

GLA 2012 Round Population Projections

Intelligence Update 05-2013

February 2013

Key Findings

- The 2012 round of Strategic Housing Land Availability Assessment (SHLAA) projections shows higher population outcomes for London than previous projection rounds.
- The 2012 round SHLAA projection gives a 2031 Greater London population of 9.66 million compared with 9.06 in the 2011 round SHLAA projection.
- The rise in projected population is a consequence of incorporating results from the 2011 Census, principally a higher 2011 population and larger average household sizes than previously assumed.
- The 2012 round includes a trend-based projection variant that is independent of forecast development. This shows higher overall growth than the SHLAA-based projection with a 2031 London population of 9.95 million.
- Twelve local authorities show higher growth when the projections are linked to the SHLAA development trajectories and 21 show the converse.
- The SHLAA-based projections are sensitive to assumptions of future household formation rates. Additional variants are necessary to give a better indication of range of future population.
- Older age groups are projected to see the largest proportional increases in size, a consequence of falling mortality rates.

Introduction

Each year the GLA produces a set of demographic projections and forecasts incorporating the most up-to-date data available. Successive rounds of projections include additional years of birth, death and migration data and may also include methodological improvements as new sources of data become available. The GLA's 2012 round of demographic projections is the first to incorporate data from the 2011 Census. Data from the census will continue to be released over the coming months and years and will be incorporated into future rounds of projections.

Two sets of projections are being released at this stage. The first is linked to development trajectories from the Strategic Housing Land Availability Assessment (SHLAA)¹. Projections based on the 2009 SHLAA development trajectories have been produced annually since the 2009 round of projections. The second is a trend-based projection that does not take dwellings into account. This is the first time in recent years that the GLA has published trend-based projections. Projections using alternative housing trajectory scenarios are provided on request to individual local authorities.

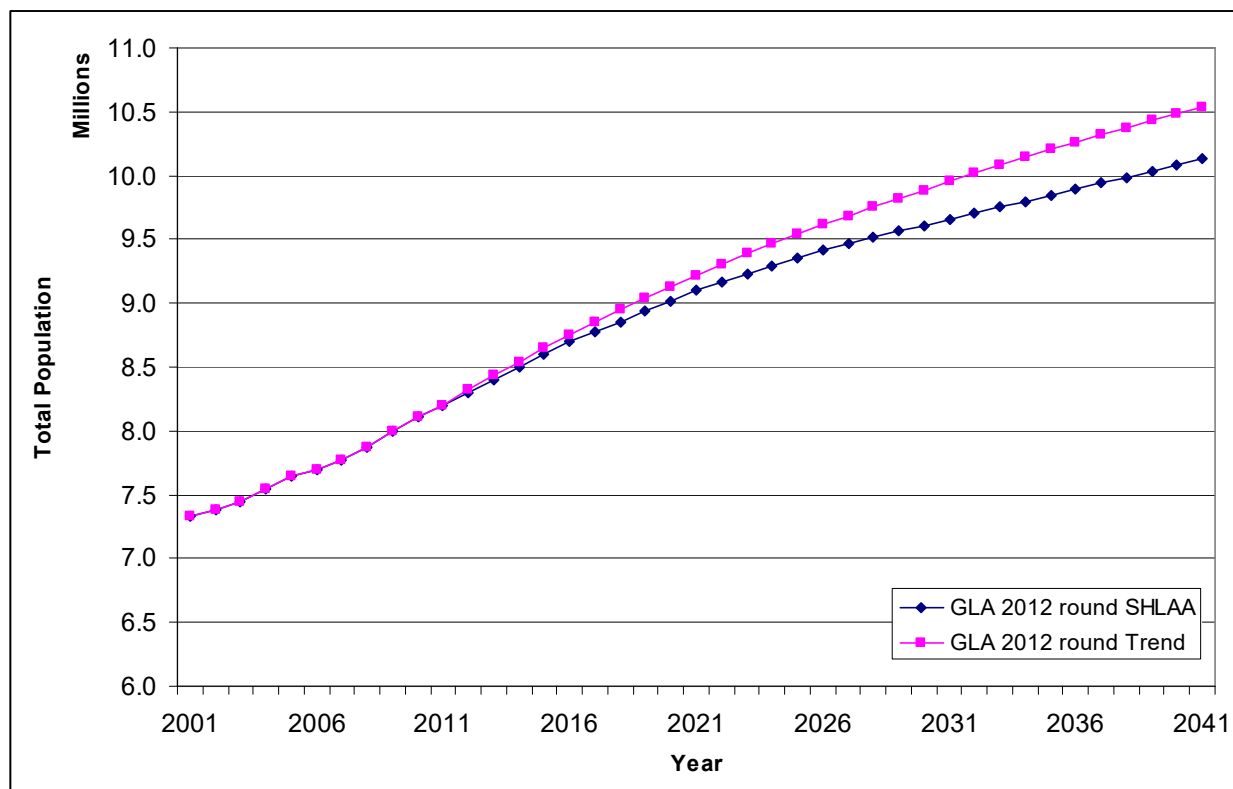
The GLA demographic projections are used by many bodies for a wide variety of purposes. Within the GLA they form part of the evidence base for much of the London Plan, the Economic Development Strategy and the Transport Strategy, as well as informing other Mayoral strategies. The results are also an integral part of the GLA's school roll projections system that is subscribed to by the majority of London boroughs. Transport for London uses the results at ward level for scenario testing within its transportation models; local authorities, utility companies, the health services and planning consultancies use the results for resource planning purposes.

