the 2011 30th percentile) it appears that there is a requirement to model a form of 'private renting' at LHA levels. We also have social rents set at the post-2015 Budget levels, as well as the concept of a Living Rent as promoted by the JRF. There is also scope to model the process of saving for a deposit while living in the PRS, where the issue is about waiting time - the deposit constraint is likely to be more binding than the income constraint for many young households. There is some ability to estimate the likelihood of receiving a lump of capital from the 'bank of mum and dad' or other relatives, based on EHS data (earlier estimates of this proportion remain in the model).

The capacity is there to model quite a lot of options, but often these overlap and apply to the same people, so the effective demand may fall short of potential supply within the planned mix. We urged the clients for this research not to make it too complicated, and in line with that we refer mainly to a small number of generic products which cover the range. In Chapter 3 we set out some options, and then propose in the initial stages an approach which distinguishes four broad bands of affordability – able to buy, able to market rent or buy with shared ownership, able to afford 'intermediate rent', and households for whom social housing is the most appropriate affordability option. In a subsequent stage we could exemplify how much different it would be to adopt somewhat differing benchmarks.

A related issue, which seems to us to be rather important and sometimes neglected, is the issue of size requirements, although this was exposed to some scrutiny in the

furore about the ‘Bedroom Tax’. Traditional social sector bedroom standards have not typically applied in the home-ownership sector and this has often extended to LCHO, where typically buyers can have an extra bedroom and would typically want to do so (e.g. in the case of couples). At the other end of the scale is the ‘shared accommodation rate’ of LHA support for younger single applicants for HB/UC, and associated controversies about whether it should apply up to age 35, to social tenants, or to cases with special and complex needs.

In tracing the impacts of mixed affordable provision it is important to reflect the reality that ‘intermediate’ options tend to house a sector of households who are not all ‘in need’, or not at the same level of priority as would apply to typical new social tenants. The model allows for this.

Chapter 3

Affordability Criteria, Thresholds and Supply Options

3.1 Introduction

The first stage of the research involved reflection on past work and experience and discussions with the client organisations, to help fix the main assumptions to be used in the modelling and estimation of housing requirements for different types of housing provision in this research.

There are two main issues involved here

1) The definition of a reasonable norm or standard for 'affordability'
2) The definition, description and properties of the main housing supply options to be modelled.

Under these general headings, a number of sub-issues arise, which will be referred to below, which in some cases link the two broader issues. For example, there are issues about size requirements and household types, about quality standards, or about whether people can/should pay more (or less) for home ownership than for renting, and of course issues about how far we can expect to rely on the benefit system to 'take the strain' for the poorest households.

There has been a fair amount of literature (academic or policy-oriented) about housing affordability since the late 1980s, some of which the present author has contributed to. Our starting position reflects an understanding of that literature and a particular contribution in the *Journal of Housing and the Built Environment* (Bramley 2012). While we seek to check and refine some aspects of this using the latest available data or arguments from a range of sources, there is a presumption against deviating too much from previous assumptions, where one can at least call on precedent.

3.2 The Affordability Norm or Standard

Affordability is best defined as a level of housing outgoings (for rent or mortgage, etc.) which a household can (and will) meet from its recurrent income without significant risk of material hardship or financial stress, including the risk of being pushed into poverty.

Within the background literature alluded to, there has been general recognition that there are two general approaches to defining this. One is focused on the *ratio* of rent/costs to income, while the other is focused on the '*residual income'* left after meeting housing costs and it's the relationship with some minimum standard

household budget for non-housing expenses, which may be seen as an explicit poverty standard.

While there is a tendency, particularly among more academic and social policy-oriented people to favour the second approach over the first, my own conclusion in the 2012 paper was that the simple traditional ratio approach still had considerable merit and performed well in predicting adverse outcomes. It also tends to be more familiar for practitioners and operationally straightforward, while also capturing something of the behavioural aspect (what a household *will* choose to spend). Based on that study, the author would recommend using a combination of the two criteria, if feasible, but if not to go for the simple ratio approach.

A second conclusion from reviewing the literature was that there was no universal agreement on the 'right ratio' or the right residual income standard, but quite a wide range used across the international spectrum. However, it can be argued that, in the British context, both from the evidence in the 2012 paper referred to above as well as from various significant 'precedents', that there is a good case for using a ratio norm of around 25% of gross income (referring to rent, not including all housing related utility costs as well). These precedents include the 2007 SHMA Guidance, the affordability index commissioned by DCLG and used in the 2015 IMD for England, and an interpretation of typical mortgage lending practice (see below).

Some may prefer to express this ratio relative to net income (after tax and NI deductions). The difference varies according to household type and income level, but typically a 25% ratio to gross income would correspond to around 32% of net income.

However, a case can be made for a slightly higher ratio, namely 27.5% of gross income corresponding to roughly 33-35% of net income. One significant basis for this is consistency with the proposed 'Living Rent' for social housing, which is discussed further below. Such rents are intended to be affordable by a typical working household with one full-time worker without recourse to Housing Benefit (or in future, Universal Credit). It can also be argued that this was the implicit standard applied in Housing Association Grant finance in the 1990s and 2000s. A further very important reason is that this is more consistent with contemporary mortgage lending practice having regard to the regulatory requirements of the Financial Conduct Authority (FCA).

Poverty-related aspect

With regard to the second (residual income) criterion, in previous work we tended to use 120% of the HB Applicable Amount (i.e. the scale rate for non-housing requirements given household composition implicit in the UK social security system) in affordability modelling studies carried out through the 1990s and 2000s. The rationale for 120% was a long-established view in the social policy world that people who would rely on benefits longer term (e.g. pensioners, disabled people) would need more income than those requiring benefits short-term to cover interruptions in normal income (e.g. unemployed/job-seekers), although 120% was relatively conservative for

that differential. Clearly, in housing affordability we are concerned about the longer-term sustainable situation.

The rationale for using social security rates was fairly clear when we had a comprehensive benefit system that was, in some degree, evidence-based and indexed to general earning levels. This rationale is much more questionable now, after a prolonged period of indexation at a lower rate than earnings or incomes in general, culminating in a nominal freeze over recent years, with significant cutbacks affecting certain groups (e.g. families with more than 2 children) and other groups or individuals effectively excluded. Through our recent research on Destitution in the UK, (Fitzpatrick et al 2015, 2016) it has become clear that some of the benefit scale rates, particularly for single people of working age, are unacceptably low, and certainly not a basis for sustainably living out of poverty, deprivation and financial stress over an extended period. At the same time, rates for other groups, notably pensioners, are relatively generous.

Therefore, we argue the time has come for divorcing any secondary residual income standard from UK benefit rates, and relating it more to mainstream poverty standards. There were several options considered here:

- *either* the relative low income standard based on '60% of median equivalised income', as used in the official reports on *Households Below Average Income* (HBAI);
- *or* the Minimum Income Standard (MIS), as promoted by the Joseph Rowntree Foundation;
- *or* a standard related to poverty defined by material deprivations (MD's) , as exemplified by the UK Poverty and Social Exclusion Survey (Gordon 2018, Mack 2018).

It was decided to use the first of these, on the grounds that this is straightforward to implement, familiar across the policy and research world, and the basis of poverty targets formerly adopted in England and recently re-adopted in Scotland. The MIS is seen as a somewhat more generous standard, and there is no consensus on a particular percentage of MIS which might be acceptable as a 'poverty' standard'.

We do explore the third possibility, essentially based on a 'combined' poverty measure taking account of both low equivalent income and having three of more material deprivations based on data in the Understanding Society (UKHLS) Survey. There would be problems trying to implement this using the Government's Family Resources Survey (FRS), because the MDs are not designed for use for non-family households of working age, while being different for the retirement age group. It is also necessary in this approach to translate the standard back into an income threshold for each household composition group. We do experiment with a residual income poverty threshold based on this, as an alternative basis for profiling the situation in the stratum of society who can only afford the social rented sector.

Levels of affordability

Another conclusion of the literature on affordability was that the term was used across a wide range of contexts with somewhat differing connotations. In particular, a range of authors recognised the distinctions between affordability as 'access' to owner occupation, affordability as a general issue of the burden of housing payments, and affordability as a direct trigger of 'housing induced poverty'. These problems tend to affect different groups in society and to have different political salience in given situations. The problem of 'generation rent', namely twenty- or thirty-something working households, perhaps contemplating family formation, who cannot afford to buy a home, is somewhat different from the unemployed or disabled household hoping for access to social housing.

Lending criteria and access to owner occupation

The issue of access to owner occupation is useful, not just because of its political salience, but also because it provides strong a precedent and anchor point for an affordability norm. Historically, mortgage lenders were prudent (because they borrowed short to lend long) and adopted norms to assess lending risks, (a) on the capital side (loan-to-value ratios, LTVR's) and (b) on the income side, which is essentially about affordability. Time honoured 'lending multipliers' (typically around 3-4) limited the multiple of annual income which you could borrow. In the halcyon days of the early-mid 2000s, with interest rates stable but generally falling, and vast waves of money washing through the system from China, prudential lending standards dropped, and in UK this was particularly around the assessment of income-based affordability (self-certified 'liar loans', interest only loans, etc.). Following the financial crisis, the FSA (now FCA) were obliged to tighten up standards, which are reflected in the regulatory codes, which has led to the situation where first time buyers must be assessed on the basis that they have a repayment mortgage and that they could withstand an increase in interest rates of 2% points.

So, essentially, mortgage lending norms provide quite a strong basis for bolstering a particular position on affordability norms. It appears that under current conditions this typically involves lending multipliers of around 4, which with likely future interest rates probably means gross ratios of payment to income of around 27.5%. Some lenders may go further in checking other commitments (which may increasingly include student loan repayments as well as other credit commitments) in a household budget assessment, and all also tend to use credit scoring checks as well.

Some may argue that people buying a home can pay more, because they are investing in an asset (it is form of contractual or forced saving), as well as because they are typically better-off than renters. But, counter to that, it should be pointed out that home-purchasers are also liable for repairs and insurance, over and above the mortgage. It should also be remembered, in this context, that 'affordability' is about whether you can meet the regular cash outgoing without getting into difficulty, not about fairness,

value for money or notional long term equivalence of costs (the economist's concept of 'user cost of capital' is about that, but that is not relevant here).

Deposit constraint

The other big issue with access to owner occupation concerns access to deposits. Again, in the halcyon days when 95% and even 100% mortgages were available, the deposit constraint on house purchase was not the dominant issue, compared with income. During the financial crisis from 2008 through to about 2012, deposits were the dominant issue. Lenders were very reluctant to lend on high LTVs, 80% was common, with some limited availability up to 90%. Since then things have moved back towards traditional normal, but not all the way to the halcyon days. Typical actual lending is at up to 90% LTV, and this gets reasonable mortgage deals. A more limited amount of lending is at 95%, with less good mortgage deals. So, access to deposits remains an issue, although less totally dominant than during the crisis.

There are two issues here

a) How do we analyse the situation of typical households who do not have access to large lumps of family wealth
b) How do we estimate the potential proportion of new household cohorts who do have access to large lumps of family wealth

In relation to a), one option is to analyse the limiting case of 95% mortgage, checking the likely interest rate that this would involve, and ignore the deposit, assuming people can scrape this together. Another option is to assume the more typical case of 90% mortgage but make additional assumptions and calculations regarding the assembly of the deposit. We might look at the actual savings of the typical new buyer cohort, and make additional allowance for some assumed rate of saving, which would imply some deferral of actual date of purchase until deposit is assembled. This could be modelled to take into account the typical rent payable for those who will be in the PRS while saving, which would probably be most of them (some will still be 'concealed households'). While we have not been able to locate suitable data on saving behaviour, we suggest an approach based on income after housing costs in excess of MIS being available for saving, and a five year cut-off (i.e. people who would need to save for more than five years to get a deposit would be treated as 'unable to buy')

In relation to b), it is desirable to make a separate adjustment for the proportion of potential FTBs who can jump over the deposit constraint, and ease the income constraint, by getting a lump of capital, typically from family sources. We have made estimates of this in the past from data in EHS and FRS. It has been possible to update the former estimates, and in addition we can look at the proportion of new buyers in the longitudinal UKHLS who appear not to have enough income to afford to buy. Further indicators have been derived from the Wealth and Assets Survey, focussed on 'net financial wealth' (financial savings and investments, less debt). These are used

to provide an additional estimate of the proportions able to overcome deposit and/or income constraint, and also their demographic and geographic profile.

Another sub-issue relating to deposits concerns LCHO. Some LCHO schemes in the past enabled buyers to overcome or bypass, to some extent, the deposit constraint. Before the crisis, when we were looking at LCHO options, shared equity schemes looked good because they could be treated as low LTV, given that lender had first charge. However, we suspect that this advantage may have been effectively weakened since then. Nevertheless, given the relatively low 'threshold' equity share purchased in shared ownership schemes, it is assumed that the 'saving a deposit' effect is not a significant issue.

Deposit constraints also exist at the bottom end of the rental market as well, as PRS landlords typically require a deposit of at least a month's rent. Some homeless prevention activity involves LAs helping households with deposits.

Size matters

Most of the affordability estimation and modelling which we have done in the past has involved distinguishing different sizes/types of households, recognising that they will require different sizes (and possibly types) of housing, the prices/rents of which will vary significantly. There is a minimum 'standard' for size of dwelling in the UK housing world, which is the so-called bedroom standard. The problem is that, as became clear in the backwash from the so-called 'bedroom tax', there are many households in the social rented sector who could come up with reasons for having a spare bedroom (health/disability related, or child contact related, for example), while at the same time there is basic shortage of small units in the sector which will take time to correct.

Meanwhile, further up the scale, once you are talking about intermediate tenures and particularly LCHO or market purchase, the bedroom standard does not rule. People are generally allowed to have a spare bedroom in these schemes and most people would choose to buy with such a spare, and perhaps would be ill-advised not to (in terms of both family change and resale prospects). In this author's 1990s-2000s affordability-based models, as used by Barker review for example, it was always assumed, for example, that half of couple households would require a spare bedroom.

A further size issue is of course the shared room rent for single adults aged up to 35 in the LHA /PRS, which was threatened to be applied also to SRS. It is questionable whether such a standard should be applied universally or would be acceptable for all such younger single person households. Within the social sector, including for former single homeless people, there would be many cases where health, disability or complex needs would make sharing inappropriate. Even in the mainstream rental market, there will be plenty of single people who would find it difficult or impossible to find a suitable group to share with and would choose to remain in housing need (as concealed households, or paying an unaffordable rent for self-contained accommodation) rather than be forced into sharing.

In a recent exercise for Government, the ID 2015 affordability index, it was expected to be calculated all on the basis of the bedroom standard, including the shared room rent in the case of private renting. In combination with focusing on households aged under-40, defined as 'first benefit units' (i.e. excluding other adults living with main household), this meant that the size profile was very skewed to the small dwelling size categories, so making the affordability profile look better than it really was.

Another issue concerns type of housing. It has long been argued in UK that high rise flats are not a suitable housing type for families with young children. In an SHMA conducted in England in the 2000s, we assumed that family households needed to be able to afford a house, not just a flat. It would be a slight complication to introduce this formally into the analysis, but in practice the threshold house prices for larger units are based on houses rather than flats.

To sum up this section, it is argued that it would not be appropriate to apply the bedroom standard across the board, but rather to differentiate the situation in different tenures, and allow for different proportions of different groups requiring accommodation larger than strictly implied by the bedroom standard.

Relevance of HB/LHA/UC

The notion of 'affordable housing' and questions about the need or requirement for it always runs up against the question of how this relates to the system of individual, means-tested assistance with housing costs, namely Housing Benefit, or as it is now increasingly know, Local Housing Allowance and/or Universal Credit. At the most general level, this raises the fundamental and long-standing question in housing finance, of the right balance between person-based subsidies or 'bricks and mortar' subsidies. We do not rehearse this in detail here, and it is for the clients of this research to consider how they would want to make these arguments. Any such discussion would be likely to include reference to issues of work incentives, patterns of poverty over time, administrative costs, take-up, overall cost (short and long term), neighbourhood social mix and housing management.

It was always difficult to argue for 'affordable housing need' alongside the existence of this system. HB was the system for dealing with housing affordability, and if someone was not on HB they couldn't have had such a problem, could they? However, in a more immediate and practical sense, we argued above that the welfare benefit system, including HB/LHA/UC, is increasingly deficient in meeting objectives of preventing poverty (and destitution) and decreasingly suitable as a basis for defining a poverty-related standard of affordability. Even before recent welfare cuts and reforms, there was a concern about how suitable HB was for certain groups, particularly for actual or potential working households, because of the work incentives (marginal tax rate) issue and also because of the system's sluggish response to changes in circumstances (evidenced by the worse payment problems associated with partial HB cases). For these reasons one had a lot of sympathy for Steve Wilcox's

argument in his 1999 paper *The Vexed Question of Affordability* that the best pragmatic basis for setting affordable rent levels would be a level that would be low enough to mean that typical households with one person working full time on the minimum wage should be clear of HB eligibility.

Such an approach suggests that the role of HB/LHA/UC is to meet the housing costs of people who are out of work short term, or unable to work longer term, or only able to work part time, or with additional needs, or facing exceptionally high rent costs; but not to meet the housing costs of ordinary working households. While the target for 'affordable housing' is that those ordinary working households on low-to-moderate pay could afford to pay for it.

This line of argument is perhaps most relevant to the issue of social sector rent setting, discussed later. It may in fact be very close to the argument for a so-called 'Living Rent'.

Summing Up on Affordability

- The central, primary criterion of affordability should be a ratio of housing cost to gross income of 27.5% or less
- A secondary criterion is that residual income after tax and housing cost should exceed a threshold, probably related to standard UK relative low income poverty definition (60% of median net equivalised income AHC)
- For house purchase the primary criterion may be expressed as a lending multiplier, probably 4 times gross income (single earner), which can be shown to be compatible with the 27.5% standard on prudent assumptions about repayment and interest rates
- On recent evidence it appears that lending above 90% LTV is rare; therefore it will be necessary to make additional assumptions about access to or saving for deposit[9]
- Allowance should be made for a proportion of First Time Buyers (FTBs) having access to significant sums of family wealth to meet deposits exceeding 10%
- Affordability of different tenures should be assessed for different household composition/size categories, assuming that a majority of market and intermediate demand, and a significant proportion of social rented sector demand, would require more than the minimum bedroom standard allowance, and that sharing is not appropriate for a large/significant proportion of single people (in the social sector).
- The income and household composition profile of new demand/need should be based primarily on the profile of households aged under 40, with some allowance for additional formation from concealed households.

[9] There may be a link between this issue and the issue of the role/function and rent level of intermediate rental products, and/or the issue of private rent regulation.

3.3 Housing Supply Options

In the second part of this chapter we review the housing supply options which should be considered and modelled, particularly in terms of how far they would be affordable to the overall cohort of existing and potential households requiring to be housed over the plan period.

In matching the affordability of supply options to potential household requirements it is important to bear in mind the distinction between price/rent in the second hand housing stock and resale/re-let supply, on the one hand, and the price/rent that would be associated with new build options alongside those. In some market situations prices can be relatively close in new build vs second hand cases, whereas in other situations there can be quite a big gap – and the same potentially applies to rents. We would normally argue, and assume the clients for this research would concur with this principle, that housing is not 'affordable' if its cost is not significantly less than equivalent housing in the second hand resale/re-let market in the local housing market area. It is very important to try to nail the re-establishment of this principle in the context of s.106 planning obligations, for example.

Obviously, insofar as governments give some priority to promoting home-ownership, then you can talk about affordable home-ownership, which would cost less than market sale (including second hand sales) but might be more than market rental. But when talking about affordable housing need one would be typically referring to housing whose cost would fall significantly below that of market renting.

Market sale.

The key benchmark here is the threshold price of an appropriate house/flat to buy in the 'local' area, taking (as argued above) the second hand or overall price, although we might also want to report on new prices where these deviated significantly. It has been customary to use lower quartile price as the threshold level although some have at times argued for something lower (Wilcox and Bramley 2010).The most readily available local house price data (from Land Registry, based on all sales) do give raw data enabling calculation of quantiles by four types, to a low level of postcode geography, but do not explicitly give a breakdown by size. There are ways of mapping them across from type to size using various data, for example UKHLS.

There are various options for the geography to use here. In the ID2015 project we used lower-tier housing market areas (HMAs) developed in the study by Jones et al (2011). Given that (in most cases) the HMAs used in our sub-regional model are built up from combinations of LAs[10], it makes more sense to use LA as the basic unit here. This is quite defensible when considering the needs and supply relevant to lower income groups, who tend to be more localised in their search areas, social networks

[10] The HMAs used in the SRHMM are comprised of groups of whole LA's using pre-2009 local authority definitions. The creation of some larger unitary authorities (e.g. County Durham) from that year onwards means that that is no longer true in some of the affected areas.

or commuting distances. While Broad Regional Housing Market Areas (BRHMA) as used for setting LHA levels might be another option, these are relatively coarse and subject to increasing criticism (part of the problem rather than the solution).

For income-based affordability we have already proposed using lending multipliers (4.0 for single income, 3.3 for dual income households), and can demonstrate that these are reasonably consistent with the 27.5% of gross income norm. (It is a bit difficult to work out from published data what proportion of First Time Buyers (FTBs) borrow above this level; the proportion of all buyers (inc BTL and re-mortgagers, from MLAR[11]) is around half , but the average loan-to-income (LTI) ratio for FTB's is only 3.29).

Deposits and Wealth

To deal with the deposit constraint, assuming a 90% LTV mortgage, we suggest using a simple saving constraint. For a household to be able to buy, they must not only have enough income to satisfy the lending multiplier and/or residual income criteria, but also should be able to save a 10% deposit within 5 years while living within the private rented sector. We assume such households could save income after market rental housing costs in excess of (100% of) the MIS standard for their household composition, and this margin must exceed 2% (i.e. 10%/5) of the sale price for the constraint to be overcome. We estimate from UKHLS data that 84% of under-40 households who have enough income to buy would also be able to overcome this saving constraint, although this varies somewhat between regions (79% in the north, 93% in London).

For the other FTBs who receive a lump of capital from family, we have explored three sources (EHS, UKHLS, W&AS), as noted earlier.

- Using the English Housing Survey (2012-13), we identified owners who had received significant contributions towards deposit from a range of sources including gifts and informal loans. This amounted to 28.5% of recent first-time buyers, of whom 10% made a deposit of up to 10%(for them, it overcame the deposit constraint) while 18% made a deposit in excess of 10% - this is the group for whom access to a substantial lump of wealth (typically from family) enables them to overcome the income constraint.
- Using the UKHLS we found that in2015-16 27% of under-40 home owners appear to be in the 'can't afford' category based on income, but relative few of this group report any financial payment difficulty.
- Using the W&AS for 2014-15, we analysed net financial wealth across income deciles, household types and geographical regions. From this analysis we developed two probabilistic proxy indicators which could be recreated in UKHLS: 'wealth1' (15% of all under-40 households) approximates those with

[11] Financial Conduct Authority Mortgage Lenders and Administrators' Statistics (MLAR), published quarterly by Bank of England.

enough to cover a typical 10% deposit, while 'wealth2' (17%) corresponds to those with a large enough lump of financial wealth to overcome the income constraint. However, when we exclude those who already had enough income to buy, and also those receiving Housing Benefit, this drops to 8.4% overall, but with a notable regional skew (12.5% in London, 7.7% in South, 3.2% in North and Midlands). We use this indicator at (sub)regional level in our modelling of ability to buy.

To sum up, we make two offsetting adjustments to the estimated proportions of younger households able to buy, a reduction for those unable to save the deposit, and an enhancement for those receiving a lump of wealth who would not otherwise have been able to buy.

Low Cost Home Ownership.

There have been a range of Low Cost Home Ownership (LCHO) products available over the years, whether promoted by RSLs, private developers or other bodies. Many of these are variations on the themes of (a) new build (or resale) shared ownership/equity; (b) discounted low cost sale (with possible resale restrictions), (c) portable discounts/cash incentives/DIYSO etc. I would propose using the typical current 'Help to Buy Shared Ownership' product offered by RSLs at a representative lower share/tranche level (suggested 40%[12]) . Typical 50% SO used to be similar in cost to a 25% discount or a 25% equity loan (where no rent is paid initially), as in the Help to Buy Equity Loan scheme (which is typically delivered through developers); so such a product would represent this broad class of provision. Shared ownership may partially or wholly overcome deposit constraints. These products are presumably now often combined with the government's assisted savings scheme (Help to Buy ISA).

We would argue that we should not treat the 'Starter Homes' scheme heavily promoted by the Cameron government around 2015-16 as a meaningful LCHO option. The scheme was very poorly designed and tended to produce units that were very often not more affordable than the secondhand market, and tended to distort the pricing of the new build market.

Market rent

Again the focus would be on the mainstream private rental market, dominated by small scale BTL landlords, and not specifically on particular new build products by RSLs or Institutions (who would in any case need to keep their rents competitive with this market). Data on rent levels enabling identification of lower quartile thresholds by size are available in statistics published by ONS (formerly VOA). As noted above, this level of affordability is normally the benchmark dividing those who can secure housing in

[12] Providers are normally expected to provide a range of tranches between 25% and 75%, although the predominant demand from people struggling to afford to buy will be for lower tranches. Providers have to balance out the financing costs with this range of tranches, and could not generally afford to provide only 25%.

the market and those who potentially need some form of subsidised 'affordable housing'.

Intermediate Rent

Rental housing products with rent levels pitched between social and market levels have been around for a couple of decades, initially developing somewhat as a 'key worker' offering mainly in London and SE, but subsequently diversifying somewhat. Then along came 'Affordable Rent', basically as a device to stretch subsidy and milk the HB system, but never satisfactory as a substitute for social housing, particularly as the holes in the benefit system become more apparent. This remains a mainstream product promoted by Homes England alongside Rent to Buy. In both cases the maximum rent is 80% of market value, typically applied in most locations outside London, but in London the scheme has typically operated with rent around 65% of market value.

The problem with 'Affordable Rent' is that it is often not affordable to many traditional clients of social housing. There is an argument about whether it would be better value for money for the government in the longer term to have a more moderate level of social rents, except perhaps for people whose need for subsidy (through HB and UC) is likely to be shorter term or transitional, as they have the prospect of getting into work on a regular basis. This may save money, allowing for the reduced HB costs, or not cost much more, while helping with admin costs and work incentives (i.e. all the arguments for traditional social rent or living rent). Indeed, the 2015 budget, which reduced social rents in order to save on HB costs, suggests that government partially accepts these arguments. There is also increasing evidence of RSLs being reluctant to take on many of the poorest social housing clients, including homeless households, because of concerns about their ability to pay rent under UC.

So while Affordable Rent is not, we would argue, a suitable substitute for social rented housing, it may be an appropriate benchmark for 'Intermediate Rent' as previously conceived (and still promoted e.g. in Scotland). Its role is to provide a good quality rental alternative for those working households who cannot afford to buy and/or are not ready to buy yet, and who might struggle with affordability in the open market (Theresa May's JAMS, alias 'Generation Rent'). It might be used as an exemplary offer entailing not just good quality management/maintenance/standards but also greater security of tenure than the Assured Shorthold Tenancy (AST) which is typically on offer in AR or RtB. It may also be seen as a product which, thanks to its more moderate rents, better enables people to save deposits for future purchase (implicitly the aim of RtB).

LHA Rent

We were asked to consider/model this rental variant, which is essentially a form of intermediate rent where the rent is set at the level of the LHA, whatever that is (currently a product of what the 30th percentile was in 2010, a small amount of inflation

since then, less any measured drops in rent, in the BRMA). The practical rationale for this is clear enough, given the current state of LHA – this is a form of intermediate rent which can, at least in the immediate future, guarantee that tenants would be eligible for full housing support through HB/UC, so long as they were not affected by any of the other restrictions (2 child limit, total benefit cap, bedroom tax). As such, it is a somewhat more acceptable version of AR as a substitute for social renting, but not massively so, given the increasing problems with the benefit system, work incentive issues, and the potential affordability problems for low income tenants who are just outside the reach of the HB/UC system.

It is easy to model but it may be argued to be a bit of a stop-gap option, which is contingent on LHA continuing to be frozen at its present level with unreformed BRMA geography. In fact given recent NAO report and other evidence (e.g. Homelessness Projections) there is going to be increasing pressure to flex the LHA ceiling and change the geographical areas. Therefore this stop-gap may not last long in its present form.

Living Rent

It was decided not to model a further rental variant, the Living Rent. This proposed scheme has been under examination and promoted to some extent by various parties, but particularly the Joseph Rowntree Foundation. It was examined in the study for JRF that fed into *Solve UK Poverty*. It appears that the basic idea is that it is a rent level for social housing which would enable a household with a single full-time earner on the (full) Living Wage to pay their rent without assistance from HB/UC within a reasonable affordability standard (effectively the one that that we are proposing).

Based on current data (which may need further updating) living rent may be described as being similar to current patterns of social rent but a bit higher overall and in all regions. In relative terms, the hike in rents to this level would be greater in the North, and especially in Scotland (this might be particularly politically sensitive). LHA rent is higher again, by only a modest margin in the North, by a bigger margin in the South, and massively in London. Actual market rent is higher again, but again only by a moderate margin in the North but massively in London. Affordable rent, which is the sort of 'official' norm for intermediate renting, lies generally between the levels of living rent and LHA. In the northern regions and E Midlands, it is roughly the same as the Living Rent while being below LHA. In the West Midlands and southern regions, it is greater than the Living Rent but below LHA. In London, it is MUCH higher than the Living Rent but still below LHA. In Wales it is similar to both. In Scotland it would be above Living but not clearly distinguished from LHA.

It is not the purpose of this research to devise an optimal rent policy, although doubtless NHF would have views on that. We can model all of social rent, living rent, affordable rent and LHA rent, but it should be noted that in some cases there will be little or no differences, and in particular instances the pecking order may not be the same.

A more practical concern is that these comparisons reveal that there may be some deficiency in the current way the SRHMM models private rents. The figures for the period around 2016 look high in some regions compared with the reported actuals from VOA, which continue to show a very low growth trajectory in regions away from London. Work to enhance the private rental part of the model is ongoing, but it is mainly an issue for forward projections.

Social Rent

It can be said that at least we have pretty good base data on the level of these rents. Also, their movement (downwards) up to 2020 is determined by the provisions of the 2015 Summer Budget. Thereafter, there is an expectation that some form of indexing to just above inflation will be applied. We will assume that this is the lowest, base level of rent to be tested. Affordability issues below this level (i.e. households who do not meet our affordability criteria even in social housing at this rent level) will have to be dealt with by the HB/UC system, however inadequately, but this will not be the main focus of the research.

It is proposed to use the current average rent across the whole social housing stock, for the relevant size category. It can be argued that new build social stock would have a higher than average rent. But, on the other hand, people moving into social renting would most likely move into a re-let.

Overlaps

The supply options have been presented here as a sort of hierarchy, stretching down from market sale owner occupation at the top to social renting at the bottom (in terms of monthly cost, or relative affordability). While that characterisation is broadly true, in practice there are significant areas of overlap, i.e. different types of provision which cater to essentially the same group in terms of income level. This is particularly true of LCHO alongside market rent and also intermediate rent. There will clearly also be overlap between LHA rent and intermediate rent. In some cases there will be a lack of clear blue water between, say, Living Rent and LHA rent. The gap between social and living rents will not be that large, and there will a large group assigned to social renting even though they will still infringe affordability standards (particularly the secondary criterion related to poverty thresholds) within that tenure.

Where there is overlap, in calculating indicative supply numbers to match that we would need to apply some judgements in assigning households to different tenure options, e.g. LCHO (shared ownership/equity) vs intermediate rent. Such judgements have to capture elements of preference (including over security of tenure), appropriateness (e.g. in terms of likely length of stay), and eligibility (creditworthiness, etc.).

It is assumed that, notwithstanding the fact that in affordability terms some households may be able to afford market renting, government policy will support the promotion of

competing housing products in the intermediate sector, such as LCHO or intermediate rent, on the grounds that these provide pathways to owner occupation as well as a better product and standard-setting in the market, including for some more valued security, and in some instances contributions to regeneration and community balance and stability. The extent and scale of these elements are a policy judgement, although affordability places an ultimate limit on numbers committed to such programmes.

It will be noted that in this discussion we are referring to intermediate rather than affordable rent. This reflects a feeling that the term 'affordable rent' has been somewhat tarnished, as well as somewhat confused, by its use in relation to the main subsidised rental housing scheme since 2010.

Summing up on supply options

We proceeded in this research to test and exemplify the affordability for key groups and the indicative potential new supply required for the following options, in generally descending order of cost/income threshold:

- Market sale owner occupation based on whole market including secondhand.
- Low cost home-ownership represented by a typical RSL New Build Shared Ownership product with a 40% tranche purchased.
- Market rent, at lower quartile market rent by size.
- Intermediate rent, effectively the same as the current 'Affordable' Rent and Rent to Buy schemes, 80% of (median) market rent or 65% in London.
- LHA rent for the relevant size category and BRMA area..[13]
- Living rent for the relevant size category.
- Social rent, based on combination of RSL and LA rents as appropriate.

Judgement will be applied in apportionment of potential demand/need between categories in the case of overlap.

[13] In the first iteration of the analysis, we do not analyse these options separately.

Chapter 4

Current Profile of Affordability and Need

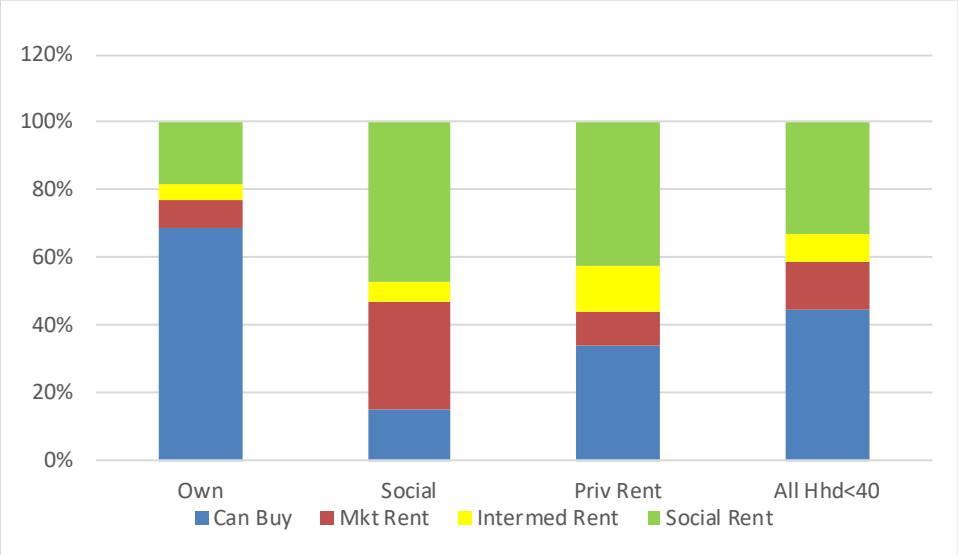
4.1: Initial affordability profile for England

We apply the affordability profile involving four bands, as suggested in Section 3, to data on households where the head is aged under-40 in the 'Understanding Society' Survey (UKHLS) for 2015/16. The four bands are defined by the income thresholds for buying at market price, renting at market rent, renting at 'intermediate rent', and social renting (the remainder). Shared ownership effectively overlaps with the second band, people able to afford market rent but not market purchase. The under-40 age grouping is chosen to be broadly representative of the age range within which people form new households, settle down and attempt to find mainstream housing solutions[14]. The modifications to 'ability to buy' relating to (a) saving for deposits, and (b) accessing larger lumps of wealth, are brought into the picture at a second stage of analysis. The analysis is currently presented in more detail for England, given that some of the local-level indicators involved for Wales and Scotland are different.

