

Local Housing Need and Affordability Model for Scotland

Summary of Update (2005 based)

Overview

This is a summary of an independent report commissioned by the Scottish Executive and Communities Scotland on affordable housing need. The full report can be accessed on the Communities Scotland website www.communitiesscotland.gov.uk.

The report provides an update of a model first produced in 2003 and updated in 2004, which uses national datasets and surveys to generate snapshot estimates of affordable need across Scotland. In this update it does this for local authority areas, housing market areas and former district council areas.

The model is broadly consistent with advice from central government on local housing needs assessments¹. Part of its purpose is to enable those responsible for local and sub-regional housing strategies and assessments to compare and benchmark their own local estimates, informed by additional local data and surveys, with those derived from a common method across the whole country.

Approach

The Bramley model calculates a snapshot of total need for affordable housing in Scotland in 2005. It also provides estimated projections of need for 2006, 2011, 2016 and 2021. It calculates the net need for affordable housing by deducting the number of social housing relets from an assessment of gross need, which is a combination of:

- new households unable to afford to buy in the market;
- migrant need for affordable housing;
- owner-occupiers needing to move into social renting for a variety of reasons; and
- the backlog of existing unmet need.

The estimated number of new households unable to buy in the market is compiled using estimates of the number of new households forming during the year, their incomes and house prices. The backlog of households with existing needs is derived for each of four aspects of need – shortage, suitability, condition and affordability. The baseline assumption is that 10 per cent of a local authority backlog will be met each year.

Interpreting the figures: their use and limitations

The model does not aim to provide a complete picture of housing need, for the following reasons:

- It gives central estimates for 2005 and the projection period, **based on a wide range of estimates, modelled statistical relationships and assumptions**. These are explained in detail in the full report together with assessments of the model's sensitivity to plausible variations in these assumptions.

¹ Local Housing Needs Assessment: A Guide to Good Practice, DETR, 2000.

- Varying inputs within these plausible ranges can give a wide range of figures for net need. This means the implications of the figures can be interpreted in a number of different ways – this is illustrated in the sections on **‘effects of different assumptions and changes’** and **‘forward projections’**.
- The model does not factor in needs relating to regeneration or housing condition/suitability. Nor does it allow for particular geographical or house size/type imbalances within local authorities.

Changes from the 2004 model

The updated model is a refined version of the one used to inform the 2004 Affordable Housing Review. The key principles are unchanged, but a number of definitional and technical differences have improved the accuracy of the model. A consequence of these improvements to the model has been to reduce the apparent change from previous versions. The significant new elements are:

- a ‘wealth adjustment’ to affordability rates in recognition that households often have access to significant wealth beyond their immediate income(s),
- new population estimates and projections are incorporated, affecting the net migration and household formation assumptions,
- student populations are no longer assumed to feed directly into household formation rates in those areas where they undertake their study, and
- the model is better able to respond to the impact of policy initiatives such as the delivery of 2012 homelessness objectives and the introduction of Homestake in response to a particular form of housing need.

Basic results for 2005

The central finding from this update is that there was a net annual need of 8,045 units of affordable housing in 2005. This is quantified in Table 1 which shows the basic estimates of net annual need for each local authority area in Scotland in 2005. The equivalent figure in the study published in 2004 suggested a net annual need in 2003 of 6,860. However, a direct comparison cannot be made because of the definitional and technical improvements to the model. 25 local authorities (an increase from 16 in 2004) are estimated to have a positive net need, that is the demand for affordable housing in those local authorities is greater than the supply of lets available to new tenants.

Edinburgh remains the local authority with the largest net need in numerical terms. The size of that net need has diminished from 2003, largely through the different approach to handling students housing requirements. Glasgow remains the local authority with the largest surplus, which has increased by around 50% since 2003. It should be noted that in 2003 net need was a localised feature rather than a national problem. This update suggests that a national imbalance is beginning to emerge. The national picture is one where the total need across affected local authorities is now significantly greater than the excess stock in surplus local authorities – 8,045 compared to 6,820, leading to a net national need of 1,225. This compares to a net national surplus of 1,920 in 2003.