Key features of the 2012 round of projections

- The projections operate from a base of the 2011 ONS Mid-Year Estimate and project through to 2041 (up from 2031 in previous rounds).
- Projections incorporate five years of past migration data. Domestic migration flows are modulated in the SHLAA projection to conform to available dwelling spaces.
- The 2011 Census showed average household size to be much higher than projected by the 2008-based Department for Communities and Local Government (DCLG) household projections that were incorporated into the previous round of GLA projections.
- Household formation rates are held constant at the estimated 2011 levels for the duration of the projection period.
- The level of growth in the SHLAA-based projections is strongly linked to the assumed level of development in the SHLAA housing trajectories.

¹ See <http://www.london.gov.uk/shaping-london/london-plan/docs/strategic-housing-land-study-09.pdf>

Figure 1: Total population of Greater London – GLA 2012 round projections



Source: GLA 2012 round projections

Greater London results

Total Population

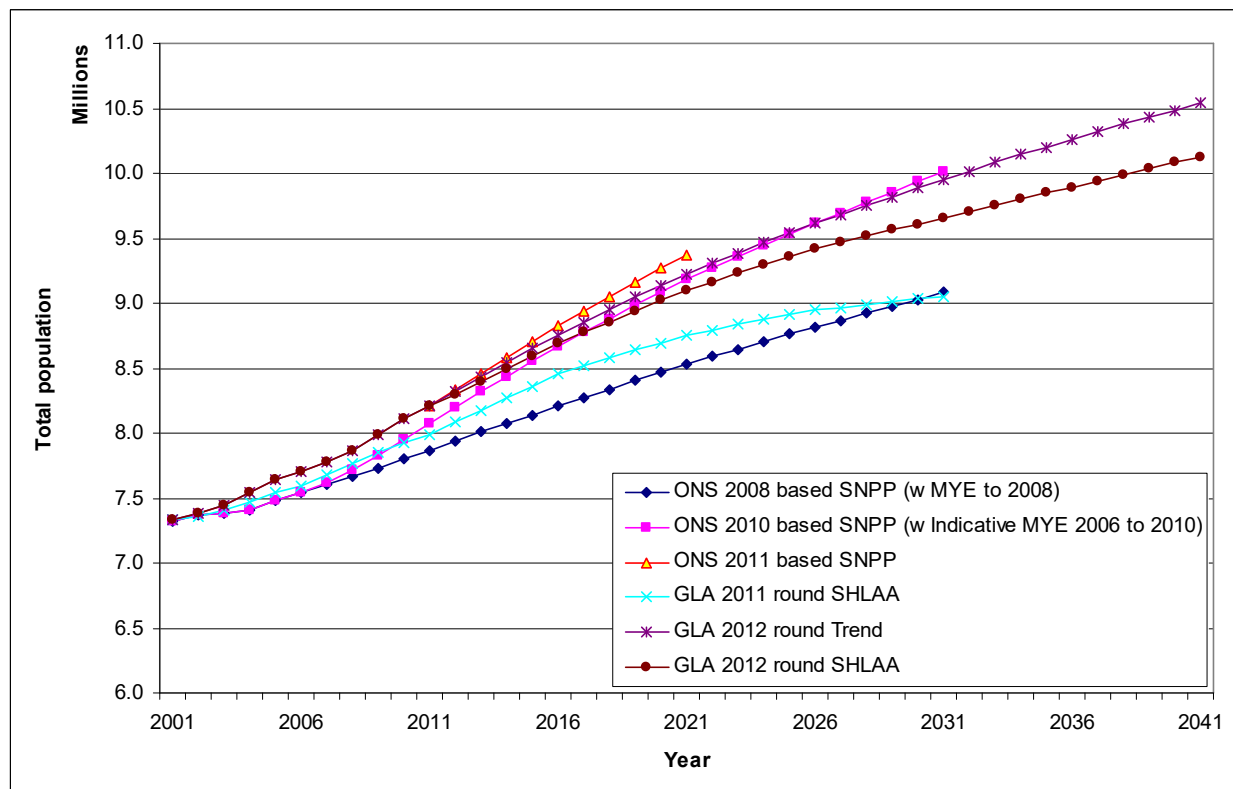
Both SHLAA- and trend-based projections show much higher levels of population growth than any previous projection produced by the GLA. London's population is projected to rise from 8.204 million in 2011 to 9.656 (SHLAA) or 9.953 million (Trend) in 2031; increases of 1.452 and 1.749 million respectively (see Table 1). This compares to the 2011 round SHLAA projection of growth from 7.991 to 9.055 million, a change of 1.063 million, over the same period (see Figure 2). Both GLA variants show less growth at the London-level than the most recent ONS projections – the 2010-based and the interim 2011-based Subnational Population Projections (SNPP) – but the difference is far less than was the case with the 2011 round SHLAA projections.