Figure 4.1 indicates that overall 45% of this cohort of younger households can afford to buy, based on their income and the norms/standards for affordability and mortgage lending as set out in Section 3. A further 14% can afford market renting. Beyond that, a further 8% could afford Intermediate Renting, leaving a sizeable group (33%) for whom social renting is the only reasonable option based on our affordability norms.

[14] In the ID2015 study for DCLG it was argued, and accepted, that under-40 was an appropriate age bracket for this purpose, in recognition of the considerable evidence of delayed household formation and first home purchase over the last decade and a half.

Figure 4.1: Affordability bands by existing tenure of all under-40 households in England, 2015



Source: as Table 4.1 below.

A number of caveats should be made at this point. The third of households allocated to 'social renting' as an affordability band include both those who could afford typical social rents under our standard affordability norms and those who could not, a significant and large group. Many but not all of these households are receiving housing benefit (HB, or increasingly UC), and so it might be said that their housing 'unaffordability' is adequately alleviated by that route. Technically, if they are receiving HB this is counted in their income and hence in the various ratios used to assess affordability, which some of them still infringe[15]. An alternative view might be that, for some households, HB is inadequate and keeps those households in a situation of poverty after housing costs. Even applying a more stringent residual income threshold based on evidence of material deprivation as well as low income, a substantial minority of social rented tenants could be said to infringe our affordability standard. A further extension to this point is the argument that social tenants on HB/UC would be as able to afford Intermediate Rent as they are to afford Social Rent, so long as the IR is within the HB/UC limits. Counter arguments to this would include that these tenants would face worse disincentives to work and more vulnerability to fluctuations and delays in entitlements.

Figure 4.1 shows that only just over 70% of under-40 home-owners can afford to buy in their locality based on income, although another 8% are on the margins insofar as they could afford market rent (or LCHO). How can we account for this? Clearly, a significant proportion have been enabled to buy by access to a significant lump of wealth, typically from family sources. As noted earlier this probably accounts for the larger part of this unexplained gap. Some may have bought some years ago when

[15] In our modelling of different options, when we test a different tenure from that where the household was observed, then if they were claiming HB we vary the income to reflect the varying level of housing costs that would be covered by HB.

their income situation was better (e.g. partner working, or working longer hours), or when prices were lower. Some may have bought at the very bottom of the price distribution rather than at the lower quartile used here (Wilcox and Bramley 2010). Some may have bought by borrowing a more than prudent sum, although current evidence shows few of this group exhibit signs of financial stress relating to housing payments. The low level of interest rates has contributed to this situation.

Figure 4.1 shows that relatively few social renters can afford to buy, which is unsurprising and consistent with other evidence. However, a considerable proportion (nearly a third) could afford market rent, and by implication that suggests a significant proportion could probably also afford some LCHO products or right to buy/rent to buy. Existing private renters are closer to average in their overall profile, but only a third can afford to buy while a clear majority are, or would be, 'unaffordable' on our standard norms if they were paying the going level of market rents. It is probably true that on average existing renters pay a bit less than new let renters, but nevertheless this simple finding underlines the major mismatch in the current housing market in England – the large number of younger households living at (somewhat or very) 'unaffordable' rents in the private market.

Table 4.1 below provides more detail by region.

Table 4.1: Affordability bands by existing tenure of all under-40 households by broad region of England, 2015
Part (a) percent of total in each region/tenure)

Broad Region	Affordability Band	Current Tenure: Own	Social	Priv Rent	All Hhd<40
North	Can Buy	75%	23%	43%	54%
	Mkt Rent	4%	28%	5%	10%
	Intermed Rent	3%	4%	4%	4%
	Social Rent	17%	45%	47%	33%
Total		100%	100%	100%	100%
Mids	Can Buy	79%	22%	43%	54%
	Mkt Rent	4%	34%	11%	13%
	Intermed Rent	3%	0%	9%	4%
	Social Rent	14%	44%	37%	29%
Total		100%	100%	100%	100%
South	Can Buy	65%	9%	36%	44%
	Mkt Rent	9%	28%	13%	14%
	Intermed Rent	6%	8%	13%	9%
	Social Rent	21%	54%	38%	33%
Total		100%	100%	100%	100%
GLA	Can Buy	42%	1%	13%	19%
	Mkt Rent	27%	44%	10%	22%
	Intermed Rent	11%	13%	30%	21%
	Social Rent	20%	41%	47%	39%
Total		100%	100%	100%	100%
England	Can Buy	69%	15%	34%	45%
	Mkt Rent	8%	32%	10%	14%
	Intermed Rent	5%	6%	14%	8%
	Social Rent	18%	47%	42%	33%
Total		100%	100%	100%	100%

Source: author's analysis of UKHLS (Wave 7) linked to ONS house price and VOA market rents data

Part (b) number in each affordability category region/tenure)

breguk		Own	Social	Priv Rent	Total
North	Can Buy	587,174	81,008	229,506	905,779
	Mkt Rent	33,079	98,600	28,154	159,833
	Intermed Rent	23,282	14,430	23,501	61,213
	Social Rent	134,489	158,185	251,593	544,514
		778,024	352,223	532,754	1,671,339
Mids	Can Buy	365,423	53,369	141,915	561,188
	Mkt Rent	20,170	82,314	37,167	139,651
	Intermed Rent	14,474	622	29,042	44,138
	Social Rent	64,897	106,428	123,375	297,350
		464,964	242,733	331,499	1,042,327
South	Can Buy	556,617	34,319	248,351	840,056
	Mkt Rent	76,142	102,512	89,842	268,496
	Intermed Rent	50,877	29,238	87,497	170,620
	Social Rent	176,767	197,353	261,616	636,486
		860,403	363,422	687,306	1,915,658
GLA	Can Buy	108,634	2,581	55,677	172,278
	Mkt Rent	69,955	81,557	44,069	196,680
	Intermed Rent	27,077	23,704	131,125	189,083
	Social Rent	51,747	76,288	207,814	350,173
		257,413	184,130	438,685	908,214
Total	Can Buy	1,617,848	171,277	675,449	2,479,301
	Mkt Rent	199,346	364,983	199,232	764,660
	Intermed Rent	115,710	67,994	271,165	465,054
	Social Rent	427,900	538,254	844,398	1,828,523
		2,360,804	1,142,508	1,990,244	5,537,538

There are large differences between the broad regions of England, particularly where London is concerned but also, to some extent, when comparing the South with the Midlands and the North. Only 19% of all households in London can afford to buy, compared with 44% in the South and 54% in the North. Only a minority of current owners in London can afford to buy, underlining the importance of wealth transfers there. The proportion able to afford market renting is higher in London (22% vs 10-14%). There is an even bigger difference with Intermediate Renting, which only seems to be appropriate for 4% of under-40 households in the North and Midlands, but reaches an additional 21% in London (not least because IR is set at 65% of market

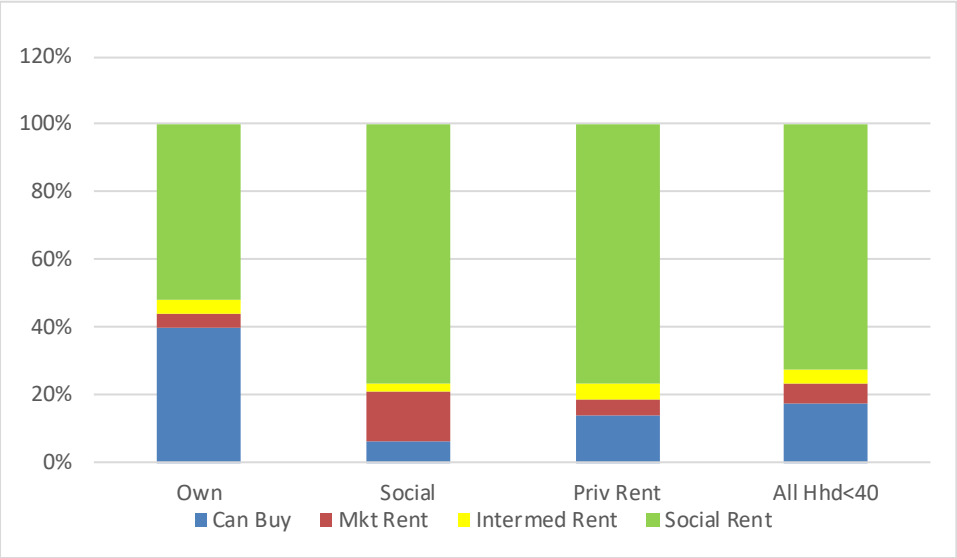
rent there). There is less variation in the group assigned to social rent, which ranges from 29% in the Midlands through 33% in the North and South to 39% in London.

A few of the regional differences within the tenure groups are worth highlighting. In the North and Midlands nearly a quarter of social tenants could afford to buy and over half could afford either buying or market renting. This could be indicative of some potential for low demand for social housing to re-emerge in some areas in these regions, while also suggesting that there could be more turnover (re-lets) supply. At the same time it could indicate some scope for LCHO products or RTB. The very large share of social renters in London able to afford market renting, contrasted with the negligible share able to afford full house purchase, is indicative of a significant potential demand for LCHO., which occupies the same affordability niche. This is also true to a lesser extent across the South.

Within private renting, there are clearly many households in this sector in all regions who would be more comfortable, from an affordability perspective, in social housing. However, in London there is also clearly quite a large group who could afford intermediate rent.

We turn now to look at a subset of households, who are mainly within the under-40 group, namely those who have recently newly formed as a household. Figure 4.2 summarises their affordability profile, with Table 4.2 providing more regional detail.

Figure 4.2: Affordability bands by existing tenure of recent newly-formed households in England, 2011-15



Source: as Table 4.2 below.

It is clear that new households close to the point of forming have lower levels of affordability than all under-40 households. This implies that on average households improve their financial position in the initial years after forming. Only 17% of all new households can afford to buy, and this appears to be true of only 40% of those who have actually bought. Clearly the 'Bank of Mum and Dad' is critical here, notably in London and the South. Two thirds of new households in this period formed into the

private rented sector. Yet only a fairly small minority (23% of all households, 19% of new households in the PRS) appear to have enough income to afford the PRS on our reasonable norms, even after allowing for whatever LHA they receive. The Intermediate Rent offers only a marginal widening of opportunities at this stage in the housing career (4% overall) and this appears to be true across the country.

Table 4.2: Affordability bands by existing tenure of recent newly-formed households by broad region of England, 2010-15-
Part (a) percent of total in each region/tenure)

Broad Region	Affordability Band	Current Tenure: Own	Social	Priv Rent	All Hhd<40
North	Can Buy	56%	5%	21%	25%
	Mkt Rent	0%	11%	2%	3%
	Intermed Rent	0%	2%	5%	4%
	Social Rent	44%	83%	71%	69%
Total		100%	100%	100%	100%
Mids	Can Buy	53%	11%	24%	27%
	Mkt Rent	2%	12%	9%	8%
	Intermed Rent	0%	0%	4%	3%
	Social Rent	45%	77%	64%	62%
Total		100%	100%	100%	100%
South	Can Buy	36%	7%	12%	15%
	Mkt Rent	9%	19%	6%	8%
	Intermed Rent	8%	5%	5%	6%
	Social Rent	48%	70%	78%	71%
Total		100%	100%	100%	100%
GLA	Can Buy	11%	4%	1%	3%
	Mkt Rent	3%	16%	3%	5%
	Intermed Rent	5%	1%	4%	4%
	Social Rent	81%	78%	93%	88%
Total		100%	100%	100%	100%
England	Can Buy	40%	6%	14%	17%
	Mkt Rent	4%	15%	5%	6%
	Intermed Rent	4%	2%	5%	4%
	Social Rent	52%	77%	77%	72%
Total		100%	100%	100%	100%

Source: author's analysis of UKHLS (Waves 3-7) linked to ONS house price and VOA market rents data

Part (b) number in each affordability band by region/tenure over 5 years

breguk		Own	Social	Priv Rent	Total
North	Can Buy	53,115	3,881	70,845	127,841
	Mkt Rent	0	8,961	7,943	16,904
	Intermed Rent	0	1,629	17,407	19,036
	Social Rent	42,253	69,270	233,914	356,171
		95,368	83,741	330,109	519,952
Mids	Can Buy	26,694	4,649	45,090	78,049
	Mkt Rent	1,075	4,893	16,830	22,798
	Intermed Rent	0	0	7,510	7,510
	Social Rent	22,705	31,925	121,476	178,688
		50,474	41,467	190,906	287,045
South	Can Buy	46,528	6,130	52,497	105,155
	Mkt Rent	11,163	17,249	25,125	53,537
	Intermed Rent	10,566	4,097	21,815	37,364
	Social Rent	61,884	63,493	346,219	483,180
		130,141	90,969	445,656	679,236
GLA	Can Buy	5,942	1,932	1,639	9,513
	Mkt Rent	1,939	7,710	7,591	17,240
	Intermed Rent	2,807	609	8,820	15,431
	Social Rent	45,259	36,592	226,180	321,190
		55,947	46,843	244,230	363,374
Total	Can Buy	132,279	16,592	170,071	320,558
	Mkt Rent	14,177	38,813	57,489	110,479
	Intermed Rent	13,373	6,335	55,552	79,341
	Social Rent	172,101	201,280	927,789	1,339,229
		331,930	263,020	1,210,901	1,849,607

4.2 Need profile overlaid on affordability

We would expect housing needs to be associated to a significant degree with affordability issues. Bramley et al (2010) and Bramley (2016) showed strong systematic relationships between most categories of housing need and poverty, low income and/or affordability problems. Bramley and Fitzpatrick (2017) and Bramley (2018 forthcoming) show similar results for homelessness, including the categories of 'wider' or 'hidden' homelessness which overlap with backlog housing needs (e.g. concealed households and overcrowding). This picture is confirmed when we attempt to overlay measures of backlog housing needs in the UKHLS survey on the affordability bands just described.

In this instance 'housing need' is defined based on any one or more of the following problems applying:

- Concealed family or concealed single (including nondependent children) wanting to move;
- Overcrowding (bedroom standard);
- Serious affordability problems based on combination of ratio measures and subjective payment difficulties;
- Serious self-reported physical condition problems;
- Accommodation unsuitable for families (e.g. high-rise, no garden/yard).

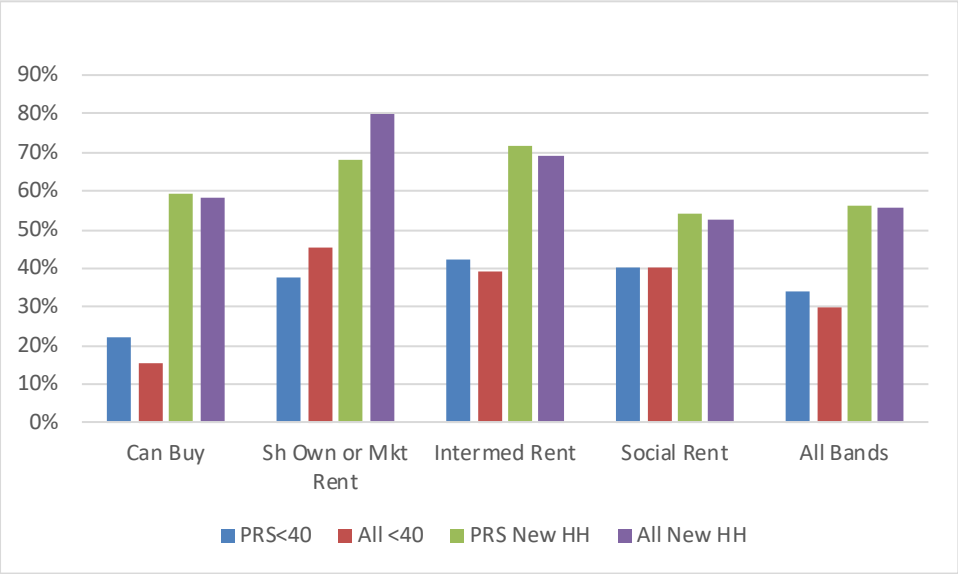
In view of the inclusion of newly formed households and the tendency of some groups to move in and out of need, we take as our marker households experiencing any one or more of these problems either in the current year or the previous year. This accounts for 20.9% of all households (13.8% if just counting the current year)[16]. Just taking the current year snapshot. This means that there is a current backlog of 3.66 million households in housing need.

As can be seen in Figure 4.3 (and in more detail in Table 4.4), for the younger and new households considered here, the overall incidence of these housing needs is much higher, at 30% of all under-40 households and 56% of newly forming households. We focus particularly on private renter households, because this is such an important transition tenure for younger and new households and partly because the affordability evidence suggests that this is where the main problems (which could be addressed by expanding housing supply) exist.

Figure 4.3 shows that housing needs are much more prevalent among new households than among the broader under-40 group, although the difference is less marked for those in the lowest affordability band ('social renting'). Housing needs seem to have the highest incidence among those in the middling affordability bands. Within each affordability band, there is not much difference between PRS and all households. For these groups one can say that a clear majority of new households and a large minority of all under-40 households have one or more of these need problems.

[16] It should be noted that this definition differs in some respects from that used in Bramley et al 2010, based on S.E.H. data and used within the SRHMM; that definition covered a lower proportion of households, 9.2%, due to a narrower definition of concealed households and the exclusion of physical condition problems. The definition of concealed households is similar to that used in the Crisis Homelessness Monitor.

Figure 4.3: Proportion of under-40 and new households in private renting and overall with housing needs by affordability band, England, 2011-16 (percent of total in each band/age-household group)



Source: as for Table 4.3.

Table 4.3 shows that the regional differences are not so striking. Among all under-40 households, needs are slightly higher in London. Among recent newly-formed households, needs are rather higher in the North and rather lower in London and the South. This could be explained by a tendency for new households in the north to be more economically marginal than those in London and the South, because in the latter case the housing market barriers limit opportunities for economically more marginal households to form. But equally it could be partly due just to the lower incomes and greater poverty in the north.

Table 4.3: Proportion of under-40 and new households in private renting and overall with housing needs by affordability band by broad region of England, 2011-16 (percent of total in each region/tenure/age-household group)

Region	Affordability Band	PRS <40 In Need	All <40 In Need	PRS New In Need	All New In Need
North	Can Buy	22%	16%	69%	64%
	Mkt Rent	36%	51%	86%	89%
	Intermed Rent	61%	45%	83%	75%
	Social Rent	46%	45%	58%	57%
	Total	36%	30%	63%	60%
Mids	Can Buy	20%	14%	48%	53%
	Mkt Rent	29%	50%	55%	61%
	Intermed Rent	16%	21%	30%	30%
	Social Rent	47%	46%	63%	62%
	Total	31%	28%	58%	58%
South	Can Buy	22%	15%	58%	59%
	Mkt Rent	39%	39%	74%	85%
	Intermed Rent	28%	33%	69%	69%
	Social Rent	38%	35%	53%	50%
	Total	31%	27%	56%	55%
GLA	Can Buy	27%	16%	0%	0%
	Mkt Rent	43%	46%	61%	83%
	Intermed Rent	55%	48%	92%	80%
	Social Rent	32%	38%	46%	46%
	Total	39%	37%	48%	48%
Total	Can Buy	22%	15%	60%	58%
	Sh Own or Mkt Rent	37%	45%	68%	80%
	Intermed Rent	43%	39%	72%	69%
	Social Rent	40%	40%	54%	52%
	Total	34%	30%	56%	56%

Source: author's analysis of UKHLS (Waves 3-7) linked to ONS house price and VOA market rents data: 'need' based on any of concealed, overcrowding, serious affordability, serious physical condition problems, or accommodation unsuitable for families, in current period or one year earlier.

Actual versus modelled affordability

Up until now we have mainly reflected a 'modelled' picture of affordability, based on the relationships between household's incomes and a standardized housing cost based on threshold market prices or rents in the local area and assumed size of accommodation occupied. The affordability norms set out in Chapter 3 are based on ratios of housing costs to income and of residual income (after housing costs) to a minimum standard. However, the actual ratios based on what people are actually

paying for the housing they actually occupy may be different, and it is of some interest to examine this. Table 4.4 shows the proportion of under-40 households whose current housing costs are unaffordable based on one or both of the two ratio tests, broken down by the modelled affordability bands (the tenure they could theoretically afford, reading down the table) and the actual current tenure, reading across the table.

Table 4.4: Actual unaffordability and modelled affordability bands by actual tenure, under-40 households in Great Britain, 2015.

Affordability Bands	Actual Owners	Private Renters	Social Renters	All
Can Buy	2%	0%	0%	2%
Market Rent	18%	10%	69%	41%
Intermediate Rent	22%	6%	0%	9%
Social Rent	42%	33%	40%	37%

Source: author's analysis of UKHLS (Wave 7) linked to ONS house price and VOA market rents data

People who can buy have more resources than those who can only rent, so those at the top of the table should be less likely to have problems than those further down. We would also expect that people who are in a tenure that they can theoretically afford should be less likely to report problems than those who are not. This boundary is represented by the stepped downward diagonal line through the table. Households to the north-east of this line should be less likely to report problems than people to the south west of it.

These expectations are partly but not wholly borne out. People who can buy generally do not exhibit unaffordable ratios. As you move down the table, the proportions with problematic ratios rise. However, the boundary line is not a perfect predictor. There seem to be quite a lot of people who could afford market rent, currently living in social rent, who appear to have adverse ratios. Conversely, relatively few households in the 'intermediate rent' band seem to have adverse ratios. However, those in the social rent band are rather likely to report adverse ratios whatever tenure they are in, including social renting.

There are plenty of reasons why theoretical and actual affordability may differ – people buying at different times paid different prices; people may be over- or under-occupying; rental contracts are not revised frequently if people do not move, and may be out of line with new let market rates. In addition, the Housing Benefit/LHA/UC system affects different households in different ways, keeping some close to the poverty line, while withdrawing benefit quickly as income from work increases, and generally not dealing well with fluctuating work incomes.

Although we do not dwell on this point here, there is something of a paradox when we look at housing needs by actual tenure. In practice, the tenure with the highest

incidence of needs is social renting. The paradox here is that social renting is supposed to be decent-quality housing allocated to people whose previous situation was one of being in need. In other words, social housing is supposed to be part of the solution, not the problem. The fact that the incidence of housing needs within social housing remains quite high reflects a number of factors, including the effect of including 'in need one year earlier' (which would capture people recently rehoused), the growth of overcrowding in social housing (reflecting the priority to families combined with the shortage of larger accommodation), and more generally the relative poverty of social housing tenants (which would be linked to a number of the need categories).

Needs of older vs younger households

In the analysis developed in this chapter, most of the emphasis is placed upon younger households (head aged under 40) and new households. There are good reasons for this, because these are the groups who represent new needs and demands being placed upon the housing system, people who have often not yet gained an established, sustainable position in that system. Most older households have an established housing situation and tenure. In some cases, they may have a problem with that housing, whether in terms of affordability, security, suitability or condition, and in some cases such problems may be progressively exacerbated by health conditions or changes in economic circumstances. However, these problems can generally be resolved by moving to a more suitable house. In terms of the aggregate numerical requirements, this does not in general increase the numbers, because in moving they release a unit which may be adequate and suitable for someone else. For the individual, if they are an owner occupier or a social tenant, they are in principle likely to be able to make such a move within their tenure. This may be more problematic for older private tenants.

More broadly, societal trends in UK over the last 2-3 decades have seen a transformation in the fortunes of older households, both in terms of their housing (e.g. much more owner occupation, often outright) and in terms of their income and wealth. On some measures, retired households are better off than working age households. Levels of pensioner poverty have fallen dramatically, and certainly using after housing cost or material deprivation based measures, pensioner poverty has shrunk to relatively low levels. Also, households in the 40-60 age range tend, in general, to be in the lifestage where the balance between income and spending requirements becomes more favourable.

In the analysis of backlog housing needs in this study we can and do refer to the needs of all ages of household, both in this chapter and in Chapter 5 (where there are detailed differences in the measures and sources used). However, in this chapter, for the general reasons given above, we focus mainly on the under-40 group. Nevertheless, we can, as in Table 4.5 below, report on a summary comparison of the backlog need situations of households below and above the age 40 threshold, for the UK as a whole.

In simple descriptive terms, older households (over 40) have lower rates of most categories of need, apart from individual concealed households, and overall. Households with any of these needs are 12.4% of older households and 17.5% of younger households. Relative rates of incidence are particularly higher for younger households in the cases of affordability/payment problems and unsuitability for families, but this is also true of condition problems and overcrowding.

Table 4.5: Analysis of Backlog Housing Needs by Broad Age of Head of Household GB 2015 (percent and number of households)

Household Group	Overcrowded ocrowd2	Indiv Con-cealed indconceal2h	Family Conc-cealed Concfam	Afford'y Problem affprob1	Unsuitable Family unsuitfam4h	Condition Problem condprb4h	Any Need anyneed4
Older	2.5%	7.1%	1.7%	1.5%	0.3%	1.7%	12.4%
Under 40	5.5%	2.8%	2.0%	5.5%	3.5%	3.3%	17.5%
Number							
Older	498,407	1,450,251	343,942	306,628	70,034	337,141	2,524,211
Under 40	407,941	209,894	146,215	412,515	256,904	246,012	1,300,357
Emerging hhd basis							
Older	249,203	145,025	68,788	306,628	70,034	337,141	988,072
Under40	657,144	1,515,119	421,368	412,515	256,904	246,012	2,864,060
All Ages	906,347	1,660,144	490,157	719,144	326,939	583,153	3,852,132

Source: author's analysis of UKHLS (Wave 7) linked to ONS house price and VOA market rents data
Note: Lines 1-4 reflect the current household position; lines 5-6 reflect fact that resolving crowding and concealed household issues will mainly involve the emergence of new under-40 households

However, a key point which the table brings out is that, once you reclassify households on the basis of their age status once the need has been resolved, which we term the 'emerging household basis', the balance shifts sharply towards the under 40s. Making reasonable but approximate assumptions, we can say that an overwhelming majority of concealed households, and a substantial proportion of overcrowding cases, are likely to involve the emergence of additional under-40 households. On this basis, it appears then that under-40 households will account for about three-quarters of backlog need.

As argued above, meeting those (less common) needs of older households can mainly be achieved through movement within the existing stock, and/or other forms of support. These considerations may be relevant at the more detailed level of assessing needs disaggregated by size/type and at local level. Nevertheless, overall estimates of backlog need (including among older households) and the impact of different programmes on these will feature within the outcome-oriented analysis using the dynamic housing market model in Chapter 5.

The analysis of the incidence of different types of need among the populations of particular interest provides a picture of variations in both the level and nature of need in different regions and countries, as illustrated by table 4.6. This shows the incidence of the six component needs and the proportion of households with any one or more of these conditions, for under-40 and older households, across the broad regions of England and the countries of the UK.

Table 4.6 Backlog Housing Need Incidence by Broad Region/Country and Broad Age, Great Britain 2015 (percent of households)

Household Group	Overcrowded ocrowd2	Indiv Con-cealed indconceal2h	Family Conc-cealed concfam	Afford'y Problem affprob1	Unsuitable Family unsuitfam4h	Condition Problem condprb4h	Any Need anyneed4
Under-40							
North	4.4%	3.3%	2.2%	5.7%	1.1%	3.5%	16.2%
Mids	3.8%	2.6%	1.5%	7.2%	2.0%	4.1%	18.2%
South	5.0%	1.9%	1.0%	4.4%	4.6%	3.5%	15.6%
GLA	12.5%	3.4%	3.8%	6.1%	8.2%	1.9%	25.3%
England	5.9%	2.7%	1.9%	5.6%	3.7%	3.4%	17.9%
Wales	2.7%	2.1%	1.1%	4.3%	2.4%	3.5%	12.5%
Scotland	3.2%	2.6%	1.4%	4.8%	6.0%	2.7%	16.0%
G B	5.5%	2.8%	2.0%	5.5%	3.5%	3.3%	17.5%
Older							
North	2.1%	6.7%	2.0%	1.9%	0.1%	1.4%	12.1%
Mids	1.9%	7.8%	1.7%	1.1%	0.1%	2.6%	13.0%
South	2.1%	7.1%	1.2%	1.3%	0.3%	1.7%	11.4%
GLA	6.0%	8.5%	2.8%	2.1%	1.7%	2.0%	18.2%
England	2.6%	7.3%	1.7%	1.5%	0.4%	1.8%	12.9%
Wales	2.4%	7.1%	1.1%	1.0%	0.1%	1.0%	11.3%
Scotland	1.9%	6.4%	0.9%	0.8%	0.4%	1.4%	10.2%
G B	2.5%	7.1%	1.7%	1.5%	0.3%	1.7%	12.4%

Source: author's analysis of UKHLS (Wave 7) linked to ONS house price and VOA market rents data

The consistently higher level of need among the under-40 households is apparent for most indicators other than individual concealed households, which in this table are left in their parental/host household. Needs are markedly higher in Greater London than in all other regions/countries, both overall and for most components, with a couple of exceptions. Affordability problems (combinations of high ratios and self-reported payment/arrears/debt problems) are a bit higher in the Midlands, possibly because in these regions more lower income households get drawn into housing commitments. House condition problems, however, particularly for younger households, are less prevalent in London than in other regions/countries.

Table 4.7 shows the numbers involved across the same needs and regions. This time, however, we present this on an 'emerging households' basis, reallocating most of the concealed and many of the overcrowded to the under-40 group. The headline total in this table of 2.8m may attract particular attention, but readers should take note that this does not translate directly into a numerical 'requirement for new housing'. Some types of housing need may be better tackled by in situ improvements, and others by people moving into different more suitable housing. However, concealed households

are generally indicative of an insufficiency of supply, overcrowding of an insufficiency of space, and affordability problems of people not being able to access a form or tenure of housing which is affordable or a an appropriate level of support from benefits/subsidies. In fact, it is the needs which are indicative of an inadequate supply which appear to be the largest in magnitude, particularly for the younger households.

Table 4.7 Backlog Housing Need Numbers by Need Type, Broad Region/Country and Broad Age, Great Britain 2015 (number, on emerging households basis)

Household Group	Overcrowded ocrowd2	Indiv Con-cealed indconceal2h	Family Conc-cealed concfam	Afford'y Problem affprob1	Unsuitable Family unsuitfam4h	Condition Problem condprb4h	Any Need anyneed4
Under-40							
North	131,575	349,495	117,143	105,102	20,586	64,942	656,234
Mids	75,999	250,745	59,810	86,321	23,758	48,687	466,866
South	174,748	439,862	79,782	97,958	101,943	77,897	786,701
GLA	206,189	218,208	94,189	65,739	88,215	20,863	522,116
England	588,512	1,258,310	350,924	355,120	234,502	212,388	2,431,410
Wales	22,046	71,355	12,718	15,642	8,769	12,696	122,271
Scotland	39,048	122,393	23,280	33,368	41,758	18,992	229,942
G B	644,096	1,446,779	406,961	412,515	256,904	246,012	2,783,093
Older							
North	50,017	31,970	19,016	88,113	6,311	64,966	221,619
Mids	30,554	24,371	10,576	35,081	3,271	80,793	157,922
South	65,099	44,309	14,585	78,155	20,194	104,252	271,705
GLA	71,724	20,171	13,331	50,893	39,622	48,415	192,560
England	217,394	120,822	57,508	252,241	69,398	298,426	845,157
Wales	12,142	7,081	2,162	9,828	736	9,914	37,329
Scotland	16,693	11,535	3,315	14,884	7,130	24,899	67,365
G B	236,155	137,432	65,187	290,573	66,367	319,489	936,338

Source: author's analysis of UKHLS (Wave 7) linked to ONS house price and VOA market rents data

Household Type and Size Requirements

The 'snapshot' picture of current backlog needs provided by the UKHLS (or similar surveys) can be used to provide a profile of the type of households involved and the size/type of housing which they might need. This is clearly useful intelligence for planning supply programmes.

Table 4.8 presents a household type profile of various groups and sub-groups of households which are of particular interest, starting with all households aged under 40. For this broad cohort, single person households are the most common type, accounting for a quarter, with couple/2-adult households accounting for a fifth. Most of

the rest are families, with over 40% couple families and 10% lone parent families. Multi-adult households are relatively rare overall.

Households in need (with one or more of the above problems) have different profiles, with less singles and couples, less small couple families but significantly more lone parent families, larger families and multi-adult households (e.g. flatsharers, lodgers). This is one way of looking at the potential client group for social/affordable housing; the other way is to look at the affordability bands themselves. The next column in the table shows the household type mix for households who, on our affordability norms, can only afford social housing. This group has some similarities of profile, but compared with the 'need' group they include a lot more singles, less larger families and less multi-adult. It is interesting to note the different profile, particularly in relation to single people, who have tended not to get much priority for social housing (whether through waiting lists or homelessness routes, except in Scotland), but who clearly often lack the ability to afford market tenures.

Table 4.8: Household Type Composition of Different Household Need and Affordability Groups, GB 2015

Household Type	All Hshlds <40	Hshlds < 40 & in need	Hshlds < 40 & afford SR	All New Hshlds	New Hshlds in need	New Hshlds afford SR
Single Younger	24.3%	8.4%	28.6%	43.9%	42.2%	47.1%
L P Fam	10.2%	25.3%	24.5%	7.7%	8.0%	7.8%
Couple	20.8%	6.9%	6.9%	26.2%	27.2%	19.5%
Cp & 1 chd	13.2%	7.7%	7.6%	5.7%	6.0%	6.2%
Cp & 2 chn	21.4%	18.3%	16.3%	4.1%	2.9%	4.8%
Cp & 3+ chn	6.9%	11.5%	10.4%	1.2%	0.7%	1.7%
Multi Adult	2.9%	21.1%	5.4%	8.5%	11.3%	10.2%
Sing Eld	0.0%	0.0%	0.0%	1.9%	0.7%	2.0%
Cp Eld	0.3%	0.8%	0.3%	0.7%	1.0%	0.7%

Source: author's analysis of UKHLS (Wave 7 for all households, Waves 3-7 for new households) linked to ONS house price and VOA market rents data

The right hand part of the table looks at households who have just newly formed. Unsurprisingly, this group is much more skewed towards single person households and couples (2 adults) without children. There is not so much difference between the profile of the group 'in need' (including just before moving to form a new household) and the profile of all new households, and indeed a high proportion of new households do record current or recent needs. Again, new households whose affordability profile suggests social housing is appropriate also have a similar profile, although this time with less couples and even more singles. Overall, the picture from this is that future social housing requirements could well include a strong element of single person and non-family households. This could have implications for both size and type of dwelling (e.g. more apartments).