Table 1 Basic need or surplus: absolute and relative scale, 2005
(number per year; percentage)

Local authority	Positive net need	Surplus	Net need % of social rent	Net need % of households
Aberdeen City	60	0	0.2	0.1
Aberdeenshire	95	0	0.6	0.1
Angus	90	0	0.9	0.2
Argyll & Bute	405	0	4.9	1.0
Clackmannanshire	5	0	0.1	0.0
Dumfries & Galloway	340	0	2.5	0.5
Dundee City	0	700	-3.5	-1.0
East Ayrshire	0	590	-3.7	-1.2
East Dunbartonshire	580	0	9.8	1.4
East Lothian	395	0	3.9	1.0
East Renfrewshire	480	0	11.7	1.3
City of Edinburgh	2,480	0	7.1	1.2
Falkirk	25	0	0.1	0.0
Fife	5	0	0.0	0.0
City of Glasgow	0	4,590	-4.3	-1.7
Highland	505	0	2.8	0.5
Inverclyde	0	475	-4.3	-1.3
Midlothian	520	0	5.7	1.5
Moray	245	0	3.1	0.7
North Ayrshire	55	0	0.3	0.1
North Lanarkshire	75	0	0.2	0.1
Orkney Islands	5	0	0.4	0.1
Perth & Kinross	540	0	4.7	0.9
Renfrewshire	60	0	0.3	0.1
Scottish Borders	0	35	-0.3	-0.1
Shetland Islands	0	45	-2.1	-0.5
South Ayrshire	65	0	0.6	0.1
South Lanarkshire	480	0	1.5	0.4
Stirling	105	0	1.4	0.3
West Dunbartonshire	0	385	-2.8	-0.9
West Lothian	350	0	1.8	0.5
Western Isles	80	0	4.1	0.7
Scotland Total	8,045	6,820	1.5	0.2
Previous Total (2003)	6,860	8,780		

Note: in all tables, totals may not precisely match the sum of components due to rounding.

Effects of different assumptions and changes

Taking into account different ways of considering the range of variables, the total need estimate of 8,045 for 2005 could vary between around 4,700 and 11,350 depending on the assumptions used. The points which follow illustrate the impact of these variables and underline some important background considerations.

House prices

If prices were 10 per cent **lower** the proportion able to buy would increase by around 4.7 per cent points to 51.5 per cent nationally. The impact on net need would be to reduce positive need by 1,655 units, to 6,390, a reduction of 21 per cent, including a reduction of 165 in the potential need for Homestake.

If prices were 10 per cent **higher** means affordability would fall by 4.8 per cent and need would increase by 2,090 units per year (26% per cent), including a potential extra 210 for Homestake.

Affordability thresholds

A more **conservative affordability threshold** (reducing the lending multiplier to 3.0) would reduce ability to buy by 7.6 per cent points to 39.2 per cent, and increase total net need by 3,300 or 41 per cent, up to a level of about 11,345 nationally including a potential 315 extra need for Homestake.

A more **generous affordability threshold** (increasing the lending multiplier to 4.0) would increase affordability by 5 per cent points to 51.8 per cent, reducing positive need by 1,770 to 6,275 (22 per cent reduction), including potentially 230 less need for Homestake.

Homestake

Applying the **minimum 51 per cent purchase under Homestake** increases the proportion able to afford this option from 6.6 per cent to 12.6 per cent and correspondingly increases the potential need for this provision from 1,180 to 2,165.

If **Open Market Homestake** were generally available on a 51 per cent basis, then 19 per cent of new households could afford this (3,120 per year).

Backlog allowance

By reducing the **backlog allowance** to a 5 per cent reduction per year instead of 10 per cent, net need would fall by 4,020 or 50 per cent overall, and only 13 local authorities would remain in positive need. An increase in the rate at which the backlog is met from 10 per cent to 15 per cent would raise net need by 6,235 (78 per cent) and bring one more local authority into positive need.

Relet rates

Assuming a 10 per cent lower **relet rate** would increase net need by 3,180 or 40 per cent overall. One more local authority would be in shortage. A 10 per cent higher relet rate would have a somewhat smaller effect, lowering need by nearly 1,945 or 24 per cent overall, but leaving only 14 local authorities with a positive net need.

Results for housing market areas

The geographical level at which need is assessed has a considerable bearing upon the results. The rationale for measuring need by housing market areas is that when people are looking for housing (particularly in the private sector) they do not necessarily confine their search to the immediate area and local authority boundaries are not, in many cases, a particular constraint on their search. There may be cheaper housing opportunities available in a neighbouring area, which may be within normal commuting distance. There may also be more social rented housing opportunities in a neighbouring area. There are arguments for not basing social housing need assessments solely on wider housing market areas. In particular, lower income households are generally less mobile geographically and are often more dependent on local ties.

Table 2 presents the basic results showing need within housing market areas. As with the study published in 2004 the total net positive need for housing market areas and remainder areas² is considerably less than the total for local authority areas. For 2005 this total is 4,835, compared with the local authority-based total of 8,045. The new housing market area total is only slightly larger than the comparable figure reported for 2003 (4,425).

In the new housing market area results, as before, the Edinburgh Housing Market Area dominates the positive net need numbers, accounting for 3,570 out of the 4,835 total. Only five other housing market areas have a positive need, as do five remainder areas and three individual local authority areas outside housing market areas. The main effect of using housing market areas in this analysis is that the high prices and shortages in authorities adjacent to Glasgow are offset by the low prices and surpluses within Glasgow City and West Dunbartonshire. The Glasgow Housing Market Area as a whole is in surplus, although not on a massive scale.