Table 1: Projected Greater London Population (thousands)

Year	Total		Age 0 to 15		Age 16-64		Age 65+	
	SHLAA	Trend	SHLAA	Trend	SHLAA	Trend	SHLAA	Trend
2001	7,337	7,337	1,461	1,461	4,983	4,983	894	894
2002	7,382	7,382	1,465	1,465	5,028	5,028	889	889
2003	7,448	7,448	1,474	1,474	5,088	5,088	886	886
2004	7,543	7,543	1,488	1,488	5,169	5,169	885	885
2005	7,643	7,643	1,505	1,505	5,252	5,252	886	886
2006	7,702	7,702	1,514	1,514	5,308	5,308	879	879
2007	7,774	7,774	1,527	1,527	5,369	5,369	877	877
2008	7,870	7,870	1,548	1,548	5,440	5,440	881	881
2009	7,991	7,991	1,576	1,576	5,526	5,526	889	889
2010	8,107	8,107	1,603	1,603	5,604	5,604	899	899
2011	8,204	8,204	1,630	1,630	5,664	5,664	910	910
2012	8,302	8,318	1,647	1,649	5,719	5,732	936	936
2013	8,400	8,432	1,668	1,671	5,781	5,802	952	958
2014	8,498	8,543	1,690	1,696	5,842	5,871	966	977
2015	8,597	8,650	1,713	1,720	5,904	5,936	980	994
2016	8,696	8,755	1,737	1,745	5,966	5,999	993	1,011
2017	8,776	8,855	1,758	1,769	6,013	6,057	1,005	1,028
2018	8,857	8,951	1,780	1,795	6,058	6,111	1,019	1,046
2019	8,939	9,044	1,799	1,817	6,105	6,163	1,034	1,064
2020	9,020	9,134	1,817	1,837	6,153	6,214	1,050	1,083
2021	9,102	9,221	1,832	1,853	6,202	6,263	1,069	1,105
2022	9,166	9,305	1,839	1,866	6,239	6,312	1,087	1,128
2023	9,230	9,386	1,844	1,875	6,277	6,359	1,108	1,152
2024	9,294	9,464	1,847	1,881	6,316	6,405	1,131	1,179
2025	9,358	9,539	1,850	1,887	6,351	6,445	1,156	1,207
2026	9,422	9,612	1,853	1,892	6,386	6,484	1,183	1,237
2027	9,469	9,683	1,851	1,895	6,409	6,521	1,209	1,267
2028	9,515	9,752	1,845	1,895	6,433	6,558	1,237	1,300
2029	9,562	9,820	1,839	1,892	6,457	6,594	1,267	1,334
2030	9,609	9,887	1,832	1,889	6,481	6,630	1,297	1,368
2031	9,656	9,953	1,825	1,886	6,505	6,666	1,326	1,401
2032	9,704	10,017	1,820	1,884	6,531	6,700	1,354	1,433
2033	9,752	10,081	1,816	1,882	6,556	6,735	1,380	1,464
2034	9,800	10,143	1,813	1,881	6,581	6,769	1,405	1,493
2035	9,847	10,203	1,811	1,881	6,608	6,802	1,429	1,520
2036	9,894	10,263	1,810	1,881	6,633	6,835	1,451	1,547
2037	9,941	10,321	1,810	1,882	6,658	6,866	1,473	1,572
2038	9,988	10,378	1,811	1,885	6,685	6,898	1,492	1,595
2039	10,035	10,433	1,814	1,888	6,712	6,929	1,509	1,616
2040	10,082	10,487	1,818	1,893	6,739	6,959	1,526	1,636
2041	10,129	10,541	1,823	1,898	6,765	6,988	1,541	1,655