In looking at size we use both the conventional 'bedroom standard', for social housing itself, and at a somewhat enhanced version which as argued in Chapter 3 is certainly more appropriate for shared ownership and intermediate rent, and possibly in some instances for social housing itself. So the top half of the Table 4.9 looks at the same groups as were used in Table 4.7, starting with all households under 40. For the overall cohort there is quite a strong emphasis on 1-bed and 2-bed accommodation, with a bare 20% in the traditional 'family' housing size range (3-bed plus). However, younger households in need have a profile more skewed towards family accommodation, including a significant need for 4+ bedrooms, and only a more limited proportion of 1-bed . However, again as we saw with household type, when you look at the client group defined by affordability you see much more emphasis on 1-bed units and less on the larger sizes.

New households are much more strongly skewed to small units, two-thirds only qualifying for 1-bed and less than 10% for 3+ beds.

Table 4.9: Dwelling Size Requirements of Different Household Need and Affordability Groups, GB 2015

Bedroom Requirement	All Hshlds <40	Hshlds < 40 & in need	Hshlds < 40 & afford SR	All New Hshlds	New Hshlds in need	New Hshlds afford SR
1	37.6%	11.1%	33.8%	67.0%	65.4%	64.5%
2	42.7%	42.6%	39.2%	24.7%	23.6%	24.9%
3	15.4%	27.3%	19.2%	4.7%	5.1%	5.5%
4+	4.3%	18.4%	7.6%	3.5%	5.5%	4.7%
Enhanced Bed-room Req't	All Hshlds <40	Hshlds < 40 & aff PR/SO	Hshlds < 40 & aff IR	All New Hshlds	New Hshlds aff PR/SO	New Hshlds aff IR
1	21.6%	9.7%	34.0%	46.4%	26.6%	57.1%
2	58.1%	62.6%	42.4%	44.7%	68.0%	38.7%
3	15.4%	20.6%	16.8%	3.2%	2.8%	4.3%
4+	4.8%	7.0%	6.6%	5.4%	2.7%	0.0%

Source: author's analysis of UKHLS (Wave 7 for all households, Waves 3-7 for new households) linked to ONS house price and VOA market rents data
Note: Top part of table is based on the 'Bedroom Standard' conventionally used in Social Renting allocation and official housing surveys; Lower part is an enhanced standard more appropriate to intermediate sector and market housing.

When we consider the intermediate rent and shared ownership tenures (the latter overlapping in affordability terms with market renting), and apply the enhanced bedroom standards, there is a marked shift one 1-bed to 2-bed particularly. So for the typical shared owner candidates one would expect 60% plus of 2-bed, relatively

few 1-bed, and about 20% of 3-beds. For the intermediate rent candidates there would be a bigger role for 1-bed, at about a third, and slightly less larger units. For these tenures, the profile for new households and existing younger households is fairly similar, although more of the new shared owner candidates would go for 1-bed and few would go for 3+ beds, and a majority of intermediate rent candidates would be for 1-bed.

Core and wider homelessness

In recent research for Crisis we have developed a focus on 'core' and 'wider' homelessness. Core homelessness represents households who are literally homeless at a point in time, and most of the groups encompassed within this are either not living in the private household population or unlikely to be well-represented in large household surveys, even if they are (for example, sofa-surfers). It is difficult to determine the exact overlap but a high proportion of cases shown in Table 4.10 below are unlikely to be captured by the UKHLS or similar surveys. As can be seen from the table, the numbers are significant, approaching 160,000 households in 2016 across Great Britain, with a high concentration in London. This group are clearly in relatively urgent need and it is clear from widespread evidence that they are overwhelmingly poor and lacking in financial capacity to compete in the open housing market. The homeless population is not a static group, requiring to be housed once and for all. There is considerable turnover, estimated to involve nearly 400,000 households over a year across Britain (Bramley 2018 forthcoming Table 7).

Core homelessness may also be seen as the tip of a larger iceberg of backlog housing need. In the same study we estimate that there is a further 1.1 million households we class as 'wider homeless', in the sense that they are at tangible risk of falling into homelessness, or they already have and are still awaiting a longer term resolution of their housing needs. This group maps fairly well onto the broader housing needs discussed here, including concealed households, sharing households, private renters at risk of losing their tenancy, as well as people in adequate but temporary accommodation and people leaving institutions.

Table 4.10: Core Homelessness Estimates by Type of Accommodation Situation and Broad Region/Country, 2011 and 2016

	2011	2016
Rough Sleepers	6,100	9,100
Hostels	42,900	37,200
Unsuitable Temporary Accommodation	10,100	19,300
Sofa Surfing	43,900	67,000
Other	18,000	25,800
Total	121000	158400

	2011	2016
Core Homeless by Broad Region & Country Saved	2011	2016
Scotland	13,100	11,000
Wales	4,900	5,400
North	19,300	19,800
Midlands	14,700	18,400
South	28,400	39,500
Greater London +	40,600	62,700
Great Britain	121,000	156,800

Source: Bramley (2017).

4.3 A first estimate of housing requirements

As discussed briefly in the methodology chapter (2), our first approach to assessing 'Housing Requirements' entails an essentially 'static' projection and re-allocation of households into more appropriate tenures. This exercise follows in some respects from the mainstream tradition in housing needs/requirements assessments in UK and elsewhere (Holmans, 1995, 2001; McDonald & Whitehead 2015), by taking household projections as a starting point, modifying these in various ways and then combining information on affordability and existing housing needs. We characterise this approach as 'static' because it does not assume or represent any changes in market conditions (particularly 'affordability'), nor any adaptive behavioural changes in response to changed conditions, including enhanced supply. These more dynamic aspects are better captured by the model described in the following chapter. Insofar as enhanced housing supply leads to moderation of affordability and access barriers, then there would be a general expectation that, in the medium term, things would almost certainly turn out better than in the static projection, and it might not be necessary to build so much (affordable) housing as indicated here. However, on the other hand, if the external conditions and economic events meant that things were likely to get worse (as implied in the homelessness projections research mentioned previously), then that may push things in the other direction.

The advantage of this approach is that it does present a set of numbers which many practitioners would recognise and could relate to, and the steps reached in generating these numbers are probably easier to grasp than the full workings of an economic

model. As the findings presented below will demonstrate, it does bring out some features of the current situation rather clearly.

We focus in this approach in particular on two groups of households:

A. The existing stock of 'under-40' households
B. The ongoing flow of 'new' households.

These groups represent the cohort of households making new demands on the housing system and often finding difficulty in becoming established. Some reasons why the needs of older households are less critical to this calculation were discussed in section 4.2 above. We make extensive use of data derived from the analysis of the recent UKHLS survey data, already referred to descriptively above, where we presented the current profile of under-40 and newly forming households, in terms of affordability bands, existing tenure, and existing housing needs. We go through a process of reallocating households into more appropriate (affordable) tenure options. Having done this separately for the two groups, we then combine them by converting each to an annual flow, dividing A. by 15 and B. by 5. (15 as an appropriate time frame corresponding to the programme period 2016-31, 5 because our new household data is based on five years pooled). The reallocation applies the following rules/assumptions.

Reallocation rules

1) A small proportion (3%) of existing owners who are classified in the lowest two affordability bands are deemed to be unsustainable owners and are reallocated into social rented housing.
2) 60% of social renters and 75% of private renters who have enough income to buy, reduced by the proportion estimated to be unable to save a deposit in 5 years (averaging 16% but varying by region), are reallocated to owner occupation.
3) 10% of social renters and of private renters who have enough income to buy (at market level), reduced by the proportion estimated to be unable to save a deposit in 5 years, are allocated into shared ownership
4) The same number as in 3) above are allocated into Intermediate Rent
5) 50% of social and of private renters with enough income to rent at market rates, but not to buy, are allocated to shared ownership
6) 50% of social and private renters with enough income to rent at intermediate rent levels are allocated to intermediate rent.
7) 75% of private renters whose affordability band indicates social renting and who are in need (as defined in s.4.2) are reallocated from private renting, 80% of these to social rent and 20% to intermediate rent.

As a general comment, these rules could be said to pitched towards the maximum end of what might be considered feasible/reasonable. It would be possible to vary these, and we could explore some variations, partly related to feasibility concerns. At this

stage we are aiming to generate a comprehensive picture of what would be needed to achieve a good match between incomes, needs and actual housing tenure position, for both existing and expected newly forming households.

This quite detailed analysis is then combined with key numbers governing the overall growth in housing requirements. We start from the official household projections. However, we then step beyond these in one important respect, by taking account of 'suppressed household formation'. Significant evidence for this phenomenon has been presented in the Crisis Homelessness Monitor (Fitzpatrick et al 2018) and elsewhere (e.g. Bramley 2016, 2018). In particular, household 'headship' rates (often now called 'household representative rates') for younger adults (up to age 35 or so) have been falling significantly since the early 1990s, especially in London and the South, whereas previously (up to the 1980s) they had shown quite strong growth. Econometric evidence shows clearly that these changes do in significant degree reflect a response to housing affordability issues (prices and incomes), other economic drivers (e.g. unemployment) and direct housing supply (social lettings), as well as a range of other socio-demographic factors (Bramley et al 2010, Bramley & Watkins 2016). We use such econometric functions in the dynamic housing market modelling approach described in the next chapter. In this 'static' approach, we make a reasonable, conservative assumption about a level of suppressed household growth which would re-emerge given a better level of supply and affordability[17]. We reverse the decline for the younger adults observed since 1992, differentially according to the regional data, and we then add a modest additional growth in headship for this group, equal to the increase observed in the least pressured region of England (East Midlands) between 1992 and 2002. The effect is to increase annual household growth in England by 69,000, from 216,000 to 285,000.

Table 4.11 below shows the build-up of the overall housing numbers for England following this approach. The first two rows show the 2014-based household projection average growth number (216,000 per anum), and this is followed by the addition made to reflect suppressed household formation, as described above (totalling nearly 69,000). Certain other additions are also, as always, required when translating this into a new dwellings number.

[17] 'conservative' in the sense that we do not suggest a full return to the growth rates in headship observed in the 1970s and 1980s. Some reasons for caution about this are rehearsed in McDonald & Whitehead 2015.

Table 4.11: Enhancements to Household Projection Numbers as basis for Static Housing Requirements Projection, England 2016-2031 (Number per annum)

ENGLAND	Top down Inputs
Household projection	216,284
Additional suppressed household formation	68,884
Demolitions to reflect baseline (10k) plus estate renewal/Grenfell/cond (20k)	32,000
Need to increase average vacancy rate (+1.5%pt) to enable more movement	22,000
Migration contingency (*not included*)	13,769
Recommended new completions (inc net conv/CoU) number	339,169
if including migrn contingency	352,938

Firstly, some allowance needs to be made for *demolitions*. Recent data for England show a typical annual number of demolitions of 10,000, which is pretty small for a large country. It is assumed that this will need to be increased substantially to provide for (a) the larger anticipated programme of large scale estate renewals, (b) dealing with some of the worst cases highlighted by the Grenfell tragedy, and (c) dealing with some housing in poor condition, particularly in low demand areas. It is further assumed that there would need to be some increase in the assumed *vacancy rate.* Vacancy rates in England have been running at very low levels and there is a normative argument for increasing this to enable more movement and flexibility in the system. It is also inevitable that with a much bigger housing supply programme, vacancies will rise anyway, so this is necessary purely on accounting grounds. The table also contains provision to allow a further contingency for changes in migration, relative to what has been assumed in the projections, which could be positive or negative – no contingency is included in the baseline assessment. Even without that, however, it can be seen that the new supply requirement for England is actually just under 340,000, which is well in excess of the 216,000 basic (2014-based) household projection.

At the same time, it must be observed that England has struggled to build even approaching the latter figure in the last couple of decades. MHCLG have reported 'net additions' which occasionally reach this level, e.g. in 2016 it was 217,000, but this included 5,700 net conversions within housing, 37,200 net changes of use, with only 9,800 demolitions to offset. The change of use figures are exceptional, relatively recent, and of questionable desirability/sustainability in the longer term. Nonetheless, the housing supply target we are generating here is for new supply inclusive of conversions and changes of use, but with demolitions accounted for separately and explicitly.

Table 4.12 below shows how the 'reallocation' of new and existing households between tenures is combined with the household growth and dwelling requirement information, for England as a whole. The first two rows show the net effects of initial

tenure destinations of existing and new households plus the effects of progressively reallocating them to more appropriate tenures over the plan period. – the first row total is the gross new household formation experienced over the last 5 years; the second row is the enhanced household formation derived as described above. The next component of household change to be accounted for is migration (net, in household equivalent terms). The number shown (69,000) is our interpretation of the underlying assumptions of ONS in their population projections (namely that international net in-migration will remain significantly positive, albeit at lower levels than seen in the last decade or so after UK leaves EU in 2022). The tenure distribution is based on that observed for recent migrants in UKHLS. The next item is household dissolutions, a very important and neglected subject in the study of household demographics. Essentially quite a lot of new housing requirements will be met by stock released through older households dissolving (through death, institutionalisation, or moving in with others), and the predictions here are based on ages of existing household by tenure, with the total level essentially a balancing item with net household growth. This measure of dissolutions really refers to long term exits from the housing system, rather than short term 'churn' in the middle years or life, for example associated with relationship changes (for further discussion see Bramley 2010b). Finally, the allocation of demolitions and vacancies across the tenures is a judgement, partly informed by expectations around estate renewal programmes.

Table 4.12: :Baseline Static Projection of Housing Requirements by Component of Change and Tenure - England 2016-2031 (number per annum)

ENGLAND		Indicative	Detailed					
Components of household growth		Target	Outcome	Own	SR	PR	ShOwn	Int rent
New households (gross)	Under-40s 'half in half' reallocation	370,038	368,691	147,113	89,645	92,056	17,595	22,282
	marginal additional new hhd + realloc	68,884	67,412	24,783	19,154	18,524	1,612	3,338
Migrants net inter & domest		68,999	66,273	6,842	11,679	40,992	2,265	4,496
Dissolutions (balancing)		212,753	219,163	161,525	44,043	13,595	0	0
Enhanced net household growth		285,169	283,213	17,213	76,435	137,977	21,472	30,116
Demolitions		32,000	32,000	7,500	16,000	8,500	0	0
Vacancies		22,000	22,300	6,000	5,000	8,400	1,000	1,900
Total New Dwellings		341,151	337,513	30,713	97,435	154,877	22,472	32,016
Quotas					***29%***		***7%***	***9%***

The ‘bottom line’ of Table 4.12 is striking, in a number of respects. Firstly, it suggests that in England there is a need to build or otherwise create an additional 340,000 dwellings per annum in the period to 2031. This is roughly double the average performance of recent years, and 57% above the relatively ‘good’ year of 2016. Secondly, it indicates that it would be appropriate to build approaching 100,000 of these units as social rented housing, which compares with typical recent levels of around 20,000 (less if you discount ‘Affordable Rent’). Thirdly, it indicates that there could also be a substantial role for intermediate sector housing, both shared ownership (or equivalent LCHO) and intermediate rent, totalling 54,000 units per year, with a balance slightly in favour of intermediate rent. Finally, this static projection suggests that there is a requirement for approaching 185,000 private sector dwellings per year in England. This number is not so different from recent levels of output, although clearly well above the levels seen in most years since 2008.

More concerning, from the tenure analysis, is the implication that the bulk of the net increase would end up as private renting rather than home ownership. If such a scenario were to transpire, this would clearly pose a real challenge to politicians in all parties, who emphasise trying to meet the aspirations of ‘generation rent’ for home ownership, as well as housing needs and affordability issues in a more general sense. This, of course, is only a provisional finding from what is a static projection, which does not take account of all of the market and behavioural adjustments which are likely, nor of policy, fiscal and regulatory changes (some already implemented recently) which might impact significantly on the tenure balance. Growth in home ownership would be boosted noticeably by the LCHO (shared ownership) provision implied/recommended in this projection, and more generous schemes could increase these numbers. We will explore this issue further, both in the next chapter where we look at outcomes from the dynamic model, and in the next phase of the research which will examine more exhaustively the implications of different assumptions and scenarios.

An adjunct to the bottom line of Table 4.12 comes in the form of percentage ‘quotas’ indicated. This is particularly important in the context of the planning system, where major issues concern the setting of targets for appropriate proportions of affordable housing, and within that the relative amount indicated for social rent rather than intermediate tenures. The overall picture for England from this analysis is that the overall quota would be 45% ‘affordable; with 29% within that being for social rented housing. Clearly these numbers are above the levels which have typically been achieved, except in a few highly pressured localities with particularly strong policies.

Table 4.12 breaks the bottom line dwelling requirements by tenure down across four broad regions of England, showing Wales and Scotland as well for comparison[18]. The table suggests that much more new housing supply is required in London and the South than in the Midlands or North, or indeed Scotland or Wales. In particular, the

[18] The data sources available for Wales and Scotland do not allow precise comparability in all respects and these estimates are provisional and should be treated with more caution at this stage.

figure shown for London is roughly double the level of numbers being actively planned for by the London Mayor, which themselves represent a massive hike in output relative to performance over recent decades. This raises serious questions about the feasibility and sustainability of such a further concentration of supply in the capital, and whether it might be better to make some of this provision in the wider South, as well as questions about regional economic policy[19].

Secondly, there appears to be a significant requirement for social rented provision, and also for both types of intermediate affordable provision, in all broad regions. Indeed, the percentage quotas look surprisingly even, although the rather lower quota for social renting in Scotland is perhaps to be expected. The region with the largest absolute and proportional scope for intermediate tenures is the South, again unsurprisingly. Thirdly, the rather perverse looking relationship between private renting and owner occupation features across the regions, although London stands out as a case where net growth of owner occupation is indicated.

Table 4.13: Baseline Static Projection of Housing Requirements by Tenure and Broad Region and Country, Great Britain 2016-2031 (number per annum and implied quota in percent)

Numbers (annual)	Total Dwellings	Private Sector	Social Rent	Shared Own'shp	Intermed Rent	All Affordable
North	68,992	38,354	19,988	4,379	6,271	30,638
Midlands	56,030	31,034	17,849	3,889	3,258	24,996
South	90,810	43,119	27,211	8,650	11,830	47,691
Gtr London	121,682	73,083	32,387	5,555	10,657	48,599
England total	337,513	185,590	97,435	22,472	32,016	151,924
Wales	12,951	6,184	4,514	848	1,405	6,767
Scotland	22,304	11,296	5,088	3,086	2,834	11,008
GB Total	372,769	203,070	107,037	26,406	36,256	169,698
Percent share (quota)						
North		56%	***29%***	***6%***	***9%***	44%
Midlands		55%	***32%***	***7%***	***6%***	45%
South		47%	***30%***	***10%***	***13%***	53%
Gtr London		60%	***27%***	***5%***	***9%***	40%
Wales		48%	***35%***	***7%***	***11%***	52%
Scotland		51%	***23%***	***14%***	***13%***	***49%***

The quotas indicated for affordable housing as a whole range between 40% (London) and 53% (South). It has to be said that these are at higher levels than would be

[19] Issues and concerns about household projections for London and about the balance of supply between London and the surrounding regions were aired in the author's contribution to the London Housing Commission deliberations (Bramley 2016b), as well as in Bramley & Watkins 2016

considered ‘viable’ in contemporary planning practice around s.106 agreements and would entail considerable public subsidy as well as consideration of the best forms of mixed developments. However, subsequent stages of this research reported in sections 6 onwards di revisit these, both from a feasibility/viability point of view but also having regard to changes in the picture of needs from a more dynamic analysis.

As part of this, it is therefore appropriate to defer discussion of the specific findings on Scotland and Wales, until we have considered the fuller analysis of outcomes and the suggested more optimal levels and mixes of supply which emerge from this.

It is necessary also to reiterate, again, that this is a static model which only gives a first view housing needs and requirements, albeit one which is quite well based on an analysis of *current* affordability and a reasonable interpretation of demographic projections and prospects. What it cannot do is provide a full account of all of the likely adjustments in housing markets, migration, household formation andhousing turnover (including social sector re-lets) which would result from this supply scenario,. A sustained large increase in supply is likely to have a substantial impact on affordability and on all of these factors over a 15 year time horizon. This is likely, on balance, to shift demand/requirements up the tenure/affordability hierarchy, so leading to a potentially lower number for the social rented housing requirement. Also, people’s behaviour in the housing market may go beyond the norms assumed in our affordability analysis. For example people may trade greater housing outgoings for more choice of location or type of accommodation, and regard the risks involved as acceptable. On the other hand, generous housing supply and better affordability is likely to increase the rate of new household formation, and a lot of these additional households will tend to be towards the lower end of the affordability hierarchy. There are also issues to be considered about the practical limits to boosted supply, and some potential dangers in certain localities where housing markets are relatively fragile, namely the re-emergence of ‘low demand’ problems.

All of these considerations are explored using the dynamic model to examine a balance array of outcomes in Chapter 5.

4.4 Conclusions on the current profile of need

Less than half of younger households can afford to buy on income alone, while one-third have a level of income compatible with social housing. In between these groups are those who can afford market renting, or shared ownership, and those who could afford intermediate renting, which together comprise rather under a quarter of the total. There are large regional differences in affordability, particularly in the ability to buy and the potential role of intermediate rent.

Recently newly formed households are poorer than younger households as a whole, with less than a fifth able to buy without additional assistance, and a majority in the income range associated with social renting.

Around a fifth of all households have experienced one or more housing needs over the last 1-2 years, but this proportion is higher for younger households, typically around 30-40% for those likely to require rental or affordable housing, and higher still (60-70%) for new households in the same position. There is less regional difference in the shares of household with these needs than in the case of affordability.

We use this evidence as a basis for an initial approach to estimating the requirements for different tenures at national level and in different broad regions. This entails applying a set of rules for reallocating households to more appropriate tenures having regard to affordability and the presence of housing needs, and converting stocks to flows. This analysis is then combined with basic household growth demographics and assumptions about the overall scale of the supply programme. This shows that there is a clear case for a greatly expanded level of housing supply across the UK, including a major expansion in provision of social rented housing with significant additional provision for shared ownership and intermediate rent. Such provision is needed in all regions, but the indicated numbers overall are most challenging in London. The results of this approach give cause for concern about the ongoing imbalance between private renting and home ownership. They also highlight the challenges around the viability and financial feasibility of such an ambitious social and affordable housing programme.

Chapter 5 Forward Projections of the Housing Market and Need Outcomes

5.1 Introduction to the modelling approach

The centrepiece of our preferred approach to assessing future housing requirements is the Sub-Regional Housing Market Model (SRHMM). The main character and features of this model were set out in s.2.1 above. In essence, the main difference between using this model and the kind of approach set out in Chapter 4 is that the SRHMM represents a dynamic picture of the housing market incorporating behavioural adjustment and feedback mechanisms, whereas the Chapter 4 approach is essentially static and mechanistic. To put it another way, in Chapter 4 we have rearranged certain pieces on the board, and added some other pieces, whereas in the SRHMM everything changes and evolves in an interacting fashion in each scenario. The analysis in Chapter 4 should give a reasonable idea of the initial direction of travel, in terms of changing the location and mix of housing supply, but is unlikely to reveal all aspects of the final outcome.

The version of the model used in this study (v18w) is similar to that used in the recent Crisis Homelessness Projections research, and quite similar to that used in research to support the Joseph Rowntree Foundation's Solve UK Poverty review in 2016 (Bramley et al 2016). However, it has developed quite a bit from the version reported in the article by Bramley & Watkins (*Progress in Planning* 2016). Among the limited updates and improvements are some additional indicators and parameters used to control the volume and spatial distribution of planned housing land release and social housing output, to facilitate finer tuning out these numbers to apparent need.

It should also be noted that there has been a particular focus on England, although we do also model Scotland and Wales. We have attempted to update key data (e.g. on supply, prices and rents) for Wales and Scotland, and to ensure reasonable consistency, but there may still be room for improvement in these estimates. Scotland's relatively favourable situation in terms of supply-demand balance in the housing market may raise issues in terms of policy priorities.

In this chapter we run a sequence of scenarios, in order to demonstrate how and to what extent expanding different elements of housing supply in different regions contributes to more desirable outcomes (key outcome measures are identified in s.5.2 below).

We start in Section 5.3 with a *baseline scenario* which, may be characterised as carrying on with policy settings as in 2016. There are some increases in rates of private and social housebuilding, but the numbers do not come close to those now being proposed by government (for total additions) let alone those implied by our static projection in Section 4. Forecast outcomes to 2031 are summarised in Table 5.1.

From Section 5.4 onwards we show a sequence of alternative scenarios, all of which involve increases in total housing supply, but of varying magnitudes, with differing geographical distribution, and with differing amounts of social and affordable housing in the mix.

The first of these scenarios sees overall housebuilding increased in line with the Government's planning guidance issued in autumn of 2017 (bigger increases where affordability is worse), but without any particular effort to increase social housebuilding. Results are shown in Table 5.2. The next alternative also increases social rented supply to 65,000 (Table 5.3) but without particular targeting. The next variant has similar total numbers but targets the general supply increase more towards growth areas in the south of England and somewhat less to London (Table 5.4).

Section 5.5 has a stronger theme of targeting, but the next scenario actually brings in a package of non-supply measures to help prevent, relieve and reduce homelessness (Table 5.5). The following scenario increases social and total housing a bit (to 71k and 354k), but with geographical distribution of social housing guided more by affordable housing need (Table 5.6).

Section 5.6 explores the upper limits of increasing social housing supply. A scenario with a level of social housing output slightly above that derived from Table 4.10 (101k) along with a somewhat higher overall total (375k), but without particular needs-based targeting, is tested partly to explore this (Table 5.8). This is contrasted with a scenario with fairly high social housing (85k) targeted on need as well as fairly high total supply (361k), in Table 5.9, and one with slightly higher social housing, slightly less total housing, and somewhat less strong targeting of total or affordable numbers (Table 5.10). The last two scenarios are shown to have similarly high levels of favourable outcomes, and provide the basis for our overall recommendation on the level of supply for affordable housing.

5.2. Key Outcome Measures

As argued in our proposal for this research, we characterise our preferred approach to the assessment of housing requirements as being 'outcome-based'. We use the SRHMM to generate forecasts of a range of relevant outcomes in a baseline scenario and then in a range of alternative scenarios, where we vary the quantity, mix and geographical distribution of supply. Through an iterative process we seek to find the best set of outcomes which can be achieved given the background assumptions, including potentially assumptions about resource limits and policy constraints, although these are not a main concern in this study (some work on subsidy costs is reported in the concluding section 8 and Appendix A).

The model is capable of generating quite a wide range of predicted values for different variables, but we have selected a subset of 20 key indicators (including certain 'low demand' indicators) of outcomes relating to housing, households, affordability, tenure, housing needs and homelessness. A simple summary table format enables us to

assess a particular scenario at a glance using these indicators. The main focus is on changes from our base year of 2016 to our main target year of 2031, and on differences between the outcome on each particular scenario and a baseline scenario (described further below). While levels and changes in outcomes are primarily measured through national average values, we also look at a measure of regional inequality or disparity, and the extent to which this is reduced.

The key outcome indicators currently reported are as follows

Supply Numbers

- Total new housebuilding completions, number per year averaged over preceding 5 years, 2016 and 2031.
- New social housing completions.

Demographics

- Number of households total.
- Household growth, number per year averaged over preceding 5 years.

Affordability

- Affordability to buy, percent of younger households able to afford to buy, adjusted for saving for deposit and access to larger lumps of wealth.
- Affordability to rent in market, percent of younger households.
- Poverty after housing costs, percent of all households with less than 60% median net equivalent income after housing costs.
- Financial difficulties, percent of households with self-reported difficulties maintaining housing payments.

Tenure

- Younger homeownership: percent of Under-40 households in owner occupation.
- General homeownership: percent of all households in owner occupation.
- Private renting: percent of all households in private renting.

Housing Need

- Concealed/sharing households as percent of all households.
- Backlog housing needs – percent of all households with one or more of affordability problems, overcrowding, concealed, sharing or unsuitable housing.[20]

[20] Based on Estimating Housing Need study definition using English Housing Survey base; see Note 10

- Core homelessness: number of households estimated to be rough sleeping or in similar situations, or in hostels, unsuitable temporary accommodation or sofa-surfing.
- Wider homelessness (households who are statutorily homeless but not in 'core' group above, plus other households at significant risk of falling into homelessness in coming year).
- Annual net new need for affordable housing; the number of households newly forming, plus half of net migrant households to area, who are unable to afford market rent, less the annual flow of re-lets of social housing (excluding transfers).
- Chances of rehousing: the annual flow of lettings of social housing to new tenants as a percentage of the backlog housing need.

Low Demand

- Extent of 'excess' private housing vacancies (% over 6%).
- Proportion of LA's where social rent re-let rate above 6%.
- Proportion of LA's where house prices are significantly (>10%) below replacement build cost.
- We also report in the text model predictions of numbers of demolitions based on a proportion of 'excess vacancies' at HMA level.

5.3 Baseline Scenario

The baseline scenario is intended to represent 'carrying on as we are/were' as at 2016/17, prior to the injection of additional major policy measures for increasing supply of general or affordable housing. This scenario should be consistent with ONS population projections at national level[21]. It is intended to reflect recent macro-economic scenarios based on Treasury summaries of short term forecasts and OBR assessments for the medium term. Since these reflect a more pessimistic view than previously about productivity prospects, this has led to some downward revision in GDP and earnings growth. Another difference from previous baselines (including Homeless Projections) is that the projection of future GDP/GVA growth puts more weight on past local performance, so implying greater regional divergence (this is one change designed to try to match market outcomes better to observed changes up to 2016). Another slight difference is that we include feedback from levels of housebuilding activity to GVA levels. In common with other recent scenarios, we make some allowance for Brexit effects on growth and we include a mild recession in the late 2020s.

The baseline housing supply scenario is the same as has been used in recent versions of the model, essentially reflecting the aggregation of local plan targets which emerged

[21] It is currently broadly consistent with a slightly earlier set of population projections; sensitivity tests for assumptions about migration, births and deaths were undertaken as reported in Chapter 7

from the ‘Localism’ phase of planning policy c.2010-15. The social housing component of supply follows previous parameters, being treated as partly a function of past levels and partly of new private output, with a starting level similar to recent actual completions. LCHO output is put at 57% of social housing output in the baseline.

Table 5.1 summarises key outcomes in this baseline scenario. It shows total new housebuilding languishing at a very low level in the 5 years to 2016 (114k) but more than doubling by the target period (5 years to 2031). However, this level of output (240k) reflects earlier targets, not the 300k which government now seems to be targeting, let alone the 350k suggested in the previous chapter. New social housebuilding would only rise by a more moderate amount, from 17k pa to 28k pa. Under this scenario, household growth would remain at a subdued level, below that in the base period (190k vs 214k) and below the official household projections.

Under this scenario, average affordability to buy would fall by 12% (from 43% to 38%), while affordability to rent would fall by 3.5% (from 62% to 60%). There is marked regional disparity in affordability, with the former measure showing a difference between the highest and lowest broad region which is 68% of the mean value in 2016 and still 57% in 2031. Both the other affordability problem indicators (relative poverty AHC and financial difficulties) would also show a moderate worsening, increasing by 5% and 7.5% respectively, while displaying strong regional disparities (of the order of 40-90% between best and worst regions).

Despite the recovery in supply, homeownership overall would continue to fall (by 7%) while homeownership by under-40s would fall marginally. There are significant regional disparities in home ownership, particularly for the under-40s.

All measures of housing need would deteriorate. There would be a rise of concealed/sharing households by 9%, which corresponds closely with the rise of 9% in the wider homeless measure. Overall backlog need would rise by 14%, and the chances of a household in need being rehoused would fall by 11% to only 6% (i.e. a one-in 17 chance). The annual net new need for affordable housing would rise by nearly 40%. Core homelessness would rise by 36% to 191,000 in England.

There are marked regional disparities in the housing need indicators, with the gap between best and worst regions in excess of 100% of the mean value in a number of cases.

Table 5.1: Key outcomes in baseline scenario, England 2016-31

Baseline 18 April 2018 SUMMARY OUTCOMES ***England***	2016	2031	Change % 2016-31	Diff % vs baseline in 2031
Total New Housebuilding	114,338	240,151	110.0%	0.2%
New Social Housebuilding	16,840	28,165	67.3%	1.2%
Number of Households	22,920,530	25,617,089	11.8%	0.0%
Household Growth	214,154	190,030	-11.3%	0.1%
Affordability to Buy %	43.4	38.4	-11.7%	0.0%
Affordability to Rent %	62.3	60.1	-3.5%	0.0%
Owner Occ under 40 %	48.7	48.4	-0.8%	0.0%
Owner Occ all %	66.7	62.2	-6.8%	0.0%
Private Rent all %	18.4	22.2	20.9%	0.0%
Rel Poverty AHC %	17.3	18.2	5.2%	19.6%
Financial Difficulties %	12.2	13.1	7.5%	0.0%
Concealed/sharing hhd %	4.6	5.0	9.1%	-0.1%
Backlog Housing Need	2,108,064	2,394,219	13.6%	-0.1%
Wider homeless	904,325	981,334	8.5%	0.0%
Core homeless	137,600	180,100	30.9%	-5.7%
Annual net new need AH	77,403	107,358	38.7%	-0.4%
Chance of Rehousing %	6.9	6.2	-10.2%	0.6%
Low Demand Indicators	2016	2031	Change %	Diff vs baseline
HMAs Excess Vacancies (>6%)	2	39	1850.0%	66.7%
HMAs High Re-lets (>6%)	16	15	-6.3%	26.7%
HMAs Price< Cost	55	2	-96.4%	100.0%

Note: Supply and other policy assumptions as at 2016-17. Total new build (England) rises from 114,000 to 240,000 p.a. by 2027-31 with distribution reflecting post-2010 localist planning system numbers. Social rented output rising from 17K to 28k with distribution partly pro rata past output and partly pro rata new private build. LCHO output 57% of social rent number.

Table 5.1 also includes at the bottom three indicators of 'low demand' informed by research undertaken in 1999-2000 (Bramley & Pawson 2002). These are expressed as the number of housing market areas (out of 114) with (a) vacancy rates in excess of 6% in private sector, (b) social sector net re-let rates in excess of 6%, and (c) market price for a standard house (3 bed semi) significantl4y less than its estimated building cost. In 2016, few HMAs had excess vacancies, while a number (mainly Scotland/Wales, and possibly affected by data inconsistencies) had excess re-let rates, but quite a lot still had house prices below or near replacement build cost –

mainly in north and midlands. By 2031 in the baseline, the incidence of excess vacancies grows, whereas that of low relative prices drops away to a low level, while re-lets remain similar. These indicators are included to alert the model user and the reader to potential problems of excess supply and low demand emerging in certain areas.