Summary	Positive Net Need (Scotland)
Local authority-based estimates	8,045
Housing market area-based estimates	4,835

Note: Because of practical differences in the methodology these estimates are not directly comparable.

² Remainder areas are geographic areas within local authorities which do not form part of a wider Housing Market Area.

Table 2 Net positive need and surplus by housing market and remainder areas, 2005

Housing market area (HMA) and other areas	Positive need	Surplus	Net need % social rent	Net need % of households
Aberdeen HMA	140	0	0.50	0.10
Ayr HMA	95	0	1.00	0.20
Edinburgh HMA	3,570	0	3.70	0.77
Falkirk HMA	30	0	0.20	0.05
Glasgow HMA	0	1,120	-0.60	-0.16
Dundee HMA	0	510	-2.60	-0.60
Inverclyde HMA	0	235	-2.20	-0.65
Inverness HMA	245	0	3.70	0.60
Irvine HMA	0	45	-0.60	-0.19
Kilmarnock HMA	0	340	-4.00	-1.12
Perth HMA	180	0	1.90	0.38
Stirling HMA	0	175	-1.40	-0.35
Three Towns HMA	0	70	-1.40	-0.44
Aberdeenshire Rem	0	120	-1.20	-0.26
Angus Rem	0	120	-1.30	-0.33
Argyll & Bute Rem	90	0	1.30	0.28
Dumfries & Galloway	165	0	1.30	0.25
East Ayrshire Rem	0	245	-5.40	-1.83
Fife Rem	0	180	-2.10	-0.43
Highland Rem	25	0	0.20	0.04
Moray	45	0	0.60	0.13
North Ayrshire Rem	85	0	2.20	0.44
North Lanarkshire Rem	0	55	-1.40	-0.54
Orkney	0	0	0.00	0.01
Perth & Kinross Rem	65	0	5.30	0.72
Renfrewshire Rem	0	5	-1.30	-0.27
Scottish Borders Rem	0	350	-3.70	-0.87
Shetland	0	65	-3.10	-0.73
South Ayrshire Rem	0	30	-2.00	-0.51
South Lanarkshire Rem	0	115	-3.60	-1.02
Stirling Rem	20	0	2.00	0.30
Western Isles	80	0	4.70	0.70
Scotland Total	4,835	3,780	-0.29	-0.17
Previous Total (2003)	4,425	7,170		

Results for the former district areas

A comment on the previous report was that some housing market areas, and also some of the larger local authorities including more rural authorities, were too large units for the analysis of affordable housing need, particularly for lower income groups who are less mobile. It was therefore agreed that in this update the model should be re-run for a different set of geographical units, somewhat smaller on average, which could provide a set of 'building bricks' from which a broader picture of need could be built up. After consideration of various options, it was decided to use the former (pre-1996) local authority districts.

Table 3 presents the results of a broadly comparable model applied to the former district areas. Because of practical differences in the methodology, the estimates are not identical to those obtained from the baseline local authority level model, even in those local authorities which have the same geographical boundaries. However, the key component numbers aggregated up to Scotland level are broadly consistent.

The total net positive need for Scotland built up from this set of smaller units is 9,560, which is noticeably greater than the 8,045 derived from the local authority level model. Whereas the housing market area approach has the effect of reducing net need, by pooling together areas with shortages and surpluses, the use of smaller areas does as expected increase the total of net positive need because it works in the opposite direction in certain areas (rural and large mixed authorities).

The results for the larger rural and mixed authorities which have been disaggregated are particularly relevant, especially where these previously showed low or negative need at a unitary authority level. Within Scottish Borders, Tweeddale and Berwickshire districts show shortages, while Roxburgh in particular shows a substantial surplus. Within Fife, North East Fife shows a sizeable shortage while the other two districts, particularly Kirkcaldy, show surpluses. Within Aberdeenshire, Banff & Buchan shows a surplus while Gordon shows quite a large shortfall. Within North Lanarkshire, the large surplus in Motherwell almost offsets quite large shortages in Cumbernauld & Kilsyth and Monklands.

The effects of technical changes can be seen in relation to the results for some local authorities which retain the same boundaries. In general, in these cases the former district version of the model produces marginally lower need figures.

Summary	Positive Net Need (Scotland)
Local authority-based estimates	8,045
Housing Market Area-based estimates	4,835
Former district area-based estimates	9,560

Note: Because of practical differences in the methodology these estimates are not directly comparable.