Clearly, taking a broad view across outcomes, carrying on as we are leads to bad outcomes getting worse, more or less across the board. There is clearly a need to do more, in terms of housing supply in general and affordable and social housing supply specifically, and other measures may be needed to really bring homelessness and some of the other problems down decisively.

Some summary information about outcomes for Wales and Scotland is provided later. These cases will be examined in fuller detail in a later phase of this research.

5.4 Supply scenarios

The first alternative scenario considered is one where the *general supply of housing* is increased, without particular regard to tenure or affordable housing, essentially through raising the 'planning numbers'. The basis for doing this is to use the new target numbers issued by the MHCLG in autumn 2017, based on a simple formula which essentially increased numbers relative to household projections depending on the extent to which the house-price-to-earnings ratio exceeded the average. These target numbers are LA-specific but we have aggregated them to the level of our HMAs.

It was found on an initial test that just entering the MHCLG numbers did not have a large impact on modelled supply. This reflects a strong feature of the UK/English housing market, that the transmission mechanism between additional planning permissions and additional housing completions is somewhat weak. Our econometric modelling, based on past local data over time, shows that typically 100 extra planning permissions leads to an increase of about 40-50 completions. This general phenomenon of planning take-up has been subject to considerable national debate and was the focus of a specific inquiry for the government recently, led by Oliver Letwin. To get an outcome closer to the Government's intention, we have simply doubled the MHCLG numbers. We would argue that, unless measures are taken to increase the direct and timely delivery of planning numbers and permissions into actual starts and completions, this situation will persist and it will be necessary to substantially over-allocate land in order to achieve target numbers.

As Table 5.2 shows, under this scenario, completions would be 26% higher in the 5 years to 2031, which is a 44% increase in the change previously reported(the increase would be higher in 2021 and 2041). But planning permissions would have been increased by 122% to achieve this. There would be a marked regional skew to the increase, which would be 64% in London, 24% in the South, but only 10% in the Midlands and 7.5% in the North. Whether such a large concentration of extra new supply on London is desirable or achievable is a questionable issue, as it may entail

a lot of high density/high rise development and a lot of controversial estate redevelopment schemes, and there are good planning arguments for more emphasis on medium density new settlements and urban extensions in the South outside London

In this scenario there is some consequential increase in social housing completions, but it is less in percentage terms (22%). This would arise as a natural consequence of the well-established application of planning policies and s106 agreements for affordable housing, given the greater volume of overall housebuilding planned.

Table 5.2: Key outcome differences in scenario of large increase in general housing supply (based on MHCLG planning targets), England 2016-31

SUMMARY OUTCOMES England 18 April 2018	2016	2031	Difference In Change % 2016-31	Change % in regional inequality 2031
Total New Housebuilding	4.4%	26.2%	43.7%	
New Social Housebuilding	1.8%	21.7%	32.2%	
Number of Households	0.0%	3.0%	3.3%	
Household Growth	0.2%	33.0%	29.0%	
Affordability to Buy %	0.0%	3.5%	3.1%	-103.0%
Affordability to Rent %	0.0%	0.9%	0.9%	-35.5%
Owner Occ under 40 %	0.0%	0.1%	0.1%	-0.9%
Owner Occ all %	0.0%	-0.2%	-0.1%	0.0%
Private Rent all %	0.0%	1.4%	1.6%	
Rel Poverty AHC %	19.6%	19.6%	-0.1%	-33.7%
Financial Difficulties %	0.0%	-2.2%	-2.4%	-21.3%
Concealed/sharing hhd %	0.1%	0.2%	0.1%	-30.9%
Backlog Housing Need	0.2%	-5.3%	-6.2%	-31.8%
Wider homeless	0.0%	-2.2%	-2.4%	
Core homeless	-2.4%	-19.4%	-23.5%	-32.9%
Annual net new need AH	1.0%	-18.8%	-27.2%	
Chance of Rehousing %	-0.9%	11.0%	10.7%	-19.0%

Note. Planning numbers for overall housing changed to reflect MHCLG guidance, November 2017, based on household projection enhanced by excess House Price to Earnings ratio. Total supply rises by 26-40% (England, 23-36% UK) to reach 303,000 by 2031 of which 34,000 are social rented and 19,000 LCHO.

It should be noted that this increase in housing supply would be accompanied by a substantial increase in household growth, 33% in the five years to 2031 which is actually larger than the new build boost in that particular time slice. More typically household growth responds by about 60-70% of the supply change, but with a different time profile, and a stronger response in high demand regions. This change reflects additional new household formation and also, in particular affected regions, internal migration flows. The fact that this impact is captured in our model is a major difference from conventional housing needs assessments which use household projections as a fixed base.

It has been argued by governments and economists, particularly since the Barker (2004) review, that a large scale increase in housing supply would have an effect in improving housing affordability, although this impact would be proportionally smaller and would take time to build up (see Bramley 2013 for a review of this issue). Our model suggests that this supply scenario would have a noticeable effect in improving affordability to buy, by around 3.5% by 2031. There would be a more dramatic reduction in the extent of regional disparity in affordability, thanks to the regionally skewed supply boost. The affordability of home ownership in London would rise by 86% (from 27% to 48% of younger households), and in the South by 17% (from 42% to 49%), even though in the North it would be virtually unchanged - however, the London affordability rise is from a very low level, and depends as noted upon a questionable large supply boost. It also seems to reflect a particularly extreme fluctuation around 2031 as the market reacts, and the longer term trajectory suggests an impact of about half of this magnitude. In refining these scenarios we might need to look at the phasing of the increased planning numbers, as well as the balance between London and surrounding area.

Affordability of renting does not improve much at national level, although there is a substantial reduction in the regional disparity in this indicator as well. Despite the dramatic improvement in affordability in London, the overall share of owner occupation does not shift very much in this time period. The share of private renting actually increases slightly.

There is a reduction in regional disparity in after-housing costs poverty, given a fall in AHC poverty in London and a slight rise in the North. There would be a moderate reduction in the average incidence of financial difficulties and a reduction in regional disparities.

Generally the picture on housing needs is of modest reductions, e.g. in backlog need and wider homelessness, with a somewhat larger improvement in the chances of rehousing for those in need (1%) and a proportionately larger reduction (19%) in core homelessness as well as in net new need. There would also be a general reduction in the extent of regional disparities in needs measures, unsurprisingly given that London is usually the focus of the highest levels of housing need.

The overall conclusion of this scenario is that a large increase in general housing supply, even without a specific focus on social or affordable housing, would lead to generally beneficial outcomes across most of our target outcomes, including significant reductions in regional disparities. These findings partly reflect the concentration of this planned boost on London (and the South), although the extent of this concentration may be questioned. However, the average level of impact on affordability, particularly of market renting, is small, and the impact on the share of home ownership appears negligible (although absolute numbers of home owners would rise).

Increasing social housing

The next scenario considered is one where the *supply of social housing* is substantially increased as well, along with general new supply. The spatial distribution of general plan numbers remains as in the previous scenario, but social supply is increased partly pro rata past social completions and partly pro rata private completions - resulting in a more even regional distribution of the additional social units. New social rented completions rise by 131% in the run-up to 2031, which would be around 65,000 completions. Another feature of the model worth reporting here is that extra social completions have some positive knock-on effect on private completions, which also increase by an additional 6% points. Again, there is a further positive effect on household growth from this scenario, which would be particularly strong in the years up to 2031.

Most of the outcome variables of interest would show a somewhat greater improvement than under the previous strategy. That would include a greater average improvement and a greater reduction in regional disparities for the affordability indicators and pretty well all of the need indicators. Of greater note would be the 10% reduction in backlog need, with 41% reduction in regional disparities; the 24% reduction in core homelessness, with 40% reduction in regional disparities; the 53% reduction in the annual net new need for affordable housing; and the dramatic 60% improvement in ‘chances of rehousing’ for households in need, with a 39% reduction in regional disparities. These indicators benefit from both the direct effect of new social supply on lettings but also the progressive later effect of increased re-lets supply.

Again, this scenario has only the most marginal impacts on home ownership rates, although absolute number of owners would rise.

Table 5.3: Key outcome differences in scenario of large increase in general and social housing supply (based on MHCLG planning targets), England 2016-31

SUMMARY OUTCOMES England 28-Mar-18	2016	2031	Difference in Change % 2016-31	Change % in regional inequality 2031
Total New Housebuilding	16.7%	44.4%	49.7%	
New Social Housebuilding	65.6%	131.0%	65.2%	
Number of Households	0.4%	4.7%	4.9%	
Household Growth	7.7%	49.7%	34.6%	
Affordability to Buy %	-0.8%	5.6%	5.7%	-129.3%
Affordability to Rent %	-0.2%	1.0%	1.2%	-41.9%
Owner Occ under 40 %	1.3%	1.0%	-0.3%	3.2%
Owner Occ all %	0.3%	-0.4%	-0.6%	0.6%
Private Rent all %	-0.4%	0.3%	0.8%	
Rel Poverty AHC %	19.1	17.5	-1.4	-36.1%
Financial Difficulties %	-0.3%	-3.7%	-3.7%	-24.8%
Concealed/sharing hhd %	1.7%	-0.8%	-2.7%	-35.8%
Backlog Housing Need	-0.3%	-10.2%	-11.2%	-40.5%
Wider homeless	-0.5%	-4.1%	-4.0%	
Core homeless	-2.8%	-24.3%	-29.9%	-39.5%
Annual net new need AH	-5.1%	-53.0%	-70.2%	
Chance of Rehousing %	12.7%	60.3%	37.6%	-38.8%

Note: Overall planning numbers and distribution as for Table 5.2 scenario, with enhanced social housing pro rata past levels and private completions, achieving 347,000 total completions by 2031 of which 65,000 are social rented and 19,500 LCHO.

We now illustrate a variant on this enhanced supply scenario where we reflect some 'good planning' arguments to shift the emphasis in enhanced growth somewhat from London to the rest of the South of England, with a particular emphasis on a set of 'growth areas situated in the South East and East regions (Milton Keynes-Luton-Watford; Greater Reading; Bedford; North Herts-Stevenage-Welwyn Hatfield; Greater Oxford; West Northants; Greater Cambridge)[22]. The overall social and private housing numbers are similar to the previous scenario.

The broad picture is that on most outcome indicators the result is a further improvement in average score, although the impact on regional disparity is in some instances rather less. This is clearly the case for the affordability to buy and to rent

[22] This group of HMAs is not identical to the arc of growth linking Ox ford and Cambridge which the Government is now promoting, but it overlaps heavily and reflects the same general motivation.

indicators, financial difficulties, wider homelessness, annual net new need and chance of rehousing. For backlog need and core homelessness the average reduction is marginally less.

Table 5.4: Key outcome differences in scenario of large increase in general and social housing supply (modified MHCLG planning targets, shifted from London to South/East growth areas), England 2016-31

SUMMARY OUTCOMES England 28 March 2018	2016	2031	Difference in Change % 2016-31	Change % in regional inequality 2031
Total New Housebuilding	17.8%	43.2%	45.2%	
New Social Housebuilding	66.5%	131.6%	64.6%	
Number of Households	0.4%	5.0%	5.1%	
Household Growth	7.6%	52.7%	37.2%	
Affordability to Buy %	-0.8%	8.2%	8.0%	-75.7%
Affordability to Rent %	-0.2%	1.8%	1.9%	-21.8%
Owner Occ under 40 %	1.3%	1.1%	-0.2%	3.4%
Owner Occ all %	0.2%	-0.5%	-0.7%	0.6%
Private Rent all %	-0.4%	1.2%	1.9%	
Rel Poverty AHC %	19.1%	17.2%	-1.6%	-38.6%
Financial Difficulties %	-0.3%	-5.3%	-5.5%	-26.9%
Concealed/sharing hhd %	1.8%	2.9%	1.2%	-48.3%
Backlog Housing Need	-0.3%	-9.4%	-10.4%	-27.8%
Wider homeless	-0.5%	-4.7%	-4.6%	
Core homeless	-2.9%	-21.2%	-25.5%	-23.0%
Annual net new need AH	-4.8%	-58.7%	-78.8%	
Chance of Rehousing %	12.0%	71.2%	47.2%	-32.8%

Note: Overall planning numbers similar to Tables 5.2-5.3, but with additional allocations to growth areas in Reading-Oxford-Milton Keynes-Cambridge and rest of South East, but less to London; with enhanced social housing pro rata past levels and private completions, achieving 344,000 total completions by 2031 of which 65,000 are social rented and 19,500 LCHO

5.5 Targeting homelessness and need

Housing supply is not the only way of addressing problems of housing need. At this point we illustrate this by drawing in a package of measures identified in the parallel

research for Crisis on homelessness projections (Bramley 2017, 2018 forthcoming). The measures added to the mix at this point include the following

- Ending of welfare cuts, including the LHA freeze
- Maximal application of prevention measures by all local authorities
- Continued diversification of housing models to address homelessness including the development of 'Housing First'
- Resumption of previous fall in crime rates

These measures, combined with the preceding supply scenario, are reflected in the outcomes table 5.5 below.

We would expect to find the main effects on the core homelessness numbers and sure enough the fall in these at 2031 jumps from -21% to -57%, which is in effect a real reduction in core homelessness to substantially below the level of 2011 (77,500 compared with 180,100 in the baseline and 142,300 after the supply boost). There is also a substantial reduction in the regional disparities in core homelessness. The reductions in the wider homelessness group is much more modest, at 2.4% points.

However, the additional benefits of this strategy do extend to some of the other outcome indicators, particularly financial difficulties (improved by 7% points), backlog need (5% points better), annual net new need (5% points better) and the chances of rehousing (improved by 13% points).

Table 5.5: Key outcome differences in scenario of large increase in general and social housing supply plus key homelessness related measures, England 2016-31

SUMMARY OUTCOMES England			Difference in Change %	Change % in regional inequality
Baseline 28 March 2018	2016	2031	2016-31	2031
Total New Housebuilding	17.8%	42.9%	44.6%	
New Social Housebuilding	66.5%	131.0%	64.0%	
Number of Households	0.4%	4.9%	5.1%	
Household Growth	7.6%	52.6%	37.1%	
Affordability to Buy %	-0.8%	7.8%	7.7%	-73.4%
Affordability to Rent %	-0.2%	1.2%	1.3%	-20.1%
Owner Occ under 40 %	1.3%	1.1%	-0.2%	3.1%
Owner Occ all %	0.2%	-0.8%	-1.0%	0.5%
Private Rent all %	-0.4%	1.4%	2.2%	
Rel Poverty AHC %	19.1%	-0.5%	-17.3%	-23.0%
Financial Difficulties %	-0.3%	-12.4%	-13.0%	-25.0%
Concealed/sharing hhd %	1.8%	-0.9%	-2.8%	-50.0%
Backlog Housing Need	-0.3%	-14.5%	-16.1%	-30.6%
Wider homeless	-0.5%	-7.3%	-7.4%	
Core homeless	-2.9%	-57.0%	-75.4%	-40.5%
Annual net new need AH	-4.8%	-63.5%	-85.8%	
Chance of Rehousing %	12.0%	84.3%	57.6%	-33.7%

Note: Overall planning numbers as in Table 5.4, including additional allocations to growth areas in Reading-Oxford-Milton Keynes-Cambridge and rest of South East, but less to London; with enhanced social housing pro rata past levels and private completions, achieving 344,000 total completions by 2031 of which 65,000 are social rented and 19,500 LCHO. Additional measures to reduce homelessness including cessation of welfare cuts/reforms post 2015 and ending LHA freeze, maximal LA prevention activity, phased reduction in hostels replaced by Housing First and other housing-led models, and reduction in crime rates.

One further scenario is reported in this sequence, building on those just described. The key difference in this case, reported in Table 5.6, is that the additional new social rented housing is *targeted* to particular localities/HMAs on *the basis of needs*. The need indicator developed for this purpose may be described as a 'classic affordability-based needs model', similar to those used by the author in studies in the early 2000s, and reflected in the 2000 edition of the DETR Guidance to local authorities on Local

Housing Needs Assessment; it is also very similar to ‘Model 1’ as described in Chapter 6.

Under this approach, the net need for additional affordable housing *equals*

> The proportion of younger households unable to afford market rent
>
> *times*
>
> The gross number of new households forming per year, *plus* one-half of net migrant households
>
> *plus*
>
> The backlog of need, times a quota (10%)
>
> *Minus*
>
> Net re-lets of social rented housing per year (excluding transfers and new build supply)

This number is expressed as a percentage of households. If it is less than zero, it is set to zero (this applies to 65 out of 102 HMAs in England, based on data for the period 2011-15). The mean value is 0.25%, and the maximum 1.14%. In this scenario, this factor is used to allocate the part of new social housing previously allocated pro rata past delivery; the other part, pro rata new private housing output, remains. That means that this is not the most extreme form of needs-based allocation that could be considered.

The differences between this and the previous scenario are relatively modest. Some of these might reflect the fact that in practice the average level of social housebuilding is slightly higher in this scenario. The general pattern seems to be that the impacts on the average level of outcomes is small but generally there is a marked further reduction in the regional disparities. This applies for example to the affordability to buy and rent indicators, and the relative poverty and financial difficulties indicators, and core homelessness. There is a definite reduction in average levels of concealed/sharing households and backlog needs accompanied by a greater reduction in regional disparities. There is a slight reduction in annual net new need and in the chance of rehousing performance, although again in the latter case the reduction in regional disparities is marked.

Table 5.6: Key outcome differences in scenario of large increase in general and targeted social housing supply plus key homelessness related measures, England 2016-31

SUMMARY OUTCOMES England 28-Mar-18	2016	2031	Difference In Change % 2016-31	Change % in regional inequality 2031
Total New Housebuilding	7.2%	47.5%	78.9%	
New Social Housebuilding	10.5%	151.1%	210.3%	
Number of Households	0.1%	4.7%	5.1%	
Household Growth	1.9%	55.3%	46.4%	
Affordability to Buy %	0.0%	6.9%	6.1%	-152.5%
Affordability to Rent %	0.0%	1.3%	1.3%	-35.9%
Owner Occ under 40 %	0.0%	0.2%	0.2%	2.4%
Owner Occ all %	0.0%	-1.2%	-1.1%	0.7%
Private Rent all %	0.0%	2.3%	2.7%	
Rel Poverty AHC %	19.7%	0.0%	-17.3%	-34.8%
Financial Difficulties %	0.0%	-12.0%	-12.9%	-29.4%
Concealed/sharing hhd %	0.2%	-4.2%	-4.8%	-62.1%
Backlog Housing Need	0.2%	-20.1%	-23.0%	-59.4%
Wider homeless	-0.1%	-7.9%	-8.5%	
Core homeless	-2.6%	-57.0%	-75.6%	-47.3%
Annual net new need AH	0.2%	-59.4%	-82.8%	
Chance of Rehousing %	-1.4%	78.3%	72.2%	-51.4%

Note: Overall planning numbers as in Tables 5.4-5.5, including additional allocations to growth areas in Reading-Oxford-Milton Keynes-Cambridge and rest of South East, but less to London; with enhanced social housing pro rata past levels and private completions, achieving 354,000 total completions by 2031 of which 70,700 are social rented and 21,200 LCHO. Social housing is half distributed on basis of net affordable needs formula. This also includes the additional measures to reduce homelessness including cessation of welfare cuts/reforms post 2015 and ending LHA freeze, maximal LA prevention activity, phased reduction in hostels replaced by Housing First and other housing-led models, and reduction in crime rates.

Overall, and perhaps unsurprisingly, better spatial targeting of social housing supply leads to a further reduction in regional inequalities in housing need outcomes, while making a modest contribution to reducing the average level of some of these.

5.6 The Upper Limits on Supply

In Chapter 4 we presented a 'static' projection which suggested that there was a case for building 350,000 dwellings per year in England including 97,000 social rented dwellings and about 54,000 in intermediate tenures. However, we commented that, once you adopt a forecasting approach which takes account of dynamic interactions in the market, then it may not be necessary to build that much housing, overall or in the social tenures, because of certain 'virtuous circle' type effects associated with improved overall affordability. In a sense, the scenario just reported, where social housing output is at about 70,000 (but total new build around 350,000), is implicitly assuming some such effects.

We can and should, however, use the model to illustrate what would be expected to happen if we did push the level of social housing output up towards 100,000. Part of the way of doing that is to increase it across the board rather than in a targeted way. This scenario can also be used to illustrate another relevant output from the model, namely indicators of emerging problems of 'low demand' in some local housing markets. These may provide another line of argument about upper limits, apart from the obvious ones about 'viability' and financial feasibility.

At the end of the day, using an outcome-oriented approach, we need to consider which outcome(s) is/are paramount and whether there are any particular levels for those outcomes which can be argued to be 'the right' level. Such a question involves a mixture of logic, evidence and value judgement. It can be argued that a good key indicator to target in this context is the one shown at the bottom of Tables 5.2-5.5, which measures (change in) the chance of a household in need (and unable to afford market housing) being able to access social rented housing over the space of a year. We can see from Table 5.1 that baseline levels of this indicator are very low, particularly in London and the South. But how much higher is the ideal or right level?

We have examined data from the longitudinal survey UKHLS, where we observe households need status in successive years and whether they moved into social housing. These findings are summarised in Table 5.7. On average, in 2014-15, the probability of a household in need being rehoused in social housing was only about 5% (column 1). However, it turns out that there is a very high level of churn in the housing need population. 37% of those in need in the previous year were not in need in 2015, excluding those actually rehoused. People in housing need are often in circumstances of change and instability, but very often find solutions to their problem, at least for a period, without moving into social housing. Once you allow for that, the probability of rehousing for those who were in need *and remain in need* rises to 8%. You can also calculate from this information, allowing for further exits from the need cohort each year, that the average waiting time to rehousing would actually be 2.4 years.

Table 5.7: Rehousing probabilities and waiting times, comparing actual and notional cases

Cases	Prob'y Rehouse	Prob'y Exit	Waiting Time	Prob'y excl exits
Baseline	0.05	0.37	2.4	8%
Worst (GLA)	0.04	0.29	3.1	5%
Best (North)	0.08	0.41	2.1	14%
Double baseline	0.10	0.37	2.2	15%
Treble baseline	0.15	0.37	2.0	23%
Quadruple baseline	0.19	0.37	1.8	31%
5x baseline	0.24	0.37	1.6	38%
6x baseline	0.29	0.37	1.5	46%

Note: based on analysis of need and rehousing data across waves 6-7 of UKHLS

Successive rows of Table 5.7 show the worst (GLA) and best (North) regions in Britain in terms of rehousing prospects, ranging from 5% (3.1 year wait) in London to 14% (2.1 years) in the North. The following rows show the effects on these indicators of doubling, trebling, quadrupling etc. the probability of rehousing from the baseline average level. This is essentially what our high supply scenarios would do, firstly by increasing supply directly as new build first lets, secondly by increasing the stock of social housing and the base for re-lets, thirdly be easing affordability which will increase re-let rates as more tenants move out into the private sector, and fourthly by reducing the backlog need which is the denominator for the 'chances of rehousing'. Trebling the baseline is slightly better than the position in the currently most favoured region (the North), and roughly the scale of improvement offered by the scenarios just discussed across the country as a whole, on average. However, for the South the level of improvement is more like quadrupling, while for it is almost five times higher by 2041. So basically this is saying that these scenarios would offer effective chances of rehousing in the 20-30% range with a average time to rehousing rather below two years.

This kind of approach does not readily lead to a conclusion that a particular level of social housing supply is optimal. Nevertheless, this indicator is valuable for targeting greater interregional equity.

Another common-sense indicator is the 'net new affordable need' number, which substracts net re-lets from gross new household formation (and an allowance for migrant households) below the threshold for market affordability. If this is much larger than the new build programme, it tends to imply that backlog needs will rise, whereas if it is smaller then it is more likely that backlog will fall (although of course the backlog is also affected by other variables and is characterised by the high level of churn). If it is negative, it suggests there is less need for additional new provision and that the backlog is more likely to fall anyway. It is worth noting that this indicator was substantially negative in Scotland in 2016 and forecast to be a growing negative in

future years, one reason for caution about the need estimates for Scotland. Wales had a small negative in 2021, but otherwise for forward years all broad regions had positive figures in the baseline. The England total in the baseline is 63,000 in 2021 rising to 107,000 in 2031, orders of magnitude which are not inconsistent with the scenarios being explored (allowing for the fact that intermediate rent would be part of affordable supply). However, the figure quickly falls as supply is ramped up – all scenarios including social housing new supply exceeding 65,000 also show this indicator as at 2031 being significantly less than the new supply number, implying that the backlog should be being reduced.

Basically our approach is to refer to a range of indicators, of which two have been discussed in more detail here. Other important ones include AHC poverty, backlog housing needs, and of course core homelessness. An adequate supply of social housing should see significant falls in the former and very large reductions in the latter.

Table 5.8 shows the summary outcomes from a scenario designed to achieve 100,000 new social housing units in England as part of a programme of (rather over) 350,000 in total. In this scenario, for comparability, we keep in place the specific non-supply measures geared to reducing core homelessness, as described above, but the increased supply is essentially a proportional expansion on past levels and plans, rather than the targeted strategy.

Although this strategy would see an increase in household growth, the extent of this is less than in the previous targeted case. We interpret this as saying that, when supply is targeted on areas of greatest need/shortage, it releases more pent-up demand for household formation than when it is spread around including areas where there is less such pent-up demand.

On the key affordability impacts, this strategy has a somewhat bigger positive impact on average affordability to buy, but does much less to reduce regional inequality. However, the impact on rental affordability is slightly weaker and does rather less for regional inequality. For younger homeownership rates, the average impact is the same (small) but the inequality gets worse. For overall homeownership, and also for private renting, the outcome is slightly better (more social renting substituted for private renting).

Table 5.8: Key outcome differences in scenario of large increase in general housing with 100,000 social housing units (across board) plus key homelessness related measures, England 2016-31

SUMMARY OUTCOMES England			Difference in Change %	Change % in regional inequality
Baseline 28 March 2018	2016	2031	2016-31	2031
Total New Housebuilding	44.2%	56.0%	17.3%	
New Social Housebuilding	203.9%	259.1%	30.4%	
Number of Households	1.0%	4.9%	4.3%	
Household Growth	21.7%	42.8%	15.4%	
Affordability to Buy %	-1.7%	8.6%	9.3%	-48.3%
Affordability to Rent %	-0.5%	0.7%	1.2%	-27.0%
Owner Occ under 40 %	0.7%	0.2%	-0.4%	15.5%
Owner Occ all %	0.2%	-0.6%	-0.7%	4.5%
Private Rent all %	-0.7%	-1.6%	-1.1%	
Rel Poverty AHC %	-1.1%	-19.9%	-20.0%	2.4%
Financial Difficulties %	-0.5%	-13.2%	-13.7%	-5.9%
Concealed/sharing hhd %	3.3%	-5.0%	-8.8%	-48.7%
Backlog Housing Need	-1.8%	-18.5%	-19.3%	-30.2%
Wider homeless	-1.5%	-7.8%	-6.9%	
Core homeless	-1.7%	-55.0%	-71.0%	-37.2%
Annual net new need AH	-19.0%	-84.9%	-112.9%	
Chance of Rehousing %	37.6%	147.3%	71.5%	-44.1%
Low Demand Indicators	2016	2031	Change %	
HMAs Excess Vacancies (>6%)	50.0%	100.0%	650.0%	
HMAs High Re-lets (>6%)	6.3%	120.0%	100.4%	
HMAs Price< Cost	3.6%	0.0%	-0.1%	

Note: Overall planning numbers further increased beyond Table 5.8 across wider range of regions; with further enhanced social housing pro rata past levels and private completions, achieving 375,000 total completions by 2031 of which 101,000 are social rented and 30.000 LCHO. Social housing is distributed pro rata past levels and private completions without needs formula. This also includes the additional measures to reduce homelessness enumerated under Tables 5.5-5.6.

For the first three housing poverty/need indicators, the average outcome is slightly better but the regional inequality is worse. For the general backlog need and the homelessness indicators, the average outcome is a little bit less good and the regional inequality is worse. Annual net new need for affordable housing 'improves' but in fact tends to overshoot (i.e. the change is more than 100%). The chance of a household

in need being rehoused increases substantially more on average, but there is less reduction in regional inequality. So overall it is a mixed picture on needs, predominantly showing some gains on average but less reduction in regional inequality. On some indicators the level of improvement appears to be approaching a satiation level.

Three low demand indicators are considered (based on research by Bramley & Pawson 2002) – excess vacancies, excess re-let rates, and prices below replacement costs. The first two of these show a sharp increase at 2031, in terms of the numbers of housing market areas affected doubling (from 39 to 78 in terms of vacancies, and from 15 to 33 in terms of re-lets). The model generates additional demolitions as excess vacancies exceed a further threshold, and demolitions are shown in the model as rising rapidly after 2026. These indicators show clearly that supply is being pushed beyond a warrantable level in some areas in this scenario. This provides further confirmation that a more targeted strategy is appropriate.

It is tempting to suggest that if outcomes look relatively good in Table 5.6 with social housing output around 70,000, while outcomes with output raised to 100,000 across the board are not clearly better, with some evidence of overshoot and adverse effects in terms of low demand, then probably the optimal programme is going to involve targeting and a total number which could be somewhere in the range 70-90,000. We test this further by running a couple of such scenarios, reported in Tables 5.9 and 5.10. In Table 5.9 the social housing output is 85,000 (200% higher), with total new build at 360,000 (50% higher); overall planning numbers are boosted particularly in the South of England and social housing is targeted according to the needs formula, and the other homelessness reduction measures are included. Table 5.10 goes for a slightly higher number with somewhat less geographical targeting.

Table 5.9 shows modest or significant improvements over Table 5.6 in most of the poverty and housing needs measures, apart from annual net new need, considering both average levels and regional inequality. The average level of affordability is slightly less good while the attempt at regional equity is over-shot in this case. This suggests that there is a good case for pushing social housing output up to this level (85k), which may be close to the optimum, but that possibly slightly less geographical targeting would be appropriate.

Comparing Table 5.9 with Table 5.8 (the 100,000 untargeted scenario), there is a slightly less strong average performance on affordability and poverty, but generally the equity performance is markedly better. On housing needs, both average performance and equity are better in Table 5.9. So this also tends to suggest that the optimum is likely to be nearer 85k than 100k.

Table 5.9: Key outcome differences in scenario of relatively large increase in general housing with 85,000 social housing units, geographically targeted, plus key homelessness related measures, England 2016-31

SUMMARY OUTCOMES England 03-May-18	2016	2031	Difference In Change % 2016-31	Change % in regional inequality 2031
Total New Housebuilding	6.6%	50.4%	86.2%	
New Social Housebuilding	15.5%	201.4%	269.3%	
Number of Households	0.1%	4.3%	4.8%	
Household Growth	1.3%	51.2%	43.6%	
Affordability to Buy %	-0.2%	6.3%	5.7%	-166.5%
Affordability to Rent %	0.0%	1.0%	1.0%	-40.1%
Owner Occ under 40 %	0.1%	0.2%	0.1%	-1.6%
Owner Occ all %	0.0%	-1.2%	-1.2%	-0.4%
Private Rent all %	-0.1%	1.3%	1.7%	
Rel Poverty AHC %	-0.1%	-16.8%	-17.6%	-25.2%
Financial Difficulties %	0.0%	-11.5%	-12.3%	-26.8%
Concealed/sharing hhd %	0.3%	-8.3%	-9.3%	-77.7%
Backlog Housing Need	-0.1%	-26.9%	-30.4%	-85.2%
Wider homeless	-0.1%	-8.6%	-9.3%	
Core homeless	0.0%	-55.2%	-72.3%	-49.9%
Annual net new need AH	-0.2%	-64.5%	-89.4%	
Chance of Rehousing %	1.9%	99.7%	86.6%	-82.5%
Low Demand Indicators	2016	2031	Change %	
HMAs Excess Vacancies (>6%)	0.0%	69.2%	1350.0%	
HMAs High Re-lets (>6%)	7.1%	28.6%	20.0%	
HMAs Price< Cost	0.0%	100.0%	3.6%	

Note: Overall planning numbers as in Tables 5.4-5.5, including additional allocations to growth areas in Reading-Oxford-Milton Keynes-Cambridge and rest of South East, but less to London; with enhanced social housing pro rata past levels and private completions, achieving 361,000 total completions by 2031 of which 85,000 are social rented and 25,500 LCHO. Social housing is half distributed on basis of net affordable needs formula. This also includes the additional measures to reduce homelessness.

Table 5.10: Key outcome differences in scenario of relatively large increase in general housing with 91,000 social housing units, less strongly geographically targeted, plus key homelessness related measures, England 2016-31

SUMMARY OUTCOMES England 03-May-18	2016	2031	Difference in Change % 2016-31	Change % in regional inequality 2031
Total New Housebuilding	8.1%	42.9%	67.5%	
New Social Housebuilding	37.1%	222.8%	226.5%	
Number of Households	0.2%	2.3%	2.4%	
Household Growth	3.7%	25.3%	18.5%	
Affordability to Buy %	-0.5%	4.8%	4.8%	-67.2%
Affordability to Rent %	-0.1%	0.3%	0.4%	-29.3%
Owner Occ under 40 %	0.9%	0.6%	-0.3%	-3.5%
Owner Occ all %	0.2%	-1.2%	-1.2%	-1.2%
Private Rent all %	-0.3%	-0.2%	0.1%	
Rel Poverty AHC %	-0.3%	-18.6%	-19.2%	-4.8%
Financial Difficulties %	-0.2%	-11.3%	-12.0%	-7.4%
Concealed/sharing hhd %	1.1%	-10.3%	-12.2%	-64.1%
Backlog Housing Need	-0.3%	-24.4%	-27.3%	-50.3%
Wider homeless	-0.2%	-8.3%	-8.8%	
Core homeless	-0.2%	-55.5%	-72.5%	-42.0%
Annual net new need AH	-3.2%	-56.7%	-76.6%	
Chance of Rehousing %	8.4%	118.4%	91.6%	-59.7%
Low Demand Indicators	2016	2031	Change %	
HMAs Excess Vacancies (>6%)	0.0%	87.2%	1700.0%	
HMAs High Re-lets (>6%)	7.1%	42.9%	33.3%	
HMAs Price< Cost	1.8%	0.0%	-0.1%	

Note: Overall planning numbers based on broader regional spread including additional allocations to growth areas in Reading-Oxford-Milton Keynes-Cambridge and rest of South East, but less to London; with enhanced social housing pro rata private completions and less strongly linked to needs formula, achieving 343,000 total completions by 2031 of which,

91,000 are social rented and 27,300 LCHO. This also includes the additional measures to reduce homelessness.

The final scenario considered is shown in Table 5.10, characterised as slightly higher total numbers with slightly less geographical targeting. . Compared to Table 5.9, this scenario (Table 5.10) produces somewhat lower affordability gains, but more generally achieves similar or better average achievements, but with some reduction in the extent to which regional inequality is narrowed. Compared with Table 5.8, most of the indicators are better or similar. This generally reinforces the view that the optimal level of social housing supply for England lies in the range 85-90,000.

To sum up, we have found that, alongside a generous overall housing supply (c. 340-350k), increasing social housing supply, with a degree of targeting towards areas of greatest need, generally leads to better outcomes as this level rises to around 85-90k for England. Increasing beyond this level produces some evidence of overshooting, some less favourable outcomes and in particular, a rapid escalation and spread of low demand problems. An overview of the key numbers associated with each scenario is provided in Table 5.15 below.

We expected to find that increased overall supply would ease affordability and somewhat reduce the need for social rented housing, compared with that shown in static projection in Table 4.13. This does seem to be the case, on balance, but the extent of the reduction in requirements for social housing is not that great, primarily because of the extent of suppressed household formation which will be released by the enhanced supply. This tends to unwind particularly in the 10-15 year horizon used here.

Further work reported in Chapter 6, takes account of land development capacity and finer-tuning adjustments at local authority and HMA levels. While this does suggest upper limits on supply in some areas, to a large extent these constraints may be offset by greater development in adjacent, less constrained areas.

5.7 Wales and Scotland

The conduct of the analysis using the SRHMM model to examine the outcomes associated with different housing provision strategies has been primarily developed, tuned and reported with a focus on England. There are several reasons for this: Firstly, England is a distinct policy entity and much discussion debate and media coverage refers to England, including discussion of housing numbers. People are more familiar with the English numbers than with the total GB numbers. Secondly, England not only accounts for the large majority of population and households but it also clearly has the heaviest concentration of housing need and affordability problems. Thirdly, data and systems are somewhat different in the different countries of the UK and it is difficult and time-consuming to put these all onto a strictly comparable basis – nevertheless we have attempted to do this.

So this study does have a GB-wide focus, and certainly in the previous chapter (4) we carried out an analysis covering all GB countries, making particular use of a valuable UK-wide dataset (UKHLS). The SRHMM does include all countries of the UK, broken down into housing market areas, and so the analyses conducted of different scenarios and their outcomes has also run for Wales and Scotland. However, it makes sense to discuss the results separately in the particular context of those countries, and to consider varying policy parameters differently in the modelling to reflect those contexts.

Part of the context of devolved policy in Wales and Scotland is that the respective administrations have set particular policy targets, and there have also been periodic studies of housing needs and requirements for these countries.

In Wales, and *Housing Supply Taskforce* report of 2015 suggested an increased private completions target of 5,700 for the immediate period together with an affordable homes target of around 2,200 pa making a total of 7,900. In 2016 the achieved completions were 5,410 private and 1,210 housing association making 6,620 total, implying a particular shortfall on the affordable side. These numbers are below the household growth projection of 8,400, itself reduced from previous projections[23].

The Scottish Government has set a target for the five year parliamentary term 2016-21 of providing 50,000 affordable housing units of which 35,000 should be for social rent, implying an annual programme of 7,000 social rent and 3,000 intermediate affordable housing. It is claimed that it is on target to achieve delivery of these numbers. Its overall planning target for total new build is unclear, although some years ago it was aspiring to see total new build rates of 35,000 pa, compared with the pre-recession typical level of 20-25,000. However, it appears to be significantly short of achieving this; for example it was only achieving 15,500 in period around 2014-15.

A relatively recent joint study by Sheffield Hallam University and others (2015) concluded that there was a need over the 5-year term for 12,000 affordable homes per year, partly in reflection of the underperformance of and prospects for market-led development. However, this represents an unusually high proportion of the overall total housing requirement for Scotland in that period of 18,700 units per year (based on household projections), although that report also argued that this number should be higher due to replacement requirements. There are probably several reasons for the relatively high affordable need figure in this study, compared with numbers emerging from our own work, including the build-up of national from local numbers (e.g. accepting some local estimates of backlog, and setting surpluses to zero) and other detailed assumptions.

For reasons given at the beginning of this section, and given the phasing of different elements of work within this project subject to a tight timescale, we have not been able to do as much exhaustive testing of scenarios for Wales and Scotland, partly due to

[23] Stephens et al (2018) UK Housing Review, pp49-49 and 116

the need to check and update certain input data. However, by making use of information on recent reviews and targets in each country, our own static projection, and selected outputs from the SRHMM dynamic simulations, we can present a picture of a range of possibilities. Within that, we go on to make provisional suggestions for appropriate orders of magnitude for the key numbers in Wales and Scotland, in the light of the outcome findings from the dynamic modelling and other considerations. Table 5.11 summarises this exercise.

The top block shows for comparison a couple of key sets of numbers for England, the output of the static projection (Table 4.13) and the numbers within the last scenario tested (Table 5.10), which may be regarded as the most generous or bullish in terms of overall affordable housing numbers, and a compromise between strong geographical targeting and a somewhat broader spread of investment.

For each of Wales and Scotland a block of figures are provided, starting with numbers which we currently understand to constitute targets, recent actual numbers, the 'Static' projection results from Table 4.13, two representative dynamic scenarios, and a suggested compromise value having regard to all of the above and to particular outcome indicator evidence from the scenarios. Table 5.6 was the first of the series of scenarios which could be claimed to represent reasonable, targeted needs-based approach but with a more cautious overall level of social housing provision (70,000 for England). Table 5.10 is as characterised above and includes much more generous overall and social provision for Wales, as suggested by the outcomes analysis. For Scotland, the two dynamic scenarios are more similar, for reasons which will become clearer.

Table 5.11: Comparison of Selected Target Numbers by Tenure and Country, 2016-31.

Country	Basis for targets	Total Dwellings	Private Sector	Social Rent	Shared Own'shp	Intermed Rent	All Affordable
England total	Table 4.13, 'Static proj'	337,513	185,590	97,435	22,472	32,016	151,924
	Table 5.10 broader	343,000	194,798	91,000	27,300	29,902	148,202
Wales	Govt targets	9,700	5,700	2,600	1,400		4,000
	Actual	7,810	5,410	1,600	400	400	2,500
	Table 4.13, 'Static proj'	12,951	6,184	4,514	848	1,405	6,767
	Table 5.6, targeted	12,232	8,929	1,838	551	914	3,303
	Table 5.10, broader	18,064	9,954	4,513	1,354	2,243	8,110
	Suggested	14,000	7,500	4,000	1,000	1,500	6,500
Scotland	Govt Targets	18,700	8,700	7,000	1,500	1,500	10,000
	Actual	16,498	12,576	3,920	1,860	890	6,670
	Table 4.13, 'Static proj'	22,304	11,296	5,088	3,086	2,834	11,008
	Table 5.6, targeted	36,016	25,506	6,671	2,001	1,838	10,510
	Table 5.10, broader	34,367	23,192	7,093	2,128	1,954	11,175
	Suggested	26,000	16,000	5,500	2,500	2,000	10,000
GB Total	Eng T.5.10 + 'Suggested'	383,000	218,298	100,500	30,800	33,402	164,702

Sources: Actuals and targets: Stephens et al (2018) UK Housing Review 2018; Welsh and Scottish Government Websites.

For Wales, a key observation is that the 2015 Housing Task Force targets looked pretty modest, and not very ambitious relative to the rather subdued actual performance. However, the Welsh government have adopted more ambitious targets since then and affordable housing output is rising. It is not quite clear whether there is an overall housing target – the figure shown combines that from the HTF for the private sector with the more recent affordable targets, and is slightly above the household projection number (8,400 to 2024). Our static projection suggested a markedly higher figure for total new housing, with most of the increase being in the social and affordable sectors (it is not clear how much if any intermediate affordable housing is currently provided in Wales). In the Table 5.6 scenario, the social rented and affordable contributions fall well short of that, although somewhat exceeding recent actuals. Table 5.10 is pretty close to the static projection on social housing but exceeding it on intermediate and private sector output and hence on overall numbers.

What do the forecast outcome indicators tell us about the choice of strategy here? Table provides a summary comparison.

Table 5.12: Comparison of key outcomes between two scenarios for England, Scotland and Wales, 2031

Outcome percent diff by 2031	England T.5.6	England T.5.10	Wales T.5.6	Wales T.5.10	Scotland T.5.6	Scotland T.5.10
Total new build	48	43	16	79	15	13
New social	151	223	65	377	48	79
Affordability to Buy	6.9	4.8	3.4	13.5	2.4	1.4
Affordability to Rent	1.3	0.3	1.2	4.8	1.3	1.1
Rel Poverty AHC	-16	-19	-16	-18	-16	-18
Financial Difficulties	-12	-11	-8	-11	-8	-11
Concealed/sharing	-4	-10	3	-1	1	-2
Backlog Need	-20	-24	-1	-10	-3	-8
Wider Homeless	-8	-8	-2	-3	-1	-3
Core Homeless	-57	-55	-11	-33	-19	-23
Annual Net Need	-59	-57	-96	-404	9	13
Chance of Rehousing	78	118	8	77	13	25

Note: Numbers are percent change by 2031 under two scenarios, as summarized (for England) in Tables 5.6 and 5.10

While as noted above the choice between the two scenarios is quite finely balanced in England, and this is also true for Scotland, the differences are much more marked for Wales, where the differences in both total and social output are much greater. For Wales, the T.5.10 scenario is much more favourable in its outcomes, and often relatively comparable or in some cases better than in England. Improvements in affordability are notable, and performance is good on poverty and homelessness and on chances of rehousing. However, the annual net need indicator figure shows that there is an overshoot here. Overall, this evidence suggests that the targets should tend towards the second scenario, but perhaps not going quite so far because of the risks of low demand, of which there is some evidence in Wales (even in T5.6 there are excess vacancies in one of four Welsh HMAs, and excess re-let turnover in 3 out of 4). The suggested total housing number goes only part way towards the high scenario, for this reason, but the social housing number goes most of the way towards it. We also suggest higher levels of shared ownership and (particularly) intermediate rent.

For Scotland, the scenarios are much closer, the main difference being in the level of social rent supply. There are some improvements in some outcomes relating to housing needs, but these are relatively modest. The absolute level of some outcomes for Scotland suggest that social housing supply may be enough, providing a higher level of access than any other part of GB. We have already drawn attention to the unusually large negative figure for ‘net annual new need’, running at or above 20,000

per year, and the fact that the 'chances of rehousing' are already well above levels in any other region, at around 33%. More broadly, the indicators for low demand suggest that this is expected to be more prevalent in Scotland; excess vacancies affecting 3 out of 8 HMAs, excess re-lets turnover affecting 5, and house prices below replacement cost affecting one in 2031. These are the reasons why our suggested targets for Scotland are rather lower than those suggested in these high supply scenarios, and rather lower in some respects than targets set by the Scottish Government. We suggest total dwelling numbers in the mid-20,000s rather than around 35,000, and social rent provision around 5,500 rather than the 7,000 adopted by the SG (and reflected in T5.10). However, on a more positive note, we see greater scope for shared ownership/equity and intermediate rent in Scotland. Allowing for this our suggested total affordable number for Scotland is the same as the SG figure of 10,000.

5.8 Meeting the needs of homeless households

One of the aims of this project is to place homeless households clearly in the wider picture of housing needs, and to quantify the numbers experiencing different forms of homelessness, particularly core homelessness alongside data on housing supply in general and specifically supply going to lower income households and households in housing need. Because the functions developed to forecast different elements of core and wider homelessness in the 'Homelessness Projections' project (Bramley 2016 and forthcoming) are embedded within the Sub-regional Housing Market Model (SRHMM) used as the platform for modelling housing requirements in this study, we are able to generate estimates of the key numbers consistent with the preferred scenario as just reported. Within that other project, estimates were developed, informed by various sources, of the durations of different types of homelessness episodes, and also of the overlap between different types of homelessness (e.g. rough sleepers who also used hostels), from which we can estimate the average ratio of 'flow' (number of unique new cases per year) to 'stock' (number at a point in time)[24].

Key flow numbers for core homelessness are shown in Table 5.9 for Great Britain and for England (these numbers can also be produced for lower level geographies). These numbers reflect the positive combined impact of new social housing supply, improved overall affordability, and the range of other preventative measures also included in the package. All of the numbers show significant reduction between these two points in time, although to varying degrees – for example sofa surfing declines less than rough sleeping or unsuitable TA.

[24] These sources include recent study of 'Destitution in the UK' for JRF, which documents frequency of use of different services by groups including rough sleepers and hostel users. The estimates of the flow:stock ratio allow for both duration of episode and double counting between different services. However, they are treated as constant by category of homelessness and over time.

Table 5.13: Number of New Core Homeless Cases per year under Scenario of High, targeted social and total housing output plus other homeless reduction measures, 2016 and 2031

Flow Estimates *Great Britain*	2016	2031
Rough sleepers	22,466	13,402
Hostels	157,689	92,688
Unsuitable temp accom	4,049	1,641
Sofa surfing	60,720	44,943
Tents, cars, p t	13,544	7,976
Squatting & nonres accom	17,173	10,931
Shelters, refuges	18,003	10,550
Total	293,644	182,131

Flow Estimates *England*	2016	2031
Rough sleepers	19,824	10,908
Hostels	144,542	84,704
Unsuitable temp accom	3,546	1,117
Sofa surfing	53,643	36,551
Tents, cars, p t	12,194	6,710
Squatting & nonres accom	15,775	9,359
Shelters, refuges	18,003	10,550
Total	267,528	159,898

Note: Scenario as summarised in Table 5.8 above

The numbers in Table 5.13 are indicative of the level of demand for services, support and advice, as well as housing itself, generated by these groups. For core homeless (most of whom are single) many of these services are provided by voluntary organisations, although in Scotland the local authorities perform a more comprehensive role. Some will be rehoused into social housing (more in Scotland), others will be supported into private tenancies, while others again may find other solutions or drop out of the process for differing reasons.

In 2016 in England, around 59,000 households were accepted as homeless (inflow to statutory system), while about 26,000 were rehoused by social landlords. This number is only about one-tenth of the flow estimate of core homelessness given in Table 5.13.

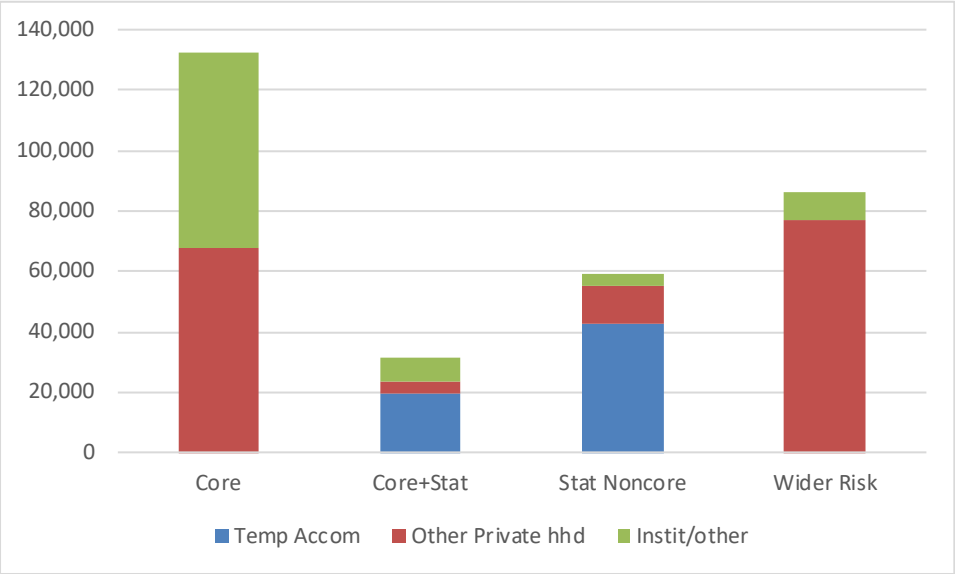
The total core homeless flow of 267,500 in England in 2016 compares with an estimated number of social lettings to new tenants of only 174,000[25], which helps to underline the point that, with the best will in the world, it would be impossible for local authorities and their social landlord partners to directly rehouse all of the single homeless at present. By 2031, given this proactive scenario, the balance would have

[25] Stephens et al (2018) *2018 UK Housing Review,* pp.221-224.

changed, with 274,000 lettings to new tenants alongside a flow of new core homeless cases of 160,000. The balance is already more favourable in the rest of the UK, where there are 80,000 lettings confronting 26,000 core homeless flow, so enabling administrations in Scotland particularly to follow a more inclusive policy.

The discussion above is focussed on core homelessness, but for policy implementation and service delivery purposes it is necessary also to consider the ‘statutory’ homeless and others at immediate risk of falling into homelessness within a year. In the parallel research on Homeless Projections we have examined this relationship, which can be summarised as in the Figure 5.1. The size of the bars represents the numerical size of the relevant parts of the ‘stock’ of homelessness at a point in time, while the colours represent the main types of accommodation occupied.

Figure 5.1: Analysis of Snapshot Homeless Stock showing relationship between core homelessness, statutory homelessness and others at risk of homelessness (core or statutory) within one year, Great Britain 2016



	Stock Breakdown			
	Core	Core+Stat	Stat Noncore	Wider Risk
Temp Accom	0	19,300	42,400	0
Other Private hhd	67,900	4,000	13,000	77,316
Instit/other	64,300	8,000	4,000	8,918

Source: authors' analysis in Homeless projections report (forthcoming)

The first bar shows the larger part of core homelessness, who are not recognised in the statutory system (particularly in England); this group are roughly equally divided between private households (i.e. sofa surfing) and institutional/other accommodation. The second bar shows the smaller part of core homelessness which is recognised, particularly those in 'unsuitable' temporary accommodation, refuges, etc. The third bar shows a somewhat larger group who are statutorily homeless but are not in our core category; the main part here are those in temporary accommodation which is adequate, plus some people who are 'homeless at home' (accepted as homeless or at imminent risk but still remaining in their previous accommodation). Finally, the fourth bar shows the subset of our wider 'at risk of homelessness' population (concealed and sharing households, exiting private renters, ex institutional, unsupported TA and temporary dwellings) who may be expected to become homeless (core or statutory) within the next year. In other words it is a quantification of the risk they face (5-6% for concealed or sharing, up to 22% for the identified sub-group of exiting private renters). Most of these people (other than ex-institutional) are in the private household population.

Clearly, with the implementation of the Homelessness Reduction Act in England, it may be expected that there will be a significant change in the balance of Local

Authority activity in response to homelessness, with more prevention and relief activity with the non-statutory core group, as has already been observed in Wales. This is consistent to a degree with the scenario reported in Table 5.9, which assumed 'maximum prevention activity' by all local authorities.

Concern has been expressed that, given the total volumes of recent and expected core and statutory homelessness, particularly in England, there might still not be enough social rented lettings to meet the needs of this group as well as other new households with needs and unable to afford market accommodation. Table 5.14 looks at the relationship between the estimated annual flow of core homeless and the forecast number of social rented lettings by broad region/country over time, under one of our more generous supply scenarios.

Table 5.14: Core homeless annual flow of cases as percentage of social rented lettings under high supply scenario by broad region and year

Broad Region and Country	2016	2021	2026	2031	2041
North	91%	113%	77%	79%	70%
Midlands	111%	104%	68%	63%	50%
South	301%	131%	68%	50%	36%
G London +	804%	165%	93%	55%	48%
Wales	48%	63%	42%	51%	37%
Scotland	42%	37%	34%	30%	23%
England	194%	138%	84%	70%	56%
GB	142%	104%	70%	60%	47%

Note: Supply scenario as in Table 5.10 above.

The table confirms that the position is very adverse in 2016; only in Wales, Scotland, and potentially the North, are there enough lettings to house the core homeless. Things do not improve a lot by 2021, except in London. However, by 2026 additional supply and lettings combine with forecast fall in numbers (also affected by more favourable welfare, prevention and other measures) to bring all of the numbers below 100% and the GB average to 70%. There is a further improvement to 2031, by which time the GB average is 60%, and indeed the London figure has fallen below that at 55%. Indeed, the fact that London and the South now fall below the north is indicative that, as suggested earlier, this scenario is slightly overshooting in terms of regional rebalancing. The figures for Scotland provide further confirmation of our cautionary stance on the total scale of social rented housing need in that country.

It should be emphasized, however, that the figures in this table are not a simple prediction of the actual proportion of social lets which will go to core homeless households There are reasons why a social rented letting may not be the most appropriate solution for some homeless people, why some would not choose this or

would be likely to move into some other tenure, or to live with other people, in some cases reflecting changing circumstances or other support needs.

It is worth at this point reflecting on the experience in Scotland over recent years. This suggests that, if you have a system with relatively generous supply and generous homelessness legislation, then you find that only about three-fifths (61%) of homeless households entering the statutory system end up being rehoused in social rented sector. Like the broader group of households 'in need', there is considerable 'churn' within the group experiencing homelessness, with circumstances often changing over relatively short time periods. If you applied that ratio (61%) to the numbers in Table 5.14 you would find that the proportions of new lettings going to homeless look more manageable from 2026 onwards (43% in 2026, 37% in 2031). Strictly, it is necessary to add back in to the core homeless numbers a proportion of non-overlapping statutory homeless (some of those going into 'adequate' temporary accommodation or directly into social housing) but we do not have a precise estimate of this number (it would be the flow equivalent of the non-overlapping part of the third column in Figure 5.1 above).

A further question which this analysis of homelessness rehousing requirements suggests is whether this level of commitment of social letting resources to homeless households would leave enough margin to house other lower income newly forming households or household experiencing existing needs. While it is fair to ask about the situation facing other new households, it should be remembered that (a) a lot of the homeless are also new households (b) the proportion of new households unable to afford market housing would be significantly less than in 2016, because of the improved affordability; (c) they would also have access to intermediate tenures which would be in significant supply- and indeed some homeless households could be rehoused in intermediate rent lettings as well.

5.9 Interim conclusions on projections and outcomes

We have in this draft chapter provided the first higher-level version of an outcome oriented approach to assessing requirements for general and social/affordable housing over a medium-longer time horizon, based on a behavioural model of the housing market which operates at sub-regional level. This exercise has been successful in several respects. Firstly, at the most basic level it has been possible to identify, generate and tabulate a reasonable bundle of 20 outcome measures. Secondly, it has been possible to run a number of scenarios and review the impacts on these outcomes, which have mainly been in line with expectations. Thirdly we have demonstrated, through successively adding elements to the scenarios, that certain conclusions can be drawn, regarding planning targets, the role of social housing, and the role of certain non-housing policies in influencing housing need outcomes.

In more substantive terms, it is clear that a major increase in planned housing numbers is needed to generate a meaningful increase in supply of new general/private housing, although innovations in the development process might increase the rate of delivery

from given planned numbers. The favoured scenarios examined involve total new housing supply of around 340,000 in England or 380,000 across GB. (Table 5.15 below provides a summary of the scenarios in numerical terms). It is also clear that this increase should be skewed towards regions where the pressures are greatest, which is currently London and the South, although the exact optimal balance between within-London, near-to-London and the 'Greater South East' is an issue for more careful consideration. With those provisos, we can demonstrate that an increase in general housing supply would help to improve a range of outcomes in housing affordability and housing need.

It is further clear that a very substantial increase in social housing supply, increasing its level to somewhere in the range of 85-90,000 units p a in England, or around 100,000 for UK, is justified to make further progress in meeting needs and levelling the inequalities in access to decent housing, including meeting targets to greatly reduce and resolve core and statutory homelessness. This should also be targeted more to areas of pressure. The requirement for a further 50-55,000 intermediate affordable housing in England (67-62,000 for GB), as identified in Section 4, would be an appropriate addition to that and is reflected in the scenario modelling. This would include similar numbers of low cost home ownership, such as shared equity, and intermediate rental products. Beyond this, to reduce core homelessness substantially, additional measures both within housing policy (e.g. full application of prevention measures, housing first) and beyond housing policy (limiting or possibly reversing some welfare reforms/cuts, particularly in relation to the LHA freeze; crime prevention and reduction) are needed.

These targets for social and intermediate affordable housing are set within scenarios which see total housing supply rise to around 340,000 (c. 380,000 for GB), again as suggested by the static model in Chapter 4. However, some outcome indicators, particularly those around the dangers of low demand, suggest that these high supply scenarios are beginning to create unhelpful outcomes in some localities, with the number of such localities increasing. The analysis so far has not, however factored in feasibility constraints relating physical land capacity, or to affordable housing contributions or other resource issues. The former of these issues is incorporated in the local level analysis in Chapter 6.

We have examined the particular situation of and targets for Wales and Scotland specifically, as well as the broad regional pattern across England. In sum, our findings suggest that England requires more ambitious targets across the board, that Wales would benefit from more investment in affordable housing and its recently enhanced targets are not unreasonable. For Scotland, we have some more nuanced findings, suggesting that care should be exercised about the total housing volume target in view of issues of low demand and housing surplus in some areas, and that the balance of the affordable supply programme should probably be shifted somewhat from social renting to intermediate tenures.

The inadequacy of orthodox household projections as a fixed base for determining future housing requirements is exposed by the modelling scenarios. On the medium term timescale which we have focused on, there is a strong feedback from additional supply to additional household formation and (more locally) migration, so household growth is very much a moving target. In our 'static' projection we made the (somewhat conservative) estimate that the extent of suppressed household formation was of the order of 69,000 p.a. for England. This largely borne out by the dynamic model, which shows household growth increasing by around 50,000 p.a. in the period to 2031 in response to the generous supply scenario and associated improvement in affordability.

While more fine-grained work on the spatial strategy is needed, it appears that there may be greater benefits overall from boosting supply in the South East and East regions to take some of the pressure off London. However, it should also be pointed out that we have not yet run any scenarios involving changing the spatial configuration of economic growth across the UK, although certain policies (Industrial Strategy, City-region devolution) appear to be geared to changing this. These are addressed through one variant scenario examined in Chapter 7 (section 7.3).

It appears that some outcome targets are difficult to shift at all, from the runs of the model reported so far. This is most obviously true of the tenure target of increasing the share home ownership, overall or more particularly for the younger population[26]. Such a target is likely to be politically salient, even though it does not fall under the rubric of 'housing need'. It should be underlined that the projection does not imply no increase in the absolute number of home owners, overall or in the younger population; only that their share of the total does not increase significantly[27]. We need to examine more closely whether it is a shortcoming of our model or of reality which accounts for this obstinate fact. There are also additional policy instruments which might be considered, including private rental regulation or tax changes.

[26] In simple terms a 20,000 p a programme of shared ownership would add 1.6% points to owner occupation by 2031, if it were targeted to be 'additional'.

[27] The higher supply scenarios examined do indicate an increase in the absolute number of home owners in GB of the order of 1.3 m by 2031.

Table 5.15: Summary of Scenarios

Characterisation of Scenario	**Annual Numbers for England** (thousands per year)					**Homelessness Outcome** (% change from baseline at 2031)	
(Table reference no.)	**Total**	**Private**	**SR**	**SO/LCHO**	**IR**	**Wider**	**Core**
4.13. Static Projection	338	186	97	22	32	NA	NA
5.1 Dynamic Baseline Scenario	240	180	28	16	16	0.0% (8.5% above 2016)	0.0% (31% above 2016)
5.2 MHCLG supply target	303	231	34	19	19	-2.2%	-19.4%
5.3 MHCLG supply with 'double' social	347	242	65	20	20	-4.1%	-24.3%
5.4 South East focus	344	239	65	20	20	-4.7%	-21.2%
5.5 South East focus and max mitigation	344	239	65	20	20	-7.3%	-57.0%
5.6 South East focus, max mitig, enhanced SR need-targeted	354	241	71	21	21	-7.9%	-57.0%
5.8 High social, wider regional spread, max mitigation	375	214	101	30	30	-7.8%	-55.0%
5.9 South East focus, max mitig, fairly high SR, need-targeted	361	224	85	26	26	-8.6%	-55.2%
5.10 Less strong regional targeting, max mitig, high SR, partially need targeted	343	198	91	27	27	-8.3%	-55.5%

CHAPTER 6

SUB-REGIONAL LEVEL ANALYSIS

6.1 Introduction

The analysis so far has been largely conducted, and exclusively presented, at the geographical scale of broad regions of England and the countries of Great Britain. What we have termed the 'dynamic model', which makes scenario forecasts and looks at their outcomes, in fact works at a sub-regional level, using a set of 114 geographical 'Housing Market Areas' (HMA) as its analytical units, but we have not as yet reported detailed results at that level. The focus on broad regions also fits with the fact that we have made heavy use, particularly in the so-called 'Static Model', of data from a large-scale household longitudinal survey, *Understanding Society* (UKHLS). Such a survey, being based on a sample, is not robust as a source which can be used directly at either HMA or Local Authority level, by which we mean District/Borough or Unitary Authority, LAD for short. There are 326 such authorities in England and 380 in total across GB.

It is important to take the analysis to the local authority level, because it is at this level that key decisions are made, in both planning and housing delivery systems, and it is from local authority level data that regional figures can be built up. There are marked differences in the physical planning constraints on new housing supply at this level. Furthermore, other agencies including housebuilding development companies and Registered Providers need to see where they should be focusing their efforts.

In taking the analysis to the local authority level, there are broadly two key challenges:

- Finding and utilising data at local level which can at least approximately replicate the key variables needed to estimate housing needs at this lower geographic scale;
- Adapting models developed at a higher level to operate at this scale, and/or appropriating other models which are based at the local authority level to answer the key research questions.

There is a great deal of data available at local authority level, much of it highly relevant, including housing market data, demographic data, labour market data, social indicators, planning and housing data. There are some limitations, for example that Census is only available once every ten years (the last in 2011), that some annual data is subject to sampling error, that there is no official household income data at this level (although we have models to estimate this). A more general limitation is that, in contrast with the use of UKHLS at broad region level, we cannot look in a flexible way at the combination of housing circumstances of particular types of household, for example the number and profile of households who currently live in tenure X but can only afford tenure Y. Such numbers would have to be estimated indirectly.

The adaptation of models raises various challenges, and this is particularly so for what we have hitherto termed the 'static' model, because of this issue just mentioned. The 'dynamic model' is more adaptable, at the cost of adding large extra blocks of data/variables to the spreadsheet on which this runs. It is already disaggregated to HMAs, which are based on combinations of local authorities[28], and a high proportion of the variables in the model are derived from base data compiled at LAD level, so that disaggregation back to that level is possible. As a matter of principle, it is assumed that the housing market interaction/resolution processes happen primarily at the HMA level, so it would not be appropriate to simply run the model on LAD units. But we can use the predictions of the model at HMA level to derive consistent forecast changes for the constituent LADs. These may be simply equal proportionate changes for each LAD within each HMA, but in key instances we utilise slightly more subtle composite functions to forecast these changes. There are also arguments for considering planning targets at the HMA level, and recognising trade-offs between LADs within those, as under the 'Duty to Cooperate'.

After due consideration of these factors, it was decided to bring another model into exercise at the LAD level, to complement the two modelling approaches already in play. This model is the 'affordability-based local housing needs model' (ABLHNM) developed by the author in the 1990s and used in a range of national and local studies in the 2000s (Bramley & Pawson 2002, Barker 2004, Bramley & Karley 2005, Wilcox & Bramley 2010). This model informed guidance developed for local authorities on how they should assess housing need in 2000 and later (DCLG 2007, 2014). The reasons for using this model as well as the existing two approaches, may be summarised in this way:

1. Practitioners may have more familiarity with this model;
2. It is directly designed to be derived from a limited range of data sources at local level and follows a simple, comprehensible formula which can be replicated with variant assumptions (and which cannot so easily be criticised as a 'black box');
3. While the 'static' model can be made to work at LAD level, the process of estimating down from the higher regional level leads to a substantial degree of averaging and loss of local specificity; as such it is less able to discriminate between places which really do need *additional* investment in social /affordable housing from those which have needs which can be met from existing stock.

In fact we have already used a version of this model to provide a needs indicator to 'seed' initial values for some the simulations reported in Chapter 5. However, in this chapter we deploy a revised and updated version of this model as a key part of estimating local housing requirements, particularly for social rented housing. For the

[28] 'Whole' local authorities, on pre-2009 boundaries; the introduction of additional unitary authorities at that time led to some cases where a single LA may be partly in several HMAs, particularly Wiltshire, Durham, Northumberland, Cheshire.

remainder of this report, we refer to this affordability-based local housing needs model as ‘Model 1’, while we refer to the local version of the Static Model as ‘Model 2’, so that the dynamic forecasting model becomes ‘Model 3’.

While the main emphasis in this analysis is upon the need for extra housing of different kinds, it also recognises that in reality there will be constraints on the ability of some local authorities to deliver the enhanced levels of housebuilding output which this study suggests are necessary. Although available data are patchy and somewhat dated, we do try to factor in the likely impact of physical/environmental and planning constraints on the ability of some local authorities to actually achieve target levels of new housebuilding based on need. In the case of London these constraints are region-wide, whereas elsewhere they are specific to individual authorities. There are two reasons for doing this:

- To try to ensure that the numbers have a degree of credibility with policy-makers and practitioners;
- ‘no local authority is an island’ and neighbouring authorities have a ‘duty to cooperate’, so that for example adjacent authorities in the same HMA should pay attention to the HMA-wide need situation as well as the LAD-level numbers, and also the constraints which may affect neighbouring authorities.

It is the wish of the clients of this research that the results should distinguish between ‘needs’ as calculated without the imposition of such capacity constraints, and a second stage of need-based targets modified to recognise such constraints while compensating for them elsewhere in the system. We therefore calculate the local level need figures before and after imposition of constraints. However, both sets of figures add up to the same totals, which are based on analyses in Chapters 4 and 5.

This chapter proceeds by firstly describe the modelling approaches in rather more detail, showing the steps in the analysis and highlighting key assumptions. It then presents and comments upon the local level implications of the central scenario underpinning the key national recommendations presented in Chapter 5 above. These implications include reporting on local level patterns in key outcomes including affordability, housing-related poverty, backlog needs, rehousing prospects for those in need, and supply adequacy to tackle core homelessness. Some consideration is given to how far a further ‘fine-tuning’ of the targets might lead to further overall gains across key outcomes.

The final substantive chapter, which follows, subjects this set of estimates and forecasts to a range of sensitivity tests. These examine how far the forecast outcomes would be changed by different assumptions about future trends and changes in demographics, the economy, regional development, inequality, welfare policies and other factors. The main purpose of these ‘what if’ exercises is to establish how robust our central estimates are, and whether there are significant risks of outcomes being less favourable than shown in our central forecast.

6.2 The modelling step-by-step

Three models in outline

For reasons outlined in the preceding section, local level analysis derives from three analytically distinct models, although in practice significant elements within these models may be common across two or more of the differing model frameworks.