Table 3 Net positive need and surplus by former district areas, 2005

Former District Area	Positive		Net Need	Net Need % of
	Need	Surplus	% Soc Rent	Hshlds
Berwickshire	40	0	1.7	0.46
Ettrick & Lauderdale	0	60	-1.5	-0.38
Roxburgh	0	145	-3.0	-0.88
Tweeddale	95	0	5.7	1.20
Clackmannan	0	15	-0.2	-0.06
Falkirk	40	0	0.2	0.06
Stirling	110	0	1.3	0.30
Annandale & Eskdale	50	0	1.3	0.31
Nithsdale	125	0	2.1	0.49
Stewartry	70	0	3.1	0.63
Wigtown	15	0	0.5	0.12
Dunfermline	0	65	-0.4	-0.11
Kirkcaldy	0	335	-1.5	-0.50
North East Fife	315	0	5.5	0.97
Aberdeen	70	0	0.2	0.07
Banff & Buchan	0	360	-3.8	-0.98
Gordon	375	0	6.7	1.08
Kincardine & Deeside	135	0	3.3	0.57
Moray	225	0	2.5	0.62
Badenoch & Strathspey	30	0	2.8	0.53
Caithness	0	20	-0.7	-0.19
Inverness	265	0	4.7	0.90
Lochaber	25	0	1.1	0.32
Nairn	55	0	5.1	1.04
Ross & Cromarty	80	0	1.6	0.37
Skye & Lochalsh	40	0	3.5	0.70
Sutherland	5	0	-0.2	-0.05
East Lothian	380	0	3.5	0.94

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Edinburgh	2,550	0	6.6	1.19
Midlothian	540	0	5.6	1.60
West Lothian	295	0	1.4	0.42
Argyll & Bute	95	0	1.3	0.33
Bearsden & Milngavie	360	0	26	2.25
Clydebank	0	120	-1.5	-0.60
Cumbernauld & Kilsyth	330	0	5.5	1.21
Cumnock & Doune Valley	0	380	-5.5	-2.22
Cunninghame	15	0	0.1	0.02
Dumbarton	0	15	-0.2	-0.07
East Kilbride	475	0	6.5	1.29
Eastwood	495	0	29.9	1.95
Glasgow	0	2,375	-2.0	-0.87
Hamilton	130	0	0.9	0.29
Inverclyde	0	510	-4.4	-1.40
Kilmarnock & Loudon	0	325	-3.0	-0.95
Kyle & Carrick	35	0	0.3	0.07
Clydesdale	0	70	-0.9	-0.27
Monklands	180	0	1.1	0.42
Motherwell	0	465	-1.9	-0.75
Renfrew	75	0	0.3	0.10
Strathkelvin	500	0	7.5	1.49
Angus	0	65	-0.6	-0.16
Dundee	0	560	-2.5	-0.76
Perth & Kinross	540	0	4.1	0.90
Orkney	5	0	0.4	0.08
Shetland	0	50	-2.1	-0.53
Western Isles	95	0	4.2	0.83
Helensburgh	140	0	8.2	1.30
Cambuslang/Rutherglen	160	0	2.1	0.63
Barrhead	0	75	-2.7	-0.75
Total	9,560	6,010	2.21	0.27

Forward projections

The model also provides forward projections of need at five-year intervals to 2021. For these the model uses three sets of assumptions to produce 'low', 'central' and 'high' projections. The main drivers of these three scenarios are assumptions about the house price cycle.

House prices are a relatively volatile variable. The projection scenarios incorporate different assumptions about real house price trends, informed by ongoing research and policy debate taking place across the UK following the Barker Review. These assumptions are particularly critical, and are discussed at greater length in the full report.

- For the 'low' scenario, the assumption is that, due to the housing cycle 'correcting itself', house prices will decrease by 35 per cent in real terms between 2006 and 2011 superimposed on a 1.35 per cent above inflation increase per year in real terms.
- The 'central' scenario sees a 15 per cent cyclical correction over the same period superimposed on a 1.6 per cent real annual increase.
- The 'high' scenario sees a 1.85 per cent annual real terms increase and no adjustments brought about by the cyclical correction. As illustrated below these three scenarios produce very different patterns of surplus and need over the next 15 years.

	Low need	Central need	High need	Low surplus	Central surplus	High surplus
2006	11,985	12,110	12,220	-5,665	-5,635	-5,600
2011	1,950	7,770	16,960	-16,060	-9,915	-6,670
2016	460	3,485	11,395	-20,795	-11,890	-7,875
2021	255	3,280	14,245	-23,620	-12,195	-8,060

It is apparent that under most scenarios over the projection period the total net positive need is projected to fall. Surpluses are projected to increase across all the scenarios from 2011 onwards.

When comparing these forward projections with the basic results for 2005 it is important to bear in mind that the estimates for 2005 are more robust. This is because they are based on measured values of key variables such as the total number of relets while the projections are modelled.

About the study

The study was commissioned by the Scottish Executive and Communities Scotland and carried out by Professor Glen Bramley, Dr Noah Kofi Karley and David Watkins, School of the Built Environment, Heriot-Watt University.