Model 1: is the 'Affordability-based local housing needs model' derived from the work of Bramley et al (2002, 2005, 2006). This uses local authority level data sources to estimate the annual need for additional social rented and affordable housing units, generally as a snapshot at a point in time. It does not independently assess the overall requirement for total new housing provision but may share estimates of this with other models. Similarly, application to future points in time will require forecasts of change in key variables like house prices and incomes, which may be imported from another model such as our 'dynamic' sub-regional model 3 – however, in this application we mainly use base period estimates for 2015.

Model 2 is what is termed in Chapter 4 the 'Static model', which entails adjusting demographic household projections and 're-allocating' households between tenures on the basis of affordability norms. The direct estimation of these reallocations can only be performed at a broad regional level using data directly derived from UKHLS. Therefore it is necessary to go through an indirect estimation process to get down from the national to the local level, using information or estimates available at the local level on (a) tenure shares and (b) affordability profiles of younger households. These affordability profiles, based on market prices/rents and 'modelled' household income distributions, are effectively shared with Model 1. Some of the demographic numbers, particularly estimates of gross new household formation, may also be shared with Model 1.

Model 3 is what has been termed in this report the 'dynamic model', namely an econometrically-based sub-regional housing market model (SRHMM) designed to forecast outcomes of the housing system in annual steps over 25 forward years, although in this study we focus mainly on the 15-year period to 2031. The model runs at the 'sub-regional' geographic level of 114 Housing Market Areas (HMAs, 102 in England). Therefore, output information (key housing numbers and outcomes) needs to be disaggregated from this to the LAD level (N=380 (326)) and compared with targets set at the lower level, while conversely targets need to be aggregated up to HMA level and fed into the SRHMM to generate the forecasts. Proposed scenarios are assessed in terms of their performance in generating more desirable levels (and disparities) in a basket of outcome indicators. Where possible we carry these outcome indicator predictions down to LAD level, but of course this generates a lot of information which can mainly be comprehended through summary statistics.

In More Detail

Model 1.

The essential formula to summarise model 1 is as follows

> The net need for additional units of social/affordable housing each year is equal to
>
> The proportion of younger (<40) households unable to afford to buy or rent in the market
>
> *Times*
>
> The average number of new households forming each year (gross household formation), *plus* a proportion (one-third) of net migration in household equivalent
>
> *Plus*
>
> A quota (in this study 1/15th)[29] of the estimated backlog of households with existing housing needs
>
> *Minus*
>
> Net re-lets of social (affordable) housing units per year

The affordability profile involves linking market data at local authority level (house prices and market rents, ideally lower quartile by size), via the affordability norms set out in Chapter 3, to the estimated distribution of incomes of households aged under 40 in each local authority. This income distribution is generated by a model, which entails drawing on detailed national micro-survey data (UKHLS) to characterise the general shape of household income distribution for each of a range of sub-categories of household as well as to develop predictive formulae to establish the extent to which these income distributions vary between different areas. This model is a development of earlier versions including Wilcox & Bramley 2010, Bramley & Watkins 2013, and recent research for the Scottish Government and for the English Indices of Deprivation exercise. Affordability to buy rates are adjusted using the wealth and savings adjustment factors developed as part of the modelling from UKHLS described in Chapter 4, at broad region level. Local authority level affordability profiles are an additional new output from this study which authorities may find useful as a benchmark.

Gross household formation is not a direct output of official household estimates and projections, but it can be derived from data on the household headship (household representative rates) by age. The basic concept is that these rates rise progressively

[29] The rationale for the quota is that backlog needs can only practically be addressed over a planning period, which in the case of this study is 15 years. In practice the backlog is not a fixed population but subject to considerable turnover, and households in more urgent need will typically be dealt with more quickly than the average rate of rehousing.

over the early adult years, levelling off in the late 30s or early 40s, and that gross new household formation is the increment in new household representatives which results from one year of ageing of the population (i.e. the slope of the HRR rate times the size of the age cohort, for the relevant age segments).

In this study we are working from the assumption (based on evidence) that there is a degree of suppressed household formation in the system, and the overall assessment of requirements entails an unwinding of this suppressed household formation over the plan period (15 years). We use the historic household representative rate data from censuses back to 1991 to estimate the extent of this for each LAD, with totals controlled to the same level as the estimate of this key number used in the static model in Chapter 4. This number (c.70,000 pa for England) is added to both gross household formation and to target household growth, and this is a common element between Models 1 and 2.

The backlog of existing need plays a distinctive role in Model 1, and requires estimates at local authority level to correspond to estimates already reported in Chapter 4 at broad regional level using UKHLS. While local authorities typically make their own estimates based on combinations of local housing waiting list/register data and occasional local surveys, we do not regard these sources as consistently robust or comparable to use in this national study, because of great variations in recording and review practices, policies under 'localism', and varying deterrence to application depending on the above and on the overall availability of accommodation (Bramley et al 2010). Comparisons of data returns from local authorities on waiting list numbers confirms this conclusion that they are unsuitable.

We therefore make estimates based on different sources for different elements. For overcrowding and concealed/sharing households, we use 2011 census data on relevant indicators, trended forward to 2015 using the SRHMM forecasts, and rescaled for consistency with the UKHLS-based analysis of these indicators reported Chapter 4. For indicators of households with existing affordability problems and those with a range of housing suitability problems (e.g. health or child related), we use a composite of (a) UKHLS 2012-15 estimates as described in Chapter 4 at level of ONS LAD typology 'groups' and (b) previous EHS-based estimates and forecasts embedded in the SRHMM, at HMA level. When combining these elements an allowance is made for overlap (households with more than one need). In line with most local housing needs assessment practice, we do not include house condition problems in the backlog, assuming that broadly such problems can be resolved in situ, although we include a moderate overall allowance for demolitions.

Specific elements for homelessness are added to these backlog numbers, including the half of core homeless not in the private household population and elements of wider homeless in a similar position (e.g. those in communal establishments). Another point to note about the backlog is that it is apportioned between those only able to

afford social renting and those able to afford intermediate renting, using the affordability band data used to drive Model 2.

Net re-lets are the annual lettings of social rented housing to new tenants less the number of new social rented units added to the stock, which is equivalent to the number of social rented units released by households dissolving or leaving the tenure to move into the private sector, adjusted for any units taken out of management for demolition or refurbishment. In fuller accounting in future this should also include resales of shared ownership and re-lets of intermediate rent, when looking at the wider affordable need number. The annual number of net re-lets is substantially larger than the number of new build, even with the proposed enhanced programme of provision, and is the main means by which priority needs for social housing are met from day-to-day and year-to-year in most areas of the country. Use of these numbers is also a key distinctive feature of model 1.

Model 1 can also estimate the potential requirement for shared ownership among new households and migrants (i.e. people moving into a local authority), but we do not have enough data to estimate potential among the 'backlog' (although there is some overlap). Model 2 provides a fuller estimate of shared ownership and intermediate rent potential, taking account of existing households who may wish to move from other tenures.

A key feature of Model 1 is that the net additional need (on given assumptions) may be negative, in which case it may be set at zero (at least at HMA level, after allowing for some movement between LADs). We also reduce the requirement for intermediate tenures if there is an indicated surplus of social rented lettings. In our baseline model run the number of local authorities in England with net social rent need in Model 1 set at zero is 136, 42% of the total.

Model 2.

This model is essentially the same in concept as the static model reported in Chapter 4.

The basic formula for model 2 is as follows:

Number of net additional households in tenure (3 cats, Own/SR/PR)

Equals

Number of new households forming into that tenure

Plus or minus

The net re-allocation of new households to most appropriate tenure

Plus or minus

The net re-allocation of existing households aged under 40 to most appropriate tenure, phased over plan period

Plus or minus

The share of net migrant households associated with that tenure

Minus

The estimated number of households dissolving through old age or infirmity or moves in with others in that tenure

Plus

Estimated number of demolitions expected in that tenure

Plus

Estimated additional vacancy reserve required or expected in that tenure

The key issue here is how to translate these estimates down to the local authority level.

The starting point is a matrix of proportions of all under-40 households in each of the following four affordability segments (buy, market rent, intermediate rent, social rent) by each of three tenures (own, social rent, private rent) and six broad regions (North, Midlands, South, London, Wales, Scotland), as measured in the UKHLS for 2015. Then, working in a dataset at LAD level derived from the local incomes and affordability model (aggregated up from MSOA level), again with 2015 values, we first control these matrix values for consistency with the LAD-level tenure proportions, by making a proportional adjustment. Then we control them for consistency with the LAD-level affordability proportions, again with a proportional adjustment. Then we repeat the

cycle of adjustments two more times. This technique is known as 'iterative proportional fitting'. The resulting matrix is a reasonable estimate of the true values for each local authority, which is reasonably consistent with known marginal totals for tenure and affordability and the known broad regional values.

Affordability rates for new households are assumed to bear a fixed ratio to those for all under-40 households within each broad region. Wealth and savings adjustments to ability to buy, at broad regional level, are applied to these affordability-to-buy estimates.

The local affordability matrix is then used to simulate the progressive reallocation of households into tenures which they can more appropriately afford, as in Chapter 4[30]. This was repeated for new households as well as all under-40 households. Having run this sequence of calculations in SPSS, the resulting values (propensities) were transferred into the main SRHMM model spreadsheet.

If we refer back to the basic formula for Model 2 above, we can say that certain elements in the local version are effectively the same as in Model 1. The total number of new households formed (gross household formation) and the associated net household growth are effectively the same. The gross household formation is as described in the immediately preceding section, and includes both the expected base level plus an estimate of the element of 'suppressed' household formation, derived from headship information. These numbers are controlled to the same national total as in the static broad regional model described in Chapter 4.

Local authority level net migration numbers for 2014 are used as the base for this element, with the average persons per household set at 3.0 (rather above the national average for all households) and the tenure split based on fixed relativities from the static model (based on UKHLS analysis for all migrant households); migrant households are assumed to use the private rented sector disproportionately. .

Household dissolutions are generated from a formula involving a weighted sum of households by broad age of HRP (strongly weighted to the older ages) interacted with the age-standardized mortality rate. In the case of owner occupiers, the SRHMM already estimates the broad age profile of this tenure, while for the other tenures the formula is simpler. Social renting is assumed to have higher dissolution rates, other things being equal, and private renting lower. The total number of dissolutions are controlled to ensure that net household growth is consistent with the household projection plus the allowance for suppressed household formation.

The rate of demolitions is assumed to be distributed proportionally to the average dwelling density (dwellings per hectare of residential land) with a tenure split of 20% own/50% social/30% private rent. The rationale for the density factor is that

[30] In programming this for local authorities, it was identified that one specific type of move had been omitted from the Chapter 4 analysis, moves from social renting into private renting; in effect, this was effected by diverting half of the social rent to shared ownership moves into private renting.

demolitions are likely to be driven by a combination of poor quality older (often flatted) stock, the drive to further intensify housing in estate renewal and other redevelopment schemes in London and other cities, and the need to deal with problematic high rise post-Grenfell. The totals are consistent with those used in Chapter 4.

Additional vacancies are partly based on estimated 'excess vacancies' (private sector vacancies over 6%) in 2015 and partly on the demolition rates modelled as above. Again the national totals are consistent with Chapter 4.

It is important to note that several elements of this Model 2 are effectively the same at local level as Model 1, namely enhanced gross household formation, total net migration, total demolitions and vacancies. The main differences lie in the way existing as well as new households are re-allocated into most appropriate tenures based on affordability (rather than only marginal new households), but also in the use of estimated dissolutions in Model 2 vs re-lets in Model 1, and the fact that there is no direct equivalent of the backlog quota used in Model 1.

These differences, along with the 'modelling down' of affordability propensities, mean that Models 1 and 2 tend to produce somewhat differing patterns of results. Model 1 uses more locally-based information (particularly on backlog and re-lets) and tends to produce a more sharply differentiated picture, wherein substantial numbers of authorities are shown as having no (i.e. negative) additional needs for social renting (and possibly for shared ownership), while at the other extreme some authorities appear to have 'impossibly' high need for additional social renting (impossible to achieve purely by new build within the overall growth totals). . By contrast, Model 2 tends to produce a more a more 'averaged' picture with less sharp variation and few 'negative net increases' indicated for social housing.

Our approach is to combine the two sets of estimates, essentially by taking the average of the two (including any negatives), but setting the resulting values to zero if they would otherwise be negative. In arriving at the 'average', we also incorporate two need-related adjustments. Firstly, for a number of authorities (46), where our baseline forecast indicates that it would be difficult to meet the needs of core homeless, we increase the social rent need figure somewhat. Secondly, where for a similar number of authorities (62) our baseline forecast indicates that the chances of rehousing for households in need in 2031 would be relatively high (over 12%) we reduce the need estimate proportionately. This generates our unconstrained need figure for additional social rented housing provision per year.

A further modified or 'constrained' figure is then derived. This takes account of land availability constraints on total new build activity, estimated as set out below. It also applies, in a very few cases, a constraint on total new social rent building related to the level of total new building. Logically, this cannot exceed 100%. There may be policy reasons to hold this down to a figure such as 50% or less, for example on grounds of viability and/or social mix. However, for the purposes of this study we have set it at

close to the logical maximum, at 80%. It should be emphasized that his only affects a handful of local authorities. Since we are working to a total need figure already determined from Chapter 5, of around 90,000 for England, these downward adjustments will be balanced by upward adjustments, mainly in those authorities whose total housing numbers are being increased based on evidence of high demand/ poor affordability, as described below.

Deriving the overall additional dwellings target.

Our approach to setting an overall dwelling target starts from a similar-looking approach to that taken by MHCLG in setting planning targets for local authorities, but is more ambitious and takes a more explicit approach to capacity. Whereas MHCLG used the household projection as the starting point, we use the average of that and the pre-existing local plan target number. This may be characterised as a sort of 'status quo' estimate. We then apply progressive mark-ups, the higher is the level of the house-price-to-earnings ratio (HPER) above a threshold of 6.0[31], with the multiplier raised to the power 2.0[32] and a maximum target multiplier set at 2.0.

This level of new housing delivery is then compared with an estimate of capacity at the LAD level. This capacity calculation derives from some work done by the author for the Lyons Inquiry in 2014 and reported in conference papers at that time (Bramley & Watkins 2014). This used data from certain sources, some of which have not been updated since 2011, but which still give a reasonable general picture of potential capacity, given broad brush assumptions. These data sources include the Generalised Land Use Database (land use stock areas by broad categories based on OS Mastermap), Land Use Change statistics (LUCS), 'National Land Use Database' (identified brownfield land capacity), and the areas covered by Green Belt, AONB and National Parks. We estimate brownfield and greenfield capacity separately using different density assumptions, assuming potential use of up to 2% of greenfield land over 20 years, but discounting greenfield progressively the more remote it is from major service centres. We add an additional element in high demand/pressure areas close to urban centres, allowing a modest take from the existing Green Belt (up to 20% over 20 years), which mainly affects the area immediately around London (much of which is actually in our Greater London plus HMA).

We also take account of indications from consideration of the Greater London Plan and the latest associated SHLAA that there is an effective realistic maximum capacity for housing delivery in London (GLA area) of at least 65,000 units per year. After comparing the SHLAA figures with our own, borough by borough, and taking the higher

[31] We use the median values for prices and earnings for this ratio, as these are readily available in the SRHMM and LAD datasets, rather than the lower quartile, and this threshold appeared to be appropriate using that measure.

[32] This is an approximation to the average 'elasticity of affordability' with respect to additional housing supply at HMA, as revealed by the SRHMM simulations; the MHCLG markup factor is much lower and does not appear to be evidence-based.

estimate in each case, we obtain a somewhat higher figure of c.74,000. This basically assumes strong effort continues to be given to maximising housing potential in London, consistent with planning policies. Most individual London boroughs are 'capacity constrained' on the basis of our algorithms, but we also if necessary apply a general downward adjustment to London to reflect the overall capacity estimate. Relatively few non-London authorities (25) are constrained by the capacity target; these tend to be core cities (Bristol, Bournemouth, Reading, Southend, Milton Keynes, Brighton & Hove, Cambridge, Oxford) or close to major cities or in the area around London. The target numbers which cannot be delivered in these capacity-constrained districts are redistributed to other unconstrained districts with relatively high HPER.

In a subsequent stage of adjustment, a further more selected set of local authorities are assigned a further increase in target. These authorities are not capacity constrained and are not showing indications of low demand over the plan period but are forecast in the baseline scenario to still have a higher HPER (over 7.0) in 2031. At the same time another group of authorities, exhibiting low demand indications (e.g. excess vacancies or re-lets) and/or low HPER have their targets reduced. At this stage the decreases and increases broadly balance, at around 33,000 so the resulting targets have approximately the same total (340,000).

At a final stage, we fine-tune the scenario in the simulation model (Model 3) by varying parameters governing the actual planning numbers at sub-regional level to achieve a reasonable equity-related target in terms of a key outcomes, including the proportion of under-40 households able to afford home ownership and the chances of rehousing for a household in need. This involves a slight moderation in the emphasis on the South of England and some general increase in the Midlands and North. This gives an outcome where in 2031 the affordability rate to buy is almost as high in London (48%) as in the Midlands (49%) and the South (50%), although it does not sustain that level after 2031. That is a dramatic improvement for London (from 23-24% in 2016 or 2007. Nevertheless, low incomes hold affordability back in much of the North (40%). Affordability to rent in the market would remain worse in London (51%) than the other broad regions including the North (60%). For our other key indicator, the chances of a household in need being rehoused, this would be at a similar level in London (13-15%) as in the other broad English regions, a massive change from earlier years. Core homelessness as a percentage of households would still be higher in London (0.60%) but the other broad regions would be similar (around 0.23-25%).

Combining and adjusting the social renting target numbers

As already noted, we take a combination of the social rented targets derived from Model 1 and Model 2, essentially an average of the two numbers but with some needs-based adjustment (upwards where core homeless pressures are expected to be high, downwards where chances of rehousing would already be high). We express the combined needs-based social renting target number as a 'quota' of total target new build. This exercise can be done at either sub-regional HMA level or LAD level. It is

argued that both indicators are relevant, particularly where several local authorities share the same HMA, have varying local level needs but also face different constraints. We would argue that under the Duty to Co-operate, authorities should take account of needs indicators at both levels, and consider the best planning strategy to meet the needs of the HMA as a whole. It should be noted that at this final stage these averaged quotas are applied to the adjusted total new build target number, i.e. taking account of land supply constraints, high and low demand, and so forth. This has the effect of redistributing some of the social rented need to authorities which are in a better position to meet it.

For example, in the East of England the Greater Cambridge HMA has a need quota of 28%, but the four component local authorities have differing individual figures. Cambridge is a land-constrained core city and these adjacent authorities should be expected to cooperate in provision of overall housing numbers and social rented housing within that. Other similar examples include Greater Bournemouth/Poole, Greater Bristol/West of England, Brighton & Hove/Sussex, Oxford/Oxfordshire. Even where core cities or particular authorities are not strictly land-constrained, there is a good case for invoking the duty to cooperate where there are wide differences between LAD-level need quotas within an HMA.

Similar combining of the two models is applied to the intermediate tenures, although with less subsequent fine tuning. Under model 1, part of the backlog is assigned to Intermediate Rent, based on the relative numbers of under-40 households able to afford the two tenures.

6.3 Key assumptions

In stepping from the above rather technical account of the modelling procedures used to derive local estimates and targets towards the main findings, it is perhaps desirable to restate and remind the reader of the key assumptions which underlie our approach.

1. The affordability norms set out in Chapter 3 are accepted as a reasonable basis for planning, allocation and provision of social rented and intermediate affordable housing tenures
2. ‘Housing Requirements’ comprise the sum of effective demand in the market plus the number of households wishing to form and live in an area in subsidized tenures, based on the above affordability norms.
3. New household formation from a given population is influenced by economic and housing market conditions and supply availability, and in conditions of scarcity and unaffordability, some household formation may be suppressed, particularly among the younger population.
4. The HMA is the primary geographical level at which housing market processes are resolved, and these response functions will work broadly proportionally across the constituent LADs within each HMA.

5. Local authorities accept the duty to cooperate in meeting housing requirements and housing needs across sub-regional HMAs while respecting the constraints on housing delivery in some neighbouring authorities.
6. It is an aim of policy to reduce substantially the geographical disparities in key housing outcomes, including affordability and housing need, as well as to improve these outcomes to a significant degree on average.
7. It is an aim to policy to move to a situation where core homeless households,, and other homeless households owed a duty to provide appropriate housing, have a good prospect of timely rehousing in social or intermediate affordable housing within the locality or HMA where they are experiencing homelessness.
8. While respecting existing urban land uses and designated areas including Green Belts, AONBs, and National Parks as limitations on the capacity of particular localities to deliver larger volumes of new housing, it is assumed that policy acknowledges some trade-off between the Green Belt designation and contemporary evidence of housing need and demand in some locations. Green Belt is ultimately an urban growth management tool, and not necessarily a permanent designation of land which is of such intrinsically high value in its undeveloped state that this overrides all consideration of social need or economic development requirements. As such, it may be appropriate to review Green Belt boundaries at certain times in certain places, particularly where it can be demonstrated that a new urban extension or settlement on Green Belt land is the most sustainable solution to meet housing and other needs in that region.
9. There will be practical and policy limitations on the maximum share of new housing which can be social and/or affordable housing in any locality. These limitations include considerations of neighbourhood social mix and the viability of developments. However, these potential constraints have not been imposed on the needs estimates and targets generated in this exercise, except in a handful of extreme cases.

Clearly, if individuals or organizations wish to take issue with our analysis or conclusions, it is likely to be around differences over one or more of these assumptions. However, it is important to emphasize that some of these assumptions, particularly 8. and 9., and to some extent 5., are really relevant to the stage of the exercise where we move from unconstrained needs estimates to adjusted targets for new housing provision.

What would happen if these targets were not met?

The targets and programmes proposed in this report for England (in particular) are, at the very least, challenging. They entail levels of overall and social rented housing provision which have not been seen since the 1970s, although of course numbers of this order were routine in the decades leading up to the mid-1970s. It would not be surprising, given the vagaries of economics, politics and policy priorities that such a programme might not gain or maintain sufficient or consistent enough support over the

15 year time horizon to be delivered in full. Therefore it is probably appropriate to consider, briefly, the likely effects of a shortfall in delivery.

It should be noted, as a preliminary in this context, that (as will be further discussed in a subsequent section) that even with consistent goodwill and attention towards the implementation of this programme, the realities of implementation may mean that not all of the target numbers would be achieved in full on the ground, even if they were adopted as targets. This seems to apply in particular to the social rented housebuilding targets, particularly if factoring in viability and availability of finance/subsidy (which we do not do here, although possible costs are briefly considered in Chapter 8 and Appendix 1). However, for the analysis presented as our core target scenario, we have ensured that (a) the adjusted targets are consistent with the needs-based targets and with the recommendations from Chapter 5, and also (b) that the forecast outturn numbers (total new build and social rented completions) are consistent at national level.

If the total level of new housebuilding fell significantly short of the target set in this report (340,000 for England), what consequences would follow? 'Other things being equal', this would have a range of impacts on affordability, housing need, household formation, and potentially wider impacts on the economy (Barker 2004). Market housing would be less affordable, so there would be likely to be less people able to become home owners and more forced to rent privately or do so for longer. More people would experience problems of financial stress in paying for their housing, in some cases being pushed into poverty. At the same time, there would be lower levels of new household formation among younger adults and more people would have to remain living for longer with parents or others, in some cases leading to delayed family formation. Overall housing supply shortfall would impact on the situation of people in or at risk of housing need and homelessness, by reducing the scope for delivering social and affordable housing, reducing re-lets as fewer existing tenants move on to buy or market rent, and increasing pressures within the private sector leading to more overcrowding, sharing etc. Possible economic effects might be a restriction of growth, particularly in dynamic city regions with strong growth potential but tight housing constraints. There could also be more long-distance commuting with environmental, congestion and health/wellbeing costs.

Similar comments apply in relation to potential shortfalls in the delivery of social rented or intermediate affordable housing. This would (according to our model findings) tend to reduce the supply of market housing as well, because the two are so often linked in mixed developments. It would reduce both directly available new build lettings but also turnover and re-lets across the social stock. These would mean people being forced to live for longer in situations of housing need, and would directly impact on levels of core homelessness. Many local authorities would find it difficult or impossible to meet targets and aspirations in relation to homelessness reduction and rough sleeping without an adequate supply of social rented housing, as was emphasized in Chapter 5 (section 5.8).

A general characteristic of the current housing market in Britain is that a lot of households are exposed a significant degree of risk, particularly in the private rented sector, where they are spending high proportions of their income on rent, while enjoying little security of tenure. The value judgements underpinning the standards set in Chapter 3 are that people should not be expected to bear such risks for extended periods of their lives. The corollary is that, if the numbers of affordable homes we suggest as targets in this study are not provided, then many more people will be forced to bear such risks for much longer.

6.4 Key local housing requirements targets

We now turn to the results of the above analysis. Although the analysis has been conducted at local authority level, we mainly focus on results at the level of regions and types of local authority within broad regions[33].

The results can be expressed in terms of key targets and forecast numbers for each area or group of areas. We derive an *initial total housing requirement* figure, based on household projections and existing plans, enhanced proportionally where affordability is currently worse. This is changed to an *adjusted planning target*, based on the process described in the section above on 'Deriving the overall additional dwellings target', allowing for higher or lower levels of demand/affordability and physical constraints, as well as need/homelessness and low demand factors. Authorities which are 'capacity constrained' (by limited land availability) are flagged at this point. We also derive from the SRHMM a *forecast actual level of output* for the mid-2020s, both overall and for the part which would be in the private and intermediate sectors. Social housing requirements can be expressed as percentage figures, indicating the new social rented 'quota' (as a percent of total completions); in developing targets we look at quotas both at local authority level for the wider Housing Market Area (HMA) level. These are both needs-based, combining Models 1 and 2 with further needs-based adjustments. The needs-based social rented number is derived as an average of the LA and HMA targets, but this is subject to further adjustments to take account of changes in the adjusted planning target (e.g. due to physical capacity constraints) and final adjustments to fine tune for homelessness pressures and possible oversupply. Again, *forecast levels of social housing completions* from the SRHMM in the mid-2020s can be shown alongside the adjusted targets. Alongside this are also derived the targets for shared ownership (SO) and intermediate renting (IR), again based on a combination of Models 1 and 2. If an authority has more social lettings than it 'needs' (on a common basis), then it is assumed some of these would be allocated to households in the intermediate affordability groups, so somewhat reducing the requirements for shared ownership or intermediate rent.

[33] The typology used here is the revised 2011-based ONS classification of local authorities, which is based on a detailed cluster analysis of census and other data, at the middle 'Group' level. The names of area types are as given in the published classification.

Regional patterns

There are some broad patterns in the analysis, which to a considerable degree reflect the regional structure. With this in mind it is useful to present Table 6.1 below, which shows the key numeric totals for the English regions. The initial total requirement targets are smallest for the North East and largest for Greater London, followed by the South East, East and South West regions. This southern emphasis follows the pattern of affordability. However, the adjusted targets see the largest numbers in the South East, as this takes up the larger part of the 22,000 reduction required to bring Greater London down to its maximum capacity. There are also sizeable increases for the East of England and South West regions, which partly also offset some reductions for the Midlands. The actual forecast numbers show a similar pattern, but with a tendency for the North and Midland regions to rather over-perform relative to their subdued targets, while the South East and London tend to underperform against their very demanding increased targets. There is a moderate overall apparent over-performance of forecast output relative to the target, but this is a spot figure for 2026, and the averaged subregional figure to 2031 is slightly lower than target (337,000).

Table 6.1: Total, Social and Intermediate Affordable Housing Supply Targets and Forecast Outputs at 2031 by English Region

Region	Total Req-uirement	Adjusted Target	Forecast Total	Social Rented Need	Adjusted Soc Rent	Shared Ownership	Intermed Rent	Forecast Soc Rent
North East	6,930	6,963	10,116	702	828	400	1,190	1,577
Yorks & H	18,954	18,868	21,313	1,552	1,795	1,477	2,216	3,454
Nth West	23,471	22,574	28,982	4,329	4,324	3,297	3,288	5,412
East Mids	19,177	17,248	22,314	2,227	1,867	2,202	1,929	3,727
West Mids	23,645	21,102	25,286	3,485	3,129	3,268	2,458	4,764
Sth West	36,739	42,171	41,328	7,352	8,340	3,980	2,540	8,870
East Eng	41,773	46,104	45,236	9,435	10,999	3,851	3,143	10,314
Sth East	72,150	90,179	84,939	20,593	26,250	6,466	5,319	20,231
G London	96,864	74,464	70,741	42,291	32,983	2,308	10,523	31,128
England	339,702	339,673	350,256	91,965	90,515	27,249	32,605	89,477

Note: the 'forecast' numbers are spot figures for 2026.

The social rented need numbers are more differentially skewed between regions, with relatively low numbers in the northern and midland regions, and much bigger numbers in London and the South East, with East and South West also having substantial numbers. The adjusted social rent target numbers show a redistribution of c.9,000 units pa from London, principally to the South East but with slight additions in the East and South West.

Intermediate Rent targets show a similar pattern to social rent, while Shared Ownership tends to have lower targets in London, but larger ones in the South East and other regions, not confined to the South. Differential need/potential for shared ownership arises from the interaction of several factors: the relative new-secondhand price premium (shared ownership prices are based on new build, whereas market purchase is based on the whole market); the fact that the shared ownership affordability test is somewhat different; and the fact that the shared ownership affordability zone is pitched much higher up the income distribution in London, which is more thinly populated.

Recurrent patterns at local level

In this section we review the pattern of housing requirements generated in this part of the study, based on the local authority level of analysis, relating this to different generic types of local authority set in broader regional context. Analysis at this level brings out more sharply the differences in need for additional housing provision of different kinds in the coming period, while also reflecting differing constraints and opportunities within regions and housing market areas. However, while based on the best data available on a common basis across the country at the time, we are mindful that there may be more recent or detailed data available in some cases, as well as particular plans and joint working arrangements in particular areas which might lead to different numbers

for particular local authorities. We therefore do not present the estimated requirements at individual local authority level, but focus on the more generic patterns.

Table 6.2 looks at the overall housing supply numerical targets and at the role of social renting within that, with the annual numbers expressed as a percentage of resident household population for each type of local authority within three broad regions (North-Midlands, South, London).

The areas assigned the highest level of overall planning target for new housing are in the areas classified as ‘Prosperous England’, particularly in the South but also, at a somewhat lower level, in the North and Midlands. These areas have high affordability pressures but also high growth potential and trajectory, being less land-constrained than London and other cities.

Next highest come ‘Multicultural Suburbs’ in London and South, and ‘London Cosmopolitan Suburbia’, again areas of high affordability stress and demographic growth pressure. In these and the previously mentioned areas, overall planning targets in excess of 2% of existing households per year are indicated. Another area type in this league is ‘Rural Coastal and Amenity’ in the South, followed by ‘Heritage Centres’ in the South. ‘Growth Areas and Cities’ in London and the South come next; these include some former new towns and cities which still have a strong growth trajectory. Cosmopolitan Central London comes next, clearly an area of intense housing need but capacity constrained.

‘Rural hinterland’ areas in the South have above-average overall housing requirements, while other Rural England (South) and Hinterland areas (Midlands) are close to the average.

At the other end of the spectrum, the area types with the lowest indicated requirement for additional housing are ‘Mining Heritage’ and ‘Manufacturing Traits’, particularly in the North and Midlands, where these types of district are concentrated. Other particularly low cases include ‘Business and Education Centres’ in the Midlands, ‘Coastal Resorts and Services ‘in the North, and ‘Rural Coastal and Amenity’ in the Midlands and North.

Generally, there is an association between areas with a high level of target and areas with a large increase in target relative to recent actual housebuilding rates.

The targets for London would have been even higher were it not for the effects of capacity constraints, which are the governing factor for most boroughs. Boroughs with higher targets are those with more brownfield land potential. Capacity constraints also affect 25 other authorities outside London, mainly cities or larger towns in the South of England.

Table 6.2: Adjusted Housing Supply Targets for Total Housing and Social Renting at 2031 by ONS Local Authority Group and Broad Region of England (number per annum as percent of household population)

ONS Local Authority Group	Broad Region	Adj Planning Target % of hhd	Adj Social Rent Targ % of hhd
Business and Education Centres	North-Mids	0.79	0.16
	South	1.40	0.44
	London	1.65	0.59
	Total	0.97	0.25
Coastal Resorts and Services	North-Mids	0.34	0.04
	South	1.69	0.48
	Total	1.54	0.43
Growth Areas and Cities	North-Mids	1.00	0.18
	South	1.91	0.65
	London	1.83	0.64
	Total	1.59	0.49
Heritage Centres	North-Mids	1.09	0.30
	South	2.04	0.58
	Total	1.65	0.46
London Cosmopolitan Central	London	1.86	0.85
	Total	1.86	0.85
London Cosmopolitan Suburbia	London	2.32	1.13
	Total	2.32	1.13
Manufacturing Traits	North-Mids	0.60	0.06
	South	1.47	0.41
	Total	0.68	0.09
Mining Heritage	North-Mids	0.60	0.06
	South	1.48	0.47
	Total	0.64	0.07
Multicultural Suburbs	South	1.93	0.85
	London	2.44	1.03
	Total	2.38	1.01
Prosperous England	North-Mids	1.45	0.31
	South	2.73	0.71
	Total	2.55	0.65
Rural Coastal and Amenity	North-Mids	0.67	0.11
	South	2.29	0.35
	Total	1.90	0.29
Rural England	North-Mids	0.87	0.11
	South	1.51	0.36
	Total	0.97	0.15
Rural Hinterland	North-Mids	1.38	0.09
	South	1.70	0.25

	Total	1.55	0.17
Total	North-Mids	0.81	0.11
	South	2.10	0.53
	London	2.11	0.94
	Total	1.49	0.40

Table 6.2 also presents the estimated requirement for new social housing. It can be seen that there is some general similarity in the rankings here, although of course the absolute levels are lower (social rent 'quotas' generally lie in the range from just under 10% to 33%, across area types).

The areas with the highest additional social housing requirements are London Cosmopolitan Suburbia, Multicultural Suburbs (London and South), London Cosmopolitan Central, Prosperous England (South), Growth Areas and Cities (South and London), Business and Education Centres (London and South), Heritage Centres (South), and Coastal Resorts and Services (South). High figures here reflect high levels of affordability-based and backlog needs but also low levels of existing supply in the form of existing stock and re-lets.

At the other end of the spectrum, again, are areas of Mining Heritage and Manufacturing Traits, particularly in the North and Midlands. Needs for additional social housing are also relatively low in rural, coastal and hinterland areas in the North and Midlands. Even within the South, rural area types have below average need for additional social housing. In the Midlands (particularly), Growth Areas and Cities, Business and Education Centres and Heritage Centres have relatively low needs for additional social housing.

In fact 37 local authorities (11% of the total) are assigned zero target need for additional social housing, generally implying that re-lets supply exceeds new need and appropriate contribution to reducing backlog, and that this is true in the wider Housing Market Area as well as in this particular local authority. These cases include some remote peripheral areas, a number of former manufacturing towns, some cities in the North and Midlands, and quite a few former mining areas.

Table 6.3 presents the targets for the two generic forms of intermediate tenure, shared ownership and intermediate rent, analysed in a similar fashion. For shared ownership, the targets tend to be higher in the South, and lowest in the North, but also in London. The low potential in the North reflects easier affordability of mainstream owner occupation, the secondary affordability test relating to residual income, and the high availability of social rented re-lets in some areas.

In London, shared ownership potential is relatively low, partly because of the way the affordability is calculated but mainly because London house prices are so high that even shared ownership is only affordable to people in a more thinly populated upper

part of the income distribution. However, there is much more potential for intermediate rent in London, across most but not all boroughs.

Table 6.3: Housing Supply Targets for Shared Ownership and Intermediate Renting at 2031 by ONS Local Authority Group and Broad Region of England (number per annum as percent of household population)

ONS Local Authority Group	Broad Region	Shared Ownership % hhd	Intermediate Rent % hhd
Business and Education Centres	North-Mids	0.18	0.19
	South	0.24	0.19
	London	0.09	0.25
	Total	0.20	0.19
Coastal Resorts and Services	North-Mids	0.03	0.08
	South	0.16	0.11
	Total	0.15	0.11
Growth Areas and Cities	North-Mids	0.09	0.11
	South	0.19	0.19
	London	0.09	0.23
	Total	0.14	0.17
Heritage Centres	North-Mids	0.19	0.12
	South	0.22	0.14
	Total	0.21	0.13
London Cosmopolitan Central	London	0.04	0.31
	Total	0.04	0.31
London Cosmopolitan Suburbia	London	0.08	0.34
	Total	0.08	0.34
Manufacturing Traits	North-Mids	0.06	0.09
	South	0.17	0.13
	Total	0.07	0.09
Mining Heritage	North-Mids	0.04	0.08
	South	0.17	0.12
	Total	0.04	0.08
Multicultural Suburbs	South	0.26	0.22
	London	0.07	0.28
	Total	0.09	0.27
Prosperous England	North-Mids	0.23	0.09
	South	0.17	0.13
	Total	0.18	0.12
Rural Coastal and Amenity	North-Mids	0.10	0.06
	South	0.13	0.08
	Total	0.12	0.08
Rural England	North-Mids	0.12	0.06
	South	0.14	0.09

	Total	0.12	0.07
Rural Hinterland	North-Mids	0.07	0.04
	South	0.09	0.06
	Total	0.08	0.05
Total	North-Mids	0.10	0.10
	South	0.17	0.13
	London	0.07	0.30
	Total	0.12	0.14

The highest potential for shared ownership appears to be in Multicultural Suburbs and Business and Education Centres in the South and Midlands, and in Heritage Centres in the South and North. Prosperous England areas in the North and Midlands appear to offer better prospects for this form of provision.

The lowest potential for shared ownership appears to be associated with opposite ends of the housing market spectrum, London Cosmopolitan Central at one end and Mining Heritage, Manufacturing Traits and Coastal Resorts and Services in the North at the other. Rural Hinterlands also appear to have lower potential for this form of affordable housing.

Intermediate Rent, by contrast, has much the largest potential in London, with relatively less in most of the North and Midlands. This reflects the degree of unaffordability of market renting and whether this coincides with the greatest bunching of households in terms of income. The highest potential in London is in the 'Cosmopolitan' areas. Within the South, the greatest potential is in Multicultural Suburbs, Business and Education Centres and Growth Areas and Cities, while he least is in Rural Hinterlands. The greater potential in the second of these categories is also apparent in the Midlands and North, where generally the potential is rather low.

6.5 Local patterns in key outcomes

A key principle underlying this study is that the ultimate criterion, to judge whether housing requirements are being met, should be the evidence of outcomes, particularly in relation to the housing needs and experiences of those who are at greater risk, namely lower income households and homeless people. Evidence of recent/current outcomes have formed part of the basis of setting targets. However, we are ultimately interested in outcomes achieved at the end of the planning period (2031 in this case). It remains to be seen what actual outcomes will turn out to be. We can, however, use the SRHMM to run forecasts and examine the patterns of forecast outcomes.

In Chapter 5 we did this using the sub-regional HMA-level of analysis, but with results only summarised at the level of four broad regions for England. Having extended the relevant parts of the SRHMM to make explicit the implications for individual local

authorities, we are now in a position to review the pattern of outcomes across all of the 324[34] local authorities in England.

The main scenario developed here is a modified version of the preferred strategy emerging from the Chapter 5 analysis, as summarised in Table 5.10. As described at the end of section 6.3 above, we start from the 'status quo' numbers, then use certain key measures of affordability and need at local level to derive first a set of needs-based targets. Further adjustments are then made to reflect development capacity constraints, and forecast levels of key indicators reflecting the prospects for households in need or experiencing core homelessness to be rehoused. Some broad regional parameters are also applied, to ensure some interregional parity at the end of the process. So, although the scenario is similar in general shape and intent to Table 5.10, it differs in detail, and to some degree in some of the national and regional-level outcomes. Some of these differences arise from constraints emerging from the local-level analysis, such as capacity constraints.

Before looking at the local level results, we should briefly review the regional/national summary impacts, shown in Table 6.4.

Despite the similar level of output, the resulting level of household growth is higher in this scenario, probably because increased output is more focussed on higher need localities where there have been more concealed potential households. This new scenario improves affordability marginally less than Table 5.10 (3.9% vs 4.8%). The impacts on after housing costs poverty and financial difficulties, and on core homelessness, are similar but marginally less than that in Table 5.10. There is somewhat more difference in the impacts on backlog housing needs, although these would still be down by 19%, while core homelessness would be down by 53% (vs 56%). The chances of a household in need being rehoused would improve by 102%, compared with 118% in Table 5.10.

[34] Owing to an error in some input data files, caused by changes in LA codes between 2011 and 2014, two Hertfordshire districts are omitted from the LA database and analysis.

Table 6.4.: Key outcome differences in scenario of relatively large increase in general housing and social housing units, with local level targeting and constraints, plus key homelessness related measures, England 2016-31

SUMMARY OUTCOMES England			Difference in Change %	Change % in regional Inequality
Optimised September 2018	2016	2031	2016-31	2031
Total New Housebuilding	15.3%	41.9%	48.0%	
New Social Housebuilding	73.6%	216.3%	136.2%	
Number of Households	0.4%	3.3%	3.3%	
Household Growth	8.1%	35.4%	21.8%	
Affordability to Buy %	-0.8%	3.9%	4.2%	-93.5%
Affordability to Rent %	-0.2%	-0.1%	0.1%	-29.6%
Owner Occ under 40 %	0.7%	0.5%	-0.3%	-1.6%
Owner Occ all %	0.2%	-0.9%	-1.0%	-0.4%
Private Rent all %	-0.4%	-1.0%	-0.7%	
Rel Poverty AHC %	-0.5%	-17.6%	-18.2%	-1.2%
Financial Difficulties %	-0.3%	-9.8%	-10.4%	-11.3%
Concealed/sharing hhd %	1.6%	-7.9%	-10.2%	-46.3%
Backlog Housing Need	-0.6%	-18.5%	-20.4%	-42.6%
Wider homeless	-0.5%	-7.6%	-7.7%	
Core homeless	-0.4%	-52.6%	-65.3%	-35.9%
Annual net new need AH	-5.4%	-47.1%	-66.3%	
Chance of Rehousing %	14.6%	102.3%	63.1%	-59.6%
Low Demand Indicators	2016.0%	2031.0%	Change %	
HMAs Excess Vacancies (>6%)	0.0%	72.7%	2400.0%	
HMAs High Re-lets (>6%)	16.7%	300.0%	40.5%	
HMAs Price< Cost	2.2%	#DIV/0!	4.3%	

Note: the outturn forecast housing output is c.340,000, with social housing output at around 90,000; these are consistent with initial and adjusted targets at national level.

When we look at outcomes at local authority level, the same approach applies; while measures of change are of interest, the key measure is the *difference* between the outcome measure under the recommended supply scenario and its value under the baseline scenario. Therefore the key working table shows these differences, essentially in percentage point values.

There is a lot of information in this table, but we can summarise it quite effectively, as in Table 6.5. We have selected a subset of eight representative indicators of relevant

outcomes relating to housing needs, homelessness, rehousing prospects, affordability and tenure. The first row of the table shows the direction of change which we would interpret at favourable (positive in some cases, negative in others).

Table 6.5: Summary of changes in outcomes across English local authorities under core scenario with local targets and constraints

	Backlog Needs 2031	Chance Rehouse 2031	Core Hless % hhd 2031	Core Hless flow as % rehousing 2031	Able to Buy % < 40s 2031	Afford Mkt Rent % < 40s 2031	Share Private Rent % 2031
Favourable direction	-	+	-	-	+	+	-
Absolute change	-2%	8%	0%	-77%	10%	3%	-18%
Proportional chg	-19%	94%	-53%	-69%	23%	5%	-1%
Number of LA's fav	320	299	323	319	278	245	262
Percent of LA's fav	99%	92%	100%	98%	86%	76%	81%

.

For most of these indicators, a very large majority of local authorities display a change in the favourable direction. The main exception to this is last indicator shown, tenure, measured here by the proportion of private rent, which we assume is the least preferred tenure.

For housing needs and homelessness the picture is overwhelmingly positive, in terms of the average value of change and the fact that nearly all authorities report a favourable change. The proportional changes here are consistent with those reported in Table 6.4. Affordability changes in a favourable direction in 86% of authorities (76% looking at private rental affordability). The average change appears slightly higher from the LAD-level estimates.

So, we may conclude from this review of summary measures of impacts across the local authorities in England, that this strongly confirms the picture of significant favourable changes in key need and affordability outcome indicators, which are shared across most local authorities (virtually all in the case of core homelessness).

Regional Impacts

Before looking at some detail local variations, it is appropriate to look at the patterns across the standard regional breakdown for England. Table 6.6 presents the key outcomes, firstly as levels in 2031 and secondly as changes (in percentage points). It follows from one of our key assumptions that a desirable end position for this plan period is that the need/outcome indicators should show relatively similar levels across

regions, as a result of reducing regional disparities. As a broad generalisation, Table 6.6 (a) suggests that the overall picture shows more similarity than difference across the regions, although there are still some remaining differences. Backlog need remains higher in London and to some extent in the North East and Yorkshire-Humber, compared with the southern regions. The chances of rehousing for households in need are similar between London and North East, but higher in the North West and South West. Core homelessness remains higher in London but otherwise fairly uniform. Core homelessness takes more of the rehousing flow in the NE and London compared with southern and E Midlands regions. Ability to buy is better in south and midlands, poorer in London and worst in NE, but affordability to rent in market remains clearly lower in London than all other regions, at the same time that the share of private renting of all households is much higher in London. These findings underline that some of London's pressures are hard to fully relieve, but also that the problems of the North East may be in danger of some neglect.

Table 6.6: Key Outcomes of Core High Supply Scenario by Region
(a) percentage levels

Region	Backlog Needs 2031	Chance Rehouse 2031	Core Hless % hhd 2031	Core Hless flow as % rehousing 2031	Able to Buy % < 40s 2031	Afford Mkt Rent % < 40s 2031	Share Private Rent % 2031
North East	11.4%	10.2%	0.3%	60.6%	34.2%	52.4%	21.1
Yorks & H	10.4%	15.4%	0.3%	42.9%	41.8%	65.7%	22.1
Nth West	9.3%	20.6%	0.3%	45.8%	45.6%	62.6%	18.9
East Mids	9.7%	13.4%	0.2%	29.1%	50.0%	74.1%	19.0
West Mids	8.5%	14.3%	0.3%	37.6%	51.3%	67.4%	18.3
Sth West	7.5%	20.1%	0.2%	24.7%	52.5%	62.2%	20.5
East Eng	9.5%	18.7%	0.3%	27.4%	53.2%	71.6%	19.8
Sth East	8.7%	19.1%	0.2%	21.9%	58.4%	72.0%	20.6
G London	13.8%	11.7%	0.7%	52.9%	42.9%	43.7%	32.7
England	9.4%	16.5%	0.3%	36.3%	48.4%	66.0%	20.1

(b) percentage point differences from baseline

Region	Backlog Needs 2031	Chance Rehouse 2031	Core Hless % hhd 2031	Core Hless flow as % rehousing 2031	Able to Buy % < 40s 2031	Afford Mkt Rent % < 40s 2031	Share Private Rent % 2031
North East	-0.6%	1.7%	-0.2%	-70.4%	0.8%	-0.2%	-0.2
Yorks & H	-1.2%	7.7%	-0.2%	-70.2%	3.1%	0.7%	-0.1
Nth West	-1.8%	13.3%	-0.2%	-62.3%	6.4%	2.5%	-0.1
East Mids	-1.1%	4.9%	-0.2%	-46.0%	3.8%	0.7%	-0.2
West Mids	-1.2%	4.9%	-0.2%	-55.2%	6.4%	2.3%	-0.1
Sth West	-1.9%	8.4%	-0.2%	-46.8%	8.0%	2.9%	-0.2
East Eng	-1.8%	7.7%	-0.2%	-41.8%	8.4%	2.9%	-0.2
Sth East	-2.7%	10.4%	-0.2%	-61.4%	17.0%	6.0%	-0.1
G London	-6.6%	7.7%	-1.5%	-275.5%	18.0%	7.2%	-0.5
England	-1.5%	7.4%	-0.2%	-56.8%	6.7%	2.2%	-0.1

Table 6.6(b) shows the extent of the changes (generally improvements) in outcomes across the regions resulting from the higher supply strategy. The general pattern is of bigger impacts in London and the South, especially the South East, with lesser impacts in the northern regions, although for some indicators the improvements in the north are sizeable. This pattern of results is expected and broadly as intended, based on a strategy to targeting areas of higher need, albeit subject to some constraints. The homelessness-related indicators show more of significant improvement across all regions because the core strategy modelled also involves measures other than supply, particularly in the fields of welfare and prevention, which would apply across the country.

Varying local impacts

However, there is also still quite wide variation between individual local authorities, within each region. This is illustrated by the following examples, which shows key outcomes for three or four selected authorities in each of four regions. These are selected to illustrate variations in the degree of reduction in need/improvement in rehousing prospects, and also urban-rural differences.

To take a northern region as an example, Authority A is a deprived urban authority with significant needs, and new housing targets set are relatively low and, although forecast new build somewhat exceeds these. Backlog needs reduce by 0.6% points and households in need would see a modest (3%) improvement in chances of rehousing. Core homelessness would fall and the share of rehousing for this group would fall by 11%. Younger households' ability to buy would fall by 1% points, while rental affordability would not change, and there would be a very small net reduction in the share of private renting. Authority B is a neighbouring urban authority,

characterised by low demand, with new housing targets set low. In this case there is little change in needs and a marginal fall in homelessness, with a marginal fall in affordability (-2% to buy or to rent). Authority C is a rural authority where targets are somewhat more positive and forecast new build is higher. There are moderate improvements in backlog housing need (-0.3%) but more significant reductions in core homelessness (-0.33% points) and in the share of rehousing devoted to this group (-43%), but again marginal negative changes in affordability.

Looking at a Midland region we highlight and contrast a core city (D), a smaller town associated with a former coalfield area E, and one of the more rural districts (F). Authority D has a reduced target and forecast with a moderate social renting quota; E has a reduced target with zero net social renting need; F has a stable target with an increasing forecast and limited local social renting need. For the city authority D there are quite sizeable reductions in need (2.6%) or improved chances of rehousing (+3%), with particularly improved situation for core homeless households (-0.83% of share of households; ratio of flow to rehousing -103%), although the change in affordability to buy is modest (+1%). In the other two cases E and F, the changes are more modest, although in the right direction for needs and homelessness. In case E backlog needs fall by 1.3% points, chances of rehousing for households in need rise by 13%, core homelessness drops by 0.03% of households or 8% as share of rehousing, but affordability to buy rises by a useful 4%. The changes in authority F are generally small.

In a southern region we highlight one of the main cities, albeit also a coastal resort (G) characterised by high market demand pressure, a small heritage city also with significant development constraints (H), and a larger, less pressured rural area (I). While capacity constraints force a reduced target on case G, case H sees an increased target and forecast, and both have significant positive social rented needs. Case I has a steady target, a higher forecast, and zero net social rented needs. The outcomes show sizeable reductions in need and homelessness and improved rehousing chances in all cases, and improved affordability, but with generally the largest impacts in G and the smallest in I. Backlog need would fall by 4.7% points in G and 3.1% in H; chances of rehousing would be up by 10% (G) and 16% (H); core homeless rate would fall by 0.37% (G) and 0.50% (H), while the ratio of core homeless flow to rehousing would fall by more than 100% in both cases. Affordability to buy would improve by 19% in G and 9% in H, while affordability to rent would improve by 6% and 3%. The outcomes in case I would also all be in favourable directions, but smaller in magnitude.

Finally, in London there is a lot of similarity between the boroughs, most of which have capacity constrained reduced targets and high social need quotas. Insofar as there are some differences we try to capture these by contrasting a poor, inner borough (J) with an affluent, outer borough (K) and an intermediate more mixed case (L). All cases see big reductions in backlog needs (between 4% and 9%) and in chances of rehousing (6% to 18%), with the largest impacts in the poor inner borough. Core homelessness is down by between 0.3% and 4.1% of households, with massively

improved prospects for this group especially, albeit the scale of change is somewhat less for K. There are large improvements in affordability for home ownership (18-25%) and quite large improvements for private renting (4-10%). To reiterate, this core strategy has been designed in part to achieve its greatest impacts in the region with the highest housing needs and pressures, London, so these outcomes are in line with that intention.

6.6 Conclusions

In this chapter we have described a process of extending our approach to assessing housing requirements from a broad regional level down through Housing Market Areas to the level of Local Authorities, initially for England. This has been a challenging task, for several reasons. Firstly, it became clear that, when going to this level, it was necessary to introduce a third model into the methodology, albeit a more familiar established approach to assessing local housing requirements. Blending what we now term Models 1 and 2, we derived a set of targets at HMA and local authority level, designed to level up affordability conditions between different areas and meet needs for social and affordable housing proportionately. A second challenge overcome at this stage was to find sufficient robust data sources to actually measure conditions at local authority level in our base year (2015).

Thirdly, local authorities vary greatly in their geographical characteristics and capacity to actually accommodate new housing. Using some earlier work on potential development capacity we introduced this as a potential constraint, modifying targets in some areas to reflect this. Then, using the forecasting capabilities of the SRHMM we looked at certain key indicators of the extent to which key housing need and homelessness targets would be met, and further adjusted the targets to try to improve achievement against these targets.

However, at this point we had to draw a line and take stock of the picture as it emerged, both in overall terms and in detail. At this stage, the fourth challenge kicked in, which was to summarise and make sense of the detailed model results for all 324 local authorities in the system. Given that we are not working with a single number answer approach to housing needs, but a looking at a basket of outcome indicators, this is challenging in terms of the amount of information that has to be reviewed.

Given the significant nature of these challenges, we would claim that this study has succeeded in meeting its objectives in providing a realistic, forward-looking assessment of housing requirements in a unique and innovative fashion. It has combined elements from traditional demographic, affordability-based and survey based methods of looking at housing needs, with an econometric-based forecasting approach focussed on the most appropriate geographical framework of housing market areas, but still deriving the implications for individual local authorities.

Working through the analysis at the local authority level brings out certain features of the system which may not be revealed in broad national or regional assessments.

Firstly, this brings out the extent to which targets need to change substantially from those inherited from the planning system, and the household-projections-dominated approach used therein, in order to have targets which are likely to deliver meaningful impacts on affordability and housing need. We show that these differences are *much greater* than the modest adjustments made to local planning targets by MHCLG in the 2017 guidance. Secondly, however, setting targets which differ greatly from previous figures will not guarantee that new build numbers achieved will follow closely in step – there are implementation issues which intervene between plan allocations and actual completions in a finite time period, momentum effects, the legacy of existing permissions and varying levels of economic viability. Thirdly, there are greatly varying physical capacity constraints affecting some localities (particularly core cities in higher demand regions), and indeed dominating the picture for the London region. Fourthly, there are probably upper limits to the quotas of social and affordable housing which are likely to be acceptable in policy terms, let alone economically or financially viable. For this exercise, which is mainly focused on needs, we set these limits at close to the highest logically feasible level 80% maximum social rented housing). However, this limit only affects a handful of authorities. Much more important is the effect of flexing the overall housing target when interacted with social housing quotas, taking account of the HMA-level values. These processes have the effect of strongly nudging authorities into cooperating with their regional and especially HMA neighbours.

The exercise has shown that the needs estimated through the analysis in Chapters 4-5 can be mapped out across the system of local authorities in England in a defensible fashion. In this way it shows that it could be feasible to deliver such need numbers, even allowing for physical development constraints, although this could involve in some cases proportions of social housing within new developments which might not be considered desirable. Financial feasibility had not been considered at this stage, but it should be noted that the correlation of high need with high house prices and the implied high land values would make for considerable potential contribution from Section 106 and equivalent mechanisms of land value capture. We go on below to report on an attempt to quantify this potential contribution, with associated implications for public subsidy.

Review of the targets, forecasts and outcomes at local authority level, which we have only been able highlight and illustrate key features and examples of here, suggests that our core scenario and set of targets would broadly achieve ‘what it says on the tin’. In other words, they are meeting housing needs overall, including affordability and the ability of younger people to actually form households and enter the system, as well as tackling backlog needs and in particular core homelessness, in a *proportional* way. In other words, the areas with the highest needs/worst problems get the most help/improvement in outcomes, directly or (especially in the case of London) indirectly. Areas with relatively low demand and relatively little indicated need for additional social rented or affordable housing are assigned low or zero targets respectively for new housing provision overall or for these specific forms.

Fine tuning

While most of the local authority level target and outcome numbers appear to make sense from this perspective, there may be few cases where particular numbers look anomalous. Such cases may arise from errors in some input data, but they may also arise where particular authorities have unusual or extreme combinations of circumstances, outside the range of prediction of our models.

Leaving aside such anomalies, it may also be felt that certain classes of local authority are showing more adverse outcomes than is really warranted, and that in the interests of fairness, cohesion or other considerations some adjustment of targets may be warranted on those grounds. This issue is picked up in the following chapter, in terms of the broad North-South regional balance.

It may also be argued that some of the assumptions made about capacity, for example relating to the Green Belt, may not be appropriate or realistic, and that the scenario should be changed to reflect this. Another issue to factor in may be the argument that a more explicit assessment of development viability should be included in the local authority level analysis, to reveal the extent to which levels of social and affordable housing indicated here would or would not be viable, given assumptions about levels and volumes of subsidy availability. Our model is analytically capable of such analyses, but these should probably be done in dialogue with other independent work on costs, subsidy and viability issues. This issue is addressed in Chapter 8 and Appendix A.

Finally, and perhaps most importantly, it may be argued that key assumptions in our core scenario are questionable, either as a picture of likely trends in key drivers (population, migration, economic growth, financial conditions) or as a representation of what key policy settings should be (e.g. regional imbalance, welfare policies). The main way that we can address these issues is through running alternative scenarios and looking at the impacts on our housing programme outturns and outcomes, at both regional and local levels. That is the focus of the next, penultimate chapter in this report.

CHAPTER 7

DIFFERING STRATEGIES AND CONTEXTS

7.1 An Uncertain World

It is a cliché to say that we live in an uncertain world, although political events over the last 4 years underline this, just as financial and economic events of 10 years ago did. Assessing housing requirements starts from current evidence of problems on the ground but inevitably becomes an exercise of projecting into the future, making very many assumptions. We have used a set of models and tools to do this, and have produced a core scenario which embodies our best current view of what housing is required across the country over the next 15 years. We have compared this with a baseline, which represents roughly 'carrying on as we are', and shown that the outcomes under our core scenario would be substantially better, and in at least some senses 'good enough'.

But it would be an illusion to say that there is a single right answer to the question of how much housing is required, or rather a single set of numbers (for each tenure type, region and locality). We need to acknowledge the uncertainty, which affects

- Economic prospects for the British economy
- Demographic trends
- Political events which could significant change both of the above (e.g. Brexit)
- Policy changes which may result from the interaction of the above
- Possible behavioural changes by households/businesses/markets, which may happen in future, or may already have happened but not been detected or reflected in our models
- Inadequacies or limitations in the way our existing model, calibrated on past data, represent key relationship

The normal analytical practice in the face of such uncertainties is to run a series of sensitivity tests, feeding in different assumptions under any or all of the above headings, and see what substantive effect this has on the main findings and conclusions, in this instance about the scale of needs for different kinds of housing across Great Britain. It has always been our intention to include such analyses in this research, and we do report here on some limited but important examples of alternative scenarios.

However, a couple of limitations to this exercise must be acknowledged. Firstly, the time and resources available for this project are finite and the priority has been given to developing working models. Secondly, the fact that a local authority level of analysis has been adopted makes the task of reporting and interpreting the results of any analysis, but particularly sensitivity analyses, very challenging (comparing impacts for

324 LA's versus four broad regions). For these reasons, we confine the discussion in this chapter to a very limited number of variant scenarios, effectively two main alternatives.

7.2 Lower Growth Scenario

The first alternative scenario focuses on the not unrealistic scenario that growth may be lower than in the baseline. By 'growth' we mean both demographic growth in population and economic growth in GDP (or GVA as it is more commonly called now). There are two reasons why population growth could well be lower.

Firstly, migration from Europe is expected to fall as a consequence of Brexit, both the vote itself and the negotiated deal, whatever that turns out to be. One may hazard the judgement that reducing migration (at least from EEA) was a key motivator for at least part of the Brexit vote and that Governments will feel obliged to restrict 'free movement' in some way. Recent data do indeed show a fall in EEA net migration, but less noticed has been the tendency for the rest of net migration to rise. Our core assumption for net migration from 2020 has been 200,000, which although miles higher than government 'targets' is below actual figures observed over the whole of the last decade and a half. Our low variant assumption would halve this to 100,000. In the author's judgement, it is not credible that net migration can fall to 'a few tens of thousands' when there are so many pressures from Industry, services, the Health Service, agriculture and the Universities for various groups of migrants to be allowed in, leaving aside controversial issues over asylum/refugees and the so-called 'hostile environment' policy.

Secondly, the long-term fall in mortality (rise in life expectancy) has been halted in the last few years, and ONS has recently adjusted population projections to recognise this. Our baseline scenario did not include this adjustment, but it is prudent to make some allowance for it, at least in the recent period and immediate future. Birth rates may also be falling, but that will not impact significantly on household numbers in the coming 15 years.

Economic growth could be lower in the coming period than in our baseline scenario, again for two reasons. Firstly, Brexit is forecast by a broad consensus of economic forecasting organisations to have some negative impact on GDP growth, in the short and medium term, although the extent of this impact is generally seen to depend on the nature of the trade and regulatory alignment deal agreed, or not. Current prospects appear to be moving in an adverse direction. Secondly, the British economy has performed very poorly even in the recovery from the financial crisis, in term of productivity and real earnings growth, although employment rates have been high and rising. Economists have not got to the bottom of this so-called 'productivity puzzle', and although the government aspires to raise productivity (one key aspect of the Industrial Strategy) official forecasts from the OBR and Bank of England have been revised downwards to reflect this continuing problem.

Our lower economic growth scenario entails a reduction in GDP growth of 0.3 % points over the 15 years to 2031 (from 2.48% to 2.20%). It should be noted that there is some interaction between GDP growth and the growth of the working age population, which relates again to migration (less to mortality rates). We would generally expect lower growth to be associated with lower net migration, with the causality running in both directions (Bramley et al 2016).

We have run the low growth scenario both with the baseline level of supply and with our recommended core strategy higher level of supply. It is worth noting that lower growth would reduce new housebuilding by about 14% over the period, because new building would be less profitable /viable in some areas and developers may exercise more caution about starting certain sites. It would also reduce household growth by a similar amount (13%), because of the direct effects of lower population numbers and some indirect effects from income. Despite these effects, low growth would be moderately 'good' for most of our housing outcomes, including home ownership affordability (up 4%), backlog need (down 9%), core homelessness (down 13%) and chances of households in need being rehoused (up 26%). In other words, economic growth linked to population growth puts pressure on the housing market, if planning/supply parameters are fixed, and conversely lower growth reduces pressure.

Perhaps more important, however, is to focus on our core higher supply scenario and see what the effects are of this happening at the same time as this lower growth. The national (England) headline results are shown in Table 7.1. In this scenario, although the targets are the same as those described in Chapter 6 (underpinning Table 6.2), the forecast outturn falls slightly short, peaking at 329,000/88,000 in 2026 and falling back somewhat by 2031. Over the plan period total output would be up by 31%, rather than 42% in Table 6.2 or the 43% from the regional version presented in Table 5.10. For social housebuilding these numbers would be up 123% compared with 136% or 146% respectively.

Despite these apparent shortcomings, this scenario delivers good results on many key outcomes, including affordability to buy up 7.5% (better than Tables 5.10 or 6.2), 20% reduction in AHC poverty, 27% reduction in backlog needs, 12% reduction in wider homeless and 69% reduction in core homeless (again better than those comparable scenarios), while the chances of a household in need being rehoused are increased by 126%, better than Tables 5.10 and 6.2. The reason these results are generally better is that the effects of eased pressure, described above, are combined with the effects of the much greater supply and its targeting to higher need areas.

Table 7.1: Summary Outcomes for England of Scenario of lower Demographic and Economic Growth combined with Core strategy of enhanced housing supply, England

Table 7.1 SUMMARY OUTCOMES England			Difference In Change %	Change % in regional inequality
Optimised Aug 2018	2016	2031	2016-31	2031
Total New Housebuilding	13.9%	30.7%	30.7%	
New Social Housebuilding	72.3%	200.0%	123.0%	
Number of Households	0.0%	1.2%	1.4%	
Household Growth	-0.8%	19.5%	17.6%	
Affordability to Buy %	-0.8%	7.6%	7.5%	-115.2%
Affordability to Rent %	-0.2%	0.7%	0.8%	-32.8%
Owner Occ under 40 %	0.8%	0.5%	-0.4%	3.2%
Owner Occ all %	0.2%	-0.7%	-0.9%	-0.8%
Private Rent all %	-0.5%	-2.3%	-2.2%	
Rel Poverty AHC %	-5.1%	-22.7%	-19.7%	-15.8%
Financial Difficulties %	-2.8%	-15.1%	-13.7%	-17.2%
Concealed/sharing hhd %	-1.3%	-10.3%	-10.0%	-64.3%
Backlog Housing Need	-4.5%	-26.8%	-26.5%	-60.5%
Wider homeless	-3.6%	-14.1%	-11.8%	
Core homeless	-2.8%	-56.6%	-69.1%	-40.3%
Annual net new need AH	-12.1%	-67.1%	-94.2%	
Chance of Rehousing %	23.2%	126.0%	68.8%	-63.4%
Low Demand Indicators	2016.0%	2031.0%	Change %	
HMAs Excess Vacancies (>6%)	0.0%	130.3%	4300.0%	
HMAs High Re-lets (>6%)	16.7%	800.0%	111.9%	
HMAs Price< Cost	2.2%	#DIV/0!	4.3%	

Note: The targets are the same as those underpinning Table 6.4. but forecast output levels are somewhat less (329,000 total and 88,000 social rented)

Perhaps to be expected, however, this scenario gives slightly greater cause for concern in terms of potential low demand problems becoming more common.

Table 7.2 shows the regional summary, based on the full analysis by Local Authority. The top part of the table shows the (simple) average score, the lower part showing the difference from baseline in percentage points.

Backlog needs see bigger reduction impacts in London and the south, although all regions see improvements, but at the end London still remains higher than the north

Table 7.2: Summary Outcomes for English Regions of Scenario of lower Demographic and Economic Growth combined with Core strategy of enhanced housing supply, England

(a) Absolute scores 2031

Region	Backlog Needs 2031	Chance Rehouse 2031	Core Hless % hhd 2031	Core Hless flow as % rehousing 2031	Able to Buy % < 40s 2031	Afford Mkt Rent % < 40s 2031	Share Private Rent % 2031
North East	11.1%	10.9%	0.3%	57.9%	36.0%	54.3%	20.8
Yorks & H	10.0%	17.7%	0.3%	38.8%	45.2%	67.1%	21.8
Nth West	9.2%	17.8%	0.3%	42.3%	48.3%	63.4%	18.7
East Mids	9.5%	13.3%	0.2%	25.8%	51.8%	74.4%	18.7
West Mids	8.3%	14.8%	0.3%	35.8%	53.9%	68.1%	18.1
Sth West	7.4%	21.1%	0.2%	23.1%	55.0%	62.9%	20.2
East Eng	9.3%	19.2%	0.3%	28.2%	53.3%	71.4%	19.5
Sth East	8.1%	21.2%	0.2%	20.9%	62.9%	72.8%	20.2
G London	12.2%	13.0%	0.6%	47.8%	48.4%	44.5%	31.8
England	9.1%	17.0%	0.3%	34.1%	50.8%	66.8%	19.8

(b) *Differences from baseline*

Region	Backlog Needs 2031	Chance Rehouse 2031	Core Hless % hhd 2031	Core Hless flow as % rehousing 2031	Able to Buy % < 40s 2031	Afford Mkt Rent % < 40s 2031	Share Private Rent % 2031
North East	-0.9%	2.4%	-0.2%	-73.2%	2.5%	1.7%	-0.5
Yorks & H	-1.6%	10.1%	-0.2%	-74.3%	6.5%	2.1%	-0.4
Nth West	-1.9%	10.6%	-0.2%	-65.7%	9.1%	3.3%	-0.3
East Mids	-1.3%	4.7%	-0.2%	-49.3%	5.6%	0.9%	-0.5
West Mids	-1.5%	5.5%	-0.2%	-57.0%	9.0%	3.0%	-0.3
Sth West	-2.0%	9.3%	-0.2%	-48.3%	10.5%	3.6%	-0.5
East Eng	-2.0%	8.2%	-0.2%	-41.1%	8.6%	2.7%	-0.6
Sth East	-3.3%	12.5%	-0.2%	-62.4%	21.5%	6.8%	-0.5
G London	-8.2%	8.9%	-1.6%	-280.6%	23.6%	7.9%	-1.4
England	-1.8%	7.9%	-0.2%	-58.9%	9.2%	3.0%	-0.4

Chances of rehousing increase most in South East and North West and least in East Midlands and North, but at the end chances remain low in London, and quite low in the North East and East Midlands. Core homelessness is reduced most in London and the change in rehousing share is greatest there. Yet the end of the period London still has higher core homeless, with relatively low rates across the other regions. The share of lettings required for core homeless is high in both London and the North East.

Affordability to buy or rent increases much more in the south and London, with modest improvements in the north. At the end of the period affordability to buy is similar in the North West and Yorkshire to London, although lagging in the North East, while being higher in other areas particularly in the South. Affordability to rent remains much lower in London, and higher in the south and midlands. There is a small reduction in private renting share in all regions, with a slightly larger reduction in London.

These patterns are not very different from those generated by the core supply strategy when using baseline economic and demographic assumptions. On balance outcomes are better in this scenario because pressure on the housing system is reduced a bit. However, it may be argued, on the basis of these regional analyses, that perhaps the core supply strategy is rather too weighted in favour of the south and London, at the expense of the northern regions. That may be an area for more exploration, although we would argue for some caution and selectivity in boosting supply in the north.

7.3 Regional Rebalance Scenario

One response to the observations made here and earlier about the balance of housing supply between the London, South and North is to consider a scenario involving some rebalancing of economic growth between these broad regions. Concerns about the growing disparities between the economic performance of London, and the Greater South East region which supports it, and the rest of England have grown in recent years (Beatty and Fothergill 2007, 2016, 2018). It is a stated intention of the Government's Industrial Strategy, as well as some of its urban/local government initiatives (City Region deals, Northern Powerhouse, Midland Engine) to achieve some such rebalancing. After several decades of largely 'hands off' approach to regional economic development (or rather, some delegation of elements of regional policy to the EU), this may be regarded as a welcome change, but it is unclear how strong the substance of this policy is or how easy it will be to change actual economic performance.

While Bramley et al (2016) exemplified such a strategy and found its impacts on poverty and the housing market to be very positive, it is probably fair to say that the assumptions used in that scenario were optimistic, particularly on a short-medium time horizon. Therefore, the scenario tested here is a more moderate version of that, entailing closing about a third of the gap in GDP performance between the most lagging region and London. We combine this with a somewhat modified version of the core housing supply strategy, entailing somewhat reduced emphasis on London and areas of greatest affordability pressure, removing the element of Green Belt land take in highest pressure areas, and allowing targets to rise a bit more, or reduce a bit less, in the midlands and north. As a result forecast new build would increase more in the North than in the South or London. The national summary of outcomes is shown in Table 7.3.

Table 7.3: Summary Outcomes for England of Scenario of partial Regional Rebalancing, with modified Core strategy of enhanced housing supply, England

Table 7.3 SUMMARY OUTCOMES England	2016	2031	Difference in Change % 2016-31	Change % in regional inequality 2031
Total New Housebuilding	12.3%	37.8%	47.2%	
New Social Housebuilding	57.8%	191.6%	140.6%	
Number of Households	0.2%	3.1%	3.2%	
Household Growth	3.7%	34.4%	25.5%	
Affordability to Buy %	-0.9%	4.6%	4.9%	-101.5%
Affordability to Rent %	-0.2%	0.4%	0.5%	-28.4%
Owner Occ under 40 %	0.6%	0.3%	-0.3%	-7.2%
Owner Occ all %	0.1%	-0.7%	-0.8%	-2.2%
Private Rent all %	-0.4%	-0.2%	0.2%	
Rel Poverty AHC %	1.5%	-8.5%	-10.4%	-7.0%
Financial Difficulties %	0.9%	-6.2%	-7.6%	-13.6%
Concealed/sharing hhd %	2.8%	-6.8%	-10.1%	-50.3%
Backlog Housing Need	0.6%	-16.7%	-19.5%	-38.1%
Wider homeless	0.7%	-10.8%	-12.3%	
Core homeless	0.6%	-50.9%	-63.8%	-28.8%
Annual net new need AH	-3.0%	-50.6%	-73.8%	
Chance of Rehousing %	12.7%	103.7%	66.7%	-44.8%
Low Demand Indicators	2016.0%	2031.0%	Change %	
HMAs Excess Vacancies (>6%)	0.0%	63.6%	2100.0%	
HMAs High Re-lets (>6%)	0.0%	200.0%	33.3%	
HMAs Price< Cost	2.2%		4.3%	

A number of indicators in this table are quite similar, on average, to those in the previously considered core high supply scenario, including the overall level of new housebuilding, household growth, backlog housing need, wider and core homelessness and rehousing prospects for the homeless and households in need. Progress in improving affordability is marginally greater, although the reduction in poverty and financial difficulties is less. For some indicators, there is a change in the direction of greater regional inequality, or less reduction in regional inequality in certain poverty and housing need indicators, although this effect is not as strong as expected. The local results are given in the form of regional summaries in Table 7.4 below.

Table 7.4: Summary Outcomes for English Regions of Scenario of partial Regional Rebalancing combined with modified Core strategy of enhanced housing supply, England

a) Absolute scores 2031

Region	Backlog Needs 2031	Chance Rehouse 2031	Core Hless % hhd 2031	Core Hless flow as % rehousing 2031	Able to Buy % < 40s 2031	Afford Mkt Rent % < 40s 2031	Share Private Rent % 2031
North East	11.6%	10.3%	0.3%	58.8%	32.2%	50.9%	21.2
Yorks & H	10.4%	16.9%	0.3%	41.9%	42.6%	65.0%	22.2
Nth West	9.5%	17.0%	0.3%	45.7%	45.0%	61.9%	19.0
East Mids	9.7%	13.6%	0.2%	30.0%	50.9%	73.2%	19.2
West Mids	8.5%	14.8%	0.3%	37.4%	51.4%	66.6%	18.5
Sth West	7.7%	20.6%	0.3%	24.6%	54.9%	62.1%	20.7
East Eng	9.6%	19.4%	0.3%	30.0%	54.7%	70.8%	20.0
Sth East	8.7%	20.0%	0.2%	21.4%	60.5%	71.2%	20.9
G London	13.4%	13.3%	0.8%	52.3%	44.5%	42.8%	33.2
England	9.5%	34.9%	0.3%	36.2%	49.0%	65.2%	20.2

(c) Differences from baseline, % points

Region	Backlog Needs 2031	Chance Rehouse 2031	Core Hless % hhd 2031	Core Hless flow as % rehousing 2031	Able to Buy % < 40s 2031	Afford Mkt Rent % < 40s 2031	Share Private Rent % 2031
North East	-0.4%	1.9%	-0.2%	-72.2%	-1.2%	-1.7%	0.0
Yorks & H	-1.2%	9.3%	-0.2%	-71.2%	3.9%	0.0%	0.1
Nth West	-1.7%	9.5%	-0.2%	-62.4%	5.8%	1.9%	0.0
East Mids	-1.1%	5.0%	-0.2%	-45.1%	4.7%	-0.2%	-0.1
West Mids	-1.2%	5.5%	-0.2%	-55.3%	6.5%	1.5%	0.0
Sth West	-1.7%	8.9%	-0.2%	-46.8%	10.4%	2.8%	-0.1
East Eng	-1.8%	8.4%	-0.2%	-39.2%	10.0%	2.1%	0.0
Sth East	-2.7%	11.4%	-0.2%	-61.9%	19.1%	5.2%	0.2
G London	-6.9%	9.2%	-1.4%	-276.1%	19.6%	6.2%	0.0
England	-1.5%	25.8%	-0.2%	-56.8%	7.4%	1.4%	0.0

There are many similarities in the patterns revealed here with those in Table 7.2. The larger reductions in need or improvements in chances or rehousing of affordability in the market tend to be associated with London and the southern regions. Nevertheless, there are meaningful improvements in all regions in all indicators, except the share of private renting. One quite anomalous result is the apparently very high figure of chances of rehousing in the North West. At the end of the period, while regional variations have generally been reduced, higher levels of need are still recorded in

London and the northern regions, compared with the southern regions, and chances of rehousing as well as affordability are better in the south (although not in London)

One could conclude from this analysis that, while a regional rebalancing is desirable, to the extent that this is realistically achievable this would lead to only a moderate redirection of new housing investment and a moderate change in the general pattern of outcomes. It would leave open the question of whether the balance between broad regions in social or general housing investment was right from all points of view.

7.4 Conclusion

In this chapter we have made the case for subjecting model scenarios to sensitivity testing, again with a particular focus on key housing need outcomes. We illustrated the approach with a couple of important variant scenarios, one focusing on lower demographic and economic growth, and the other on countering regional economic imbalance. It is possible to model and consider a wide variety of other sensitivity tests, but limits on time and space in this report put limits on this.

The main conclusion from the tests so far are that the core strategy for housing supply put forward, based primarily on the analysis in Chapters 4 and 5 but then implemented through a more detailed local level approach, appears to be robust to some of the obvious variations in conditions or policies which might be regarded as important possibilities. By robust we mean that the general approach to target allocation seems to still work, with some detailed modification, and most importantly that the pattern of outcomes still seems to be broadly appropriate.

That is not to say that, if somewhat different priorities were explicitly adopted, then a somewhat different target allocation scheme might be optimal. Furthermore, consideration of particular cases, which might be regarded as anomalous or problematic, might lead to a modification of the targets for particular authorities.

CHAPTER 8

OVERALL CONCLUSIONS AND IMPLICATIONS

Main Substantive Findings

This study confirms the widespread perception that housing needs have increased and current levels of housing supply are inadequate in scale and scope. There is a current backlog of households with housing need of 3.91million households in Great Britain with 3.37m in England. Adding in various core and wider homeless people not within private households, and private renters with affordability problems would bring the total up to 4.75 million across Britain.

It is clear that we cannot meet all of these needs instantaneously. What is needed is a government-led plan for a really effective housebuilding programme to address these existing needs plus expected future needs and demands. 15 years is a reasonable time frame to plan for such a programme.

Over that time horizon, the total level of new housebuilding required is estimated at around 340,000 *per year* for England (380,000 for GB). We estimate that the target level of new social housebuilding required is around 90,000 per year (GB 100,000), with additional provision of 27,000 shared ownership (or equivalent LCHO) and 33,000 for intermediate affordable rent (32,000 and 36,000 for GB).

These estimates are derived from employing three partially distinct methodologies in complementary fashion: two based on a traditional demographic framework enhanced to reflect affordability; and the other based on a dynamic sub-regional housing market model and consideration of a wide range of key outcome measures, relating to affordability, poverty, housing need and homelessness. As with any such models and estimates, these rest on a set of assumptions and norms which have been clearly set out.

The emphasis in this study has been on housing requirements and needs, and we have not exhaustively examined all aspects of feasibility. However, we have demonstrated that our suggested targets, at local authority level, are consistent with a reasonable interpretation of evidence on available land capacity. Other factors which may affect the achievability of these targets depend upon policies adopted on issues of tenure mix and on levels of subsidy available. We offer a brief view on financial costs..

It is clear from the analysis that this increase in supply should be skewed towards regions where the pressures are greatest, which is currently London and the South, although the exact extent and implications of this may require further debate, in the light of any emerging regional development strategy. The role of local authorities in addressing these challenges is crucial, but the analysis highlights the point that not all

needs can be met in the local authority where they arise and local authorities need to cooperate and share in the responsibility for securing adequate housing supply. In the case of London, they cannot realistically all be met within the GLA boundaries.

The study considers housing requirements for the whole population, but with a particular concern for lower income groups and especially people at risk of homelessness. Drawing on other recent research it recognises and factors in the significant role of complementary measures to housing supply, particularly prevention measures, welfare changes, criminal justice and health service measures to address complex needs, in cutting the risks of core homelessness and rough sleeping.

The main focus of the analysis has been on England but it is being replicated in Wales and Scotland. The findings there so far suggest that in Wales there is a clear case for enhanced investment in and targets for affordable housing. In Scotland, the devolved government has adopted ambitious targets for affordable and social rented supply. It is expected that further local level analysis will confirm provisional findings that the picture in Scotland is more uneven, with the need for significantly enhanced supply including social renting confined to a certain geographical areas, while other areas have a more balanced position or even some over-supply; and that intermediate sector housing may merit more enhancement than social rented in some cases.

The findings of the study clearly support the notion that government should give a lead and set targets for housing supply and, within that, for affordable tenures including social renting. However, the analysis does support our initial contention that excessive reliance on household projections as a basis for local targets is seriously flawed, and other evidence and models need to be brought to bear to arrive at a more appropriate set of targets. Furthermore this consideration should be more than tokenistic, as it is shown here that the scale of redirection of effort in terms of housing supply is really substantial, both in terms of geography and in terms of tenure.

Policy Issues

The main role of this study has been to present evidence and analysis for the policy process to take on board, not to engage in detailed policy re-design. However, it is appropriate and of value to at least highlight areas of policy where the study findings have implications which should be given serious consideration.

Acknowledgement of the scale of the challenge is a good starting point. The study suggests levels of housing supply, including sectors directly or indirectly sponsored by the government, which are larger by a different order of magnitude than what has been contemplated so far, and perhaps closer to levels achieved in what are now considered ‘historical’ periods (between 1950 and 1975). This should not be a surprise. Demographic growth in Britain in the last 20 years has far exceeded that seen in the preceding 2-3 decades, but housing supply response has been sluggish, despite reports such as Barker (2004) and NHPAU (2009) urging greater action, and further greatly frustrated by the aftermath of the financial crisis of 2008.

Planning for major growth, rather than ad hoc short term initiatives, is what is needed. That means some gearing up of capacity and skills in national government and agencies and in local authorities, particularly those where higher levels of growth are required. Although we have focused here on a 15 year horizon, local planning for housing and infrastructure should look further ahead than this, and should be ready to contemplate new settlements and urban extensions on a significant scale, as well as good quality (re)developments on previously used land.

The role of social rented housing emerges as a strong theme of this research, because it is very clear from the analysis of affordability based on income distributions, even taking account of access to wealth and savings, that an awful lot of (younger) households entering or moving through the housing system cannot really afford the private market on any reasonable norms. To continue to rely on further expansion of this tenure as a long term solution appears highly challengeable, in terms of the risks to the households involved, costs to the government through LHA/UC, and indeed a political backlash from 'generation rent'. Our analysis suggests that some could afford forms of 'intermediate rent' but many would really require some form of social rent, based on an objective analysis of affordability against reasonable norms.

Security of tenure is an issue which can be related to the preceding issue. Until recently social rented housing was generally presumed to entail security of tenure and this helped to ensure that it was seen as a long-term tenure, providing valuable reassurance to vulnerable households (including elderly or disabled) and also to families or households contemplating family formation, and a basis for stable communities. Policy and legislative moves by government in the period 2010-15 appeared to signal a move away from this presumption towards the treatment of social housing as a residual tenure of last resort which people should not regard as a long term option. These reforms were controversial, strongly challenged and amended during parliamentary processes, and appear to have been effectively withdrawn. Thus, in a sense, this restoration of the status quo ante provides part of the underpinning for a strategy involving significant investment in social rented housing.

There are also further debates to be had about the possible role of enhanced security, perhaps in the context of 'second generation rent controls', in the private rented sector. We have not examined this option specifically in this study, although the SRHMM model has some capability of exploring this.

Rent levels, particularly for social rented housing, are also a related issue. Social sector rents have been subject of frankly contradictory policies since 2010, and arguably a clear and stable framework would be a desirable and necessary condition of moving forward under a clearer view of the role of the sector. Lower rents make for easier affordability for a marginal group just outside the reach of HB/UC, and reduce the costs of HB/UC to the national government in respect of the high proportion of tenants who receive these benefits. Lower rents also increase the grant or other subsidy required to deliver new social rented housing, and with a given budget reduce

the amount of social rented housing which can be built. Higher rents have the opposite effects, but also can worsen the incentives for some households to enter work or increase their working hours. There will be a separate debate and detailed analysis of those issues, going beyond the scope of this study, but certainly affecting the scale of programme which can be delivered in practice given any public spending settlement.

The *financial feasibility* of a much larger social rented programme also depends significantly on the interaction between the spatial location of the new housing needed and the effective use of Section 106 *planning targets and obligations*. Post-2010 modifications of these arrangements have hampered what had previously been a very effective mechanism in England, and need to be reviewed again to ensure greater effectiveness (Crook et al 2016, Gurran & Bramley 2017). Our local level modelling framework is capable of assessing the scope for such contributions to defray costs to the Treasury of an enhanced social rented programme. Although this goes somewhat beyond the scope of the brief for this project, we have used our database to generate an approximate estimate of the annual subsidy cost for this programme, as developed in Appendix A. This suggests an annual 'subsidy'[35] cost to the government of £14.1bn. It allows in a reasoned and evidenced fashion for contributions from s.106 planning obligations worth rather more than this, at around £17bn, which is roughly four times the amount recorded in 2016 according to the most recent official study (Lord et al 2018).

The role of *intermediate rental housing*, alongside shared ownership, emerges as a significant theme from the study. We show that there is a significant contribution which can be made in most areas from such provision, alongside social renting. In a sense, this is a straightforward good news story with little downside. Such housing should be capable of delivery under the terms of typical s.106 affordable housing agreements with little or no additional public subsidy, and a wide range of providers are queuing up to offer such products. We would suggest that for a significant part of this sector, again, reasonable security of tenure should also be part of the offer.

On the *welfare system*, our main thinking here is influenced by other research, including the Crisis Homelessness Monitor work (Fitzpatrick et al 2018) and Homelessness Projections work, as well as contributions to the Joseph Rowntree Foundation 'Solve UK Poverty' programme (e.g. JRF 2016, Bramley et al 2016). Thus, certain welfare changes are essential complementary measures to secure the desired reductions in core homelessness and rough sleeping, particularly lifting of the LHA cap and review/reversal of some of the cuts in Universal Credit.

Income distribution, particularly for younger households is a major factor, underlying our findings on affordability. Many factors feed into this, some reviewed in the studies

[35]Because general 'bricks and mortar' subsidies in UK are mainly delivered through capital grants, it seems appropriate to use the term subsidy, but it is equally valid to regard this spending as 'capital investment' as the government/social housing sector gain a long term asset from this spending, and the government retains a stake in the balance sheet of social housing providers.

cited above on tackling poverty and some in wider contributions such as that of Atkinson (2015).

Something which arguably also emerges from this study is the need for a clearer *regional/urban economic development strategy* (what some would call a spatial plan) for England. A lot of the housing need and affordability problems, and the challenge of meeting it, relate to the geographically very skewed (London-centric) pattern of development in England, as drawn attention to in recent work by Beatty & Fothergill (2016, 2018) but also in effect acknowledged by the Government's Industrial Strategy and its City Region deals. We show how a change in this could ease the ability to meet the challenges of housing need, affordability and homelessness, through one of the variant scenarios modelled in Chapter 7.

Home-ownership remains an aspiration for many younger households, as well as something which both current and previous governments sought to promote. Since the early 2000s, we have mainly been going backwards in this respect. Our modelling suggests that, with even the large enhancements to supply, and given the resulting improvements in affordability, we would only be 'holding the line' in the sense of preventing things getting worse in terms of the share of all households, or younger households, in home ownership. It is very hard, according to our models, to find a strategy which would enable home ownership to bounce back up in a significant way. There are further measures which could be explored on this, but these may be controversial in other ways, and certainly raise issues about the relative priorities between this issue and tackling homelessness and the problems of the poorest in our society.

Further Work Needed

This study has achieved most of its main aims within a relatively short period, but it is still in some respects a work in progress. The forecasting model scenarios approach has been demonstrated to work well, although there are a few issues and refinements to be addressed, particularly in the local level implementation.

Perhaps the most important point to make is that the forecasting outcomes approach is an indirect way to approach the question of how much additional housing, of different types and tenures, is needed, overall and by region/locality. At what point, as we increase the supply numbers, do we say 'enough is enough' - i.e. the point at which gains in terms of need/affordability outcomes become negligible or negative, or other problems or side effects become more prominent.?

Secondly, we have not devoted much attention to the costs of meeting these housing need, particularly the costs which government would need to meet. Detailed costing analysis is beyond the brief for this project, but we have used data compiled in this study to make one rough set of estimates (contained in Appendix A), and referred to above. This shows that a very significant part of these costs can be met through planning obligations for affordable housing (and infrastructure) as part of the package.

Thirdly, there will be ongoing debates on the appropriate spatial allocation of these numbers, which will interact to some extent with the subsidy cost/budget issue. We have presented an affordability and needs-based model for allocating total and social housing supply, and we have looked at some variants around the central case. However, more variants could be explored, given particular arguments which may be brought into play.

Fourthly, we have determined a recommended division of new supply between four types of provision, corresponding to our affordability bands (new private market sale, shared ownership, intermediate rent and social rent). In the scenarios reported in this chapter we have so far focussed particularly on two of these, while also providing reasonable estimates of the requirement for shared ownership and intermediate rent[36], and integrate this into the overall modelling of outcomes. We have not explored the implications of varying the assumed level of social rents. Neither have we addressed the potential role of forms of new build market rental, although we are sceptical whether this has much if anything to contribute to our brief, which focuses particularly on lower income households and homeless people.

Each of the issues identified in the previous paragraphs may be seen as a form of optimisation problem. What is the optimal total level of supply to meet need? What is the optimal level when costs are taken into account? What is the optimal spatial distribution of supply, and how is that constrained by land use and environmental factors? What is the optimal tenure mix? While the model is equipped with the necessary elements to take account of most of these factors, we have only in the time available run it for a limited range of variant assumptions. It would be necessary to run it repeatedly to demonstrate that the recommended solution is optimal in all respects. There will not, in any case, be a single optimal solution, because this will depend on policy judgements about (a) levels of resources to commit and (b) which of the different needs are priorities.

[36] The model already calculates proportions of younger households able to afford these options. There is also provision for the model to incorporate actual provision numbers and trace their impact on backlog needs, which will generally be less than that associated with social renting.

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Appendix A

'Subsidy' Cost of Meeting Housing Requirements

The purpose of this Appendix is to provide an illustrative indication of how the affordable and social housing requirements, as well as the immediate infrastructure requirements associated with the housing development programme suggested, could be met. Although these estimates build on the database developed at local authority level to model housing requirements across England, they of necessity make a range of assumptions, some of which may be characterised as 'broad brush'. However, some of the key assumptions have been informed and to some degree calibrated on the basis of one recent, highly relevant, officially commissioned research study (Lord et al 2018). This study is particularly valuable for quantifying the extent to which the s106 planning agreement/obligation system and the Community Infrastructure Levy (CIL) are being used in England to reap value from development gains, notably in the form of subsidies for affordable housing worth £4bn in 2016 and infrastructure associated with development worth £2bn in that year. It demonstrates that despite the financial and property market crisis of 2008-12, government responses to that and to industry lobbying, and the critiques of some commentators, this system has again become a very significant source of locally-based, flexible, hypothecated development gains taxation.

The way that social and affordable housing have been developed in recent years in England (and across GB) has entailed a mix of funding, generally expressed in terms of capital sums from different sources which together make up the cost/value of a new housing unit[37]. So, a new social or intermediate affordable housing unit can be funded by a mixture of

A. The capitalised net present value of future stream of rental income net of maintenance and management costs and major repairs provision (i.e. borrowing against future rental income from the new housing created)
B. Direct capital grants from government (SHG, etc) [38]
C. A contribution from the accumulated reserves from past rental and development surpluses earned by the RSL/LA housing organisation, which might also include some prudent borrowing against future rental incomes from existing tenants

[37] Traditionally, council housing received revenue subsidies to defray part of the loan charges on capital outlay. Over the period when council development effectively ceased, inflation and receipts from sales reduced the debt servicing burden and government levied some repayments of subsidy to offset HB costs. As council housing revives, it remains to be seen how exactly it will be subsidised in England, although in Scotland a mixture of lump sum capital grants and rental income from new and existing tenants have been used.

[38] With Housing Associations (RSLs) back in the 'private sector', from a legal/accounting viewpoint, this element is the only part of the cost which is counted as 'public expenditure'. Although it functions as a subsidy, it is also a form of capital investment insofar as it helps to pay for a long lived asset, and the government retains a stake in that asset insofar as it forms part of the capital structure of the RSL, which may be liable to be repaid to the government in the event of disposal of the asset (without replacement).

D. The value of discounting of the land value involved in the development, both the value of the land on which the affordable housing would sit plus (potentially) some of the 'development gain' value on the remainder of the land (so-called cross-subsidy), in the case of (increasingly normal) mixed tenure developments, and/or financial contribution from development gains made on other sites, whether under the terms of s.106 planning agreements (s.75 in Scotland), or through arrangements for the disposal of public land.

For the purposes of the estimates reported here, we have modelled values under these four headings which could be generated with the implementation of our core strategy of building 340,000 total housing units p.a. in England of which 90,000 would be social and 60,000 other intermediate affordable.

The steps of the calculation may be summarised as follows:

1. The cost of building a typical housing unit in 2016 was derived from a study undertaken for the Royal Town Planning Institute by the author working with Three Dragons Consultancy, who have extensive experience of developing 'viability toolkits' for many local authorities. These figures are based partly on the BCIS information service, take account of 'contractors profit, and vary by region. The values average £166k with a range from £146k (NE) to £205k (GL).
2. An assumed level of contribution to infrastructure necessary or desirable to accompany typical new housing developments, averaging £20,000 per unit but varying pro rata construction costs across regions, is added to this. This could be a combination of typical CIL charges and/or typical infrastructure/social & environmental facilities secured via s.106.
3. A representative sales value is derived for the typical new housing unit, using a combination of the 'mix-adjusted average value' at subregional level and the median actual sales value, at LA district level, weighted more toward the latter. Although we considered making an adjustment for the typical new vs secondhand price premium, in this particular calculation we made no such increase.
4. Subtracting build + infrastructure cost from this value gives a raw residual value or gross development profit per housing unit for the area, assuming all units were sold at market value. After setting the (many) negatives to zero, these values (per total dwelling build, 2016) range from £3,300 or 2% (North East) to plus £315,500 (55%) in London, with an overall average value for England of £91,500 or 24% of total market value.
5. Adjusting from raw residual value to a reasonable estimate of the amount which might be available to subsidise new affordable housing. Here we assume that all residual value is available on greenfield sites but that on brownfield land existing or alternative use values for commercial/industrial uses, based on CoStar land transactions data, provide a floor, which assuming an average density of 30 Dwg/ha implies a reduction of between £10k (NW) and £60k (GL) per dwelling unit. We then assume that 50% of the remaining residual value is

potentially available to subsidise affordable housing. The other 50% allows for developers' additional profit/risk margin and return to landowners. (Remembering that we have already provided for directly related infrastructure at step 2.).

6. We estimate the capitalised net rent figures for social rental units assuming current social rents rising with CPI inflation, funding over 35 years and interest rates not much above current levels. These average around £55,000 (regional range (£36k-£84k). We estimate similar values for intermediate rent averaging £145k (£97-221k) and for shared ownership, where it is a combination of initial capital receipt and rental on the remainder, averaging £191k (£100k-£370k).
7. We estimate the potential contribution from RSL/social landlord reserves and surpluses by taking the recent reported surplus in RSL Global accounts and dividing it by the proposed number of new social units (assuming this would be the priority allocation of this subsidy stream), giving an average cross-subsidy of £45k (£29k-69k) from this source to each new social unit across the English regions.
8. We calculate a 'subsidy gap' based on the difference between the higher of cost or value minus the contributions from capitalised rent/receipts and cross subsidy. This averages £71k per total housing unit (with a very wide range, from about £2k to about £1m).
9. If the net contribution from residual land value (Step 5) is greater than the subsidy gap (Step 8), we set the s.106 contribution at the level of the subsidy gap. If the net contribution from residual land value is less than the subsidy gap, we set the s.106 contribution at its maximum value derived as in Step 5. If this feasible net contribution is zero, we set that actual s.106 contribution at zero. This is the case for 105 English Local authorities, just under one-third of the total.
10. We subtract the net s.106 contribution from the subsidy gap, to derive the requirement for government subsidy. In 42 local authorities, s.106 potential exceeded the subsidy gap, so there is thus apparently no need for government subsidy in these authorities. For positive subsidy authorities, there is wide variation in the amount of subsidy per total housing unit, which averages £37,800, or £73,400 per affordable housing unit (regional range £42k in East to £180k in London). Subsidy for social housing units is somewhat higher (average £84k), although we have capped this at (cost-capitalized rent).

The results of this set of calculations are that we estimate a total cost of Government subsidies of **£14.1bn**, of which £7.5bn is in respect of social rented housing[39]. The total value of s.106 contributions to AH are estimated at **£17.3bn**, somewhat greater in magnitude.

[39] The apportionment to social housing quoted here assumes that AH providers prioritise social rented housing in the allocation of funds from reserves and surpluses.

Both of these figures seem high, relative to recent levels recorded or proposed. However, it should be remembered that this is in the context of a total housing development programme which is double in magnitude that actually being delivered in 2016, with a strong regional focus on the south where values are far higher, and of course a level of new social house building which has not been seen since the early 1970s.

We believe our modelled values for s.106 contributions are not out of line with those recorded in the recent study by Lord et al (2016). For example our average contribution per affordable housing units across England is £78k, compared with £80k from that study. Our value for the East of England is £107k, compared with approx. £110k in that study. Our value for London, at £191k, is higher than the £142k in that study, however.

London is characterised by extreme values, reflecting the extreme nature of its housing market, particularly in 2016. There is increasing evidence of a significant market correction taking place at present, although this may be more of a Brexit effect. Some of the calculations in London might merit further detailed examination and care. However, it does seem clear that residual values, relative to alternative use values, are very high in London (except possibly in very central locations) and could allow even higher contributions, if that were seen as a policy priority.

Changes or differences in key assumptions could make quite a significant difference to these subsidy cost numbers. For example, imposing a maximum quota for social housing could reduce the public sector cost significantly, as could a more rigorous and assertive approach to the use of s.106 in London. Higher inflation or allowable rent rises would also reduce this cost significantly, although higher interest rates would have the opposite effect.

Appendix B

Data Sources

Table B.1: Data Inputs and Sources for Sub-regional (HMA) Model

Item	*Definition*	*Source*
Completions	Number social and private per 100 households x Year x LAD	DCLG Housing Statistics Live Tables, T.253
Migration (domestic)	Persons per 100 residents 'in' & 'out' x 4 age groups x year x LAD, adj to HMA basis using 2007 matrix	ONS Local migration estimates based on NHSCR data
Household Headship	Ratio of HRP/Population x 3 age groups	BHPS analysis 1997-2003; 2001 & 2011 Census base rates 2001 & 2011x LAD; LFS trends x age x region-met/non-met.
House Price	Median and Lower quartile price all sales	Land Registry data compiled by DCLG at LAD level
Social housing stock	LA + RSL rental dwellings x Year x LAD	CLG HSSA returns; MHCLG Local Authority Housing Statistics data returns.
Total & Private Stock	Private sector dwellings x Year x LAD	CLG HSSA returns ; MHCLG Table LT100
Earnings	Median full time earnings x LAD (residence)	ASHE (Annual Survey of Hours & Earnings)
Population	Number x Age x LAD	ONS Mid Year Estimates
Net Lettings	No. of lets to new tenants by LA's & RSLs x LAD	CLG HSSA returns
Vacancies	No. & % of dwellings by social/private x LAD	CLG HSSA returns; LA level all Vacants MHCLG Table LT615.
Household Income	Gross Income of Household from all sources £k pa x LAD	Synthetic model estimate based on UKHLS 2009-15; earlier years based on change in Regional Accounts Real Household Disposable Income series for NUTS3 regions;
Births & Deaths	Numbers x LAD	ONS 'Components of Change' tables
International Migration	Number 'in' and 'out' x year x LAD	ONS 'Components of Change' tables
Mortgage Interest Rate	Ave percentage x year	HM Treasury 'Pocket Databank'
Unemployment (asunem)	Core age (30-44) claimant unemployment % of	NOMIS data compiled for MigMod study and extended for Bramley-Leishman panel model

	working age, adj for definitional changes	
Unemployment (ILO)	Unemployed and seeking work, % of economically active	Annual Population Survey (APS) 3-year rolling average, and 2001/2011 Censuses.
Planning permissions flow	New planning permissions granted for housing, units x LAD, as % of households	Estimated from CLG PS2 returns and Emap-Glenigan database of major sites.
Planning permissions stock	Outstanding uncompleted permissions units x LAD, as % of households	Estimated from former DOE PS3 returns, Emap-Glenigan database, PS2 returns and CLG completions data;
High & low Social Class	% in higher occupational groups	Census 2001 + Annual Population Survey Occupational Groups (pooled 3 yr ave data)
Single person, lone parent & other household types	% households single non-elderly, lone parent, etc	Census 2001 & 2011; LFS trends x broad age & region 1992-2008; DCLG Household projection share trends 2008-2033 and 2014-2039
White British, Black, Asian, Mixed/other	% population with White-British, Black, Asian, Mixed/other ethnicities	Census 2001 & 2011; LFS trends x broad age & region1992-2008
Net Density	Dwellings per hectare of land in residential use, ward level	Census 2001, GLUD (Generalised Land Use Database) from CLG via Neighbourhood Statistics
Sparsity	Hectares per person, LAD level	Census 2001 & 2011
Students	% population f t students	Census 2001 & 2011; LFS trends x broad age & region1992-2008
IMD Low Income	IMD 2004 Low Income Score, ward level	IMD (Indices of Multiple Deprivation), Benefits data, from Neighbourhood Statistics
Distance major centre	Ave distance in km of dwellings from major retail service centre (>150k m2 floorspace)	CLG database of major retail/service centres
Greenspace	% of land area 'greenspace'	GLUD
Air	Index of Air quality/pollution	Derived for DTLR MigMod study
Climate	Index of warmer, drier, sunnier climate	Derived for DTLR MigMod study
Scenic	Index of proximity to scenic areas e.g. Nat Parks, AONB	Derived for DTLR MigMod study
Cars density	Cars per m of road length	2001 Census, GIS analysis

Sick/disabled	Limiting long term illness/disability, %	2001 Census; LFS trends x broad age & region1992-2008

Table B.2: Additional data Inputs and Sources for Homeless Projection Model and Enhancement of SRHMM to provide local level needs estimates and targets

Item	*Definition*	*Source*
Statutory Homeless annual flow numbers	Applications, Acceptances and Decisions; reasons for loss of last secure accommodation, etc.	Local Authority Annual 'P1E' statistical returns
Temporary Accommodation	Homeless households in TA in total and in particular 'unsuitable' types (B&B, nightly non-selfcontained, out of area)	LA returns of numbers at 31 March each year.
Rough Sleepers	Spot count/estimate data for autumn each year; Alternative estimates for rough sleeping and 'quasi rough sleeping'.	MHCLG .Rough Sleeping in England 2010-18. Alternative estimates based on Multiple Exclusion Homeless Survey 2010, Supporting People client record data 2010; PSE-UK survey 2012 and SHS 2012-15 retrospective homeless questions and logistic regression models fitted to these; also Destitution in the UK 2017 survey.
Hostel Residents	Occupied hostel places.	Homeless Link 'SNAP' /SSHP survey annual; 2011 Census data on communal establishments
Sofa surfers	Concealed singles or households wanting to move, not non-dependent children or students, overcrowded	EHS and UKHLS survey estimates; PSE and SHS retrospective survey questions; predicted rates based on logistic regression models fitted to these surveys