Source: GLA 2012 round projections

Figure 2: Total population, Greater London – comparison of projections



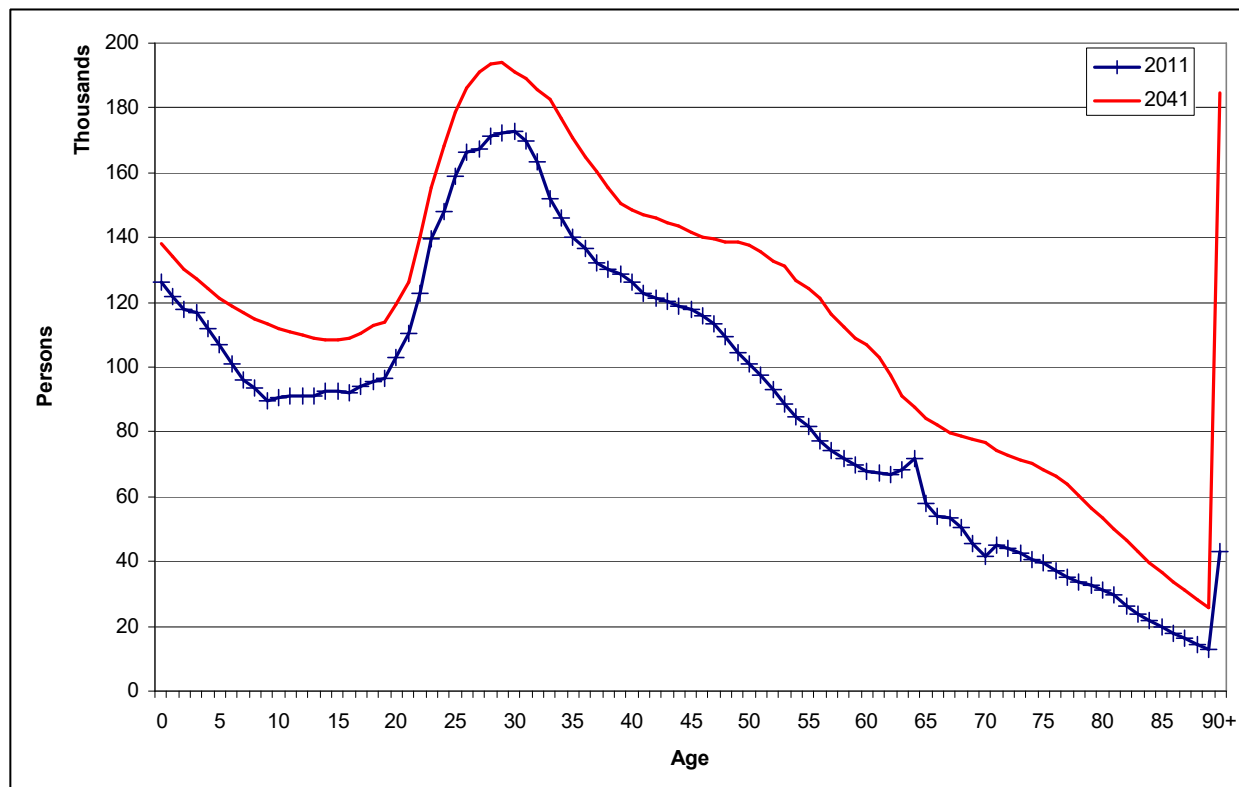
Source: GLA projections; Office for National Statistics Subnational Population Projections

Age Structure

For Greater London, the age structures of the two projection variants are similar. Figure 3 shows London's projected age structure through to 2041 for the trend-based variant. Figure 4 shows the proportional changes in the population, by age, over the same period. These graphs illustrate that a great deal of growth is expected in older age groups (Figure 5) with the 65+ population projected to grow from 900 thousand in 2011 to over 1.5 million by 2041. The aged 90+ category sees the greatest rise of all with a threefold increase by 2031. This growth accelerates towards 2041 as the population of baby boomers begin to reach this milestone. Rises in the older age groups are accounted for by falling mortality rates and rising life expectancy (see Figure 12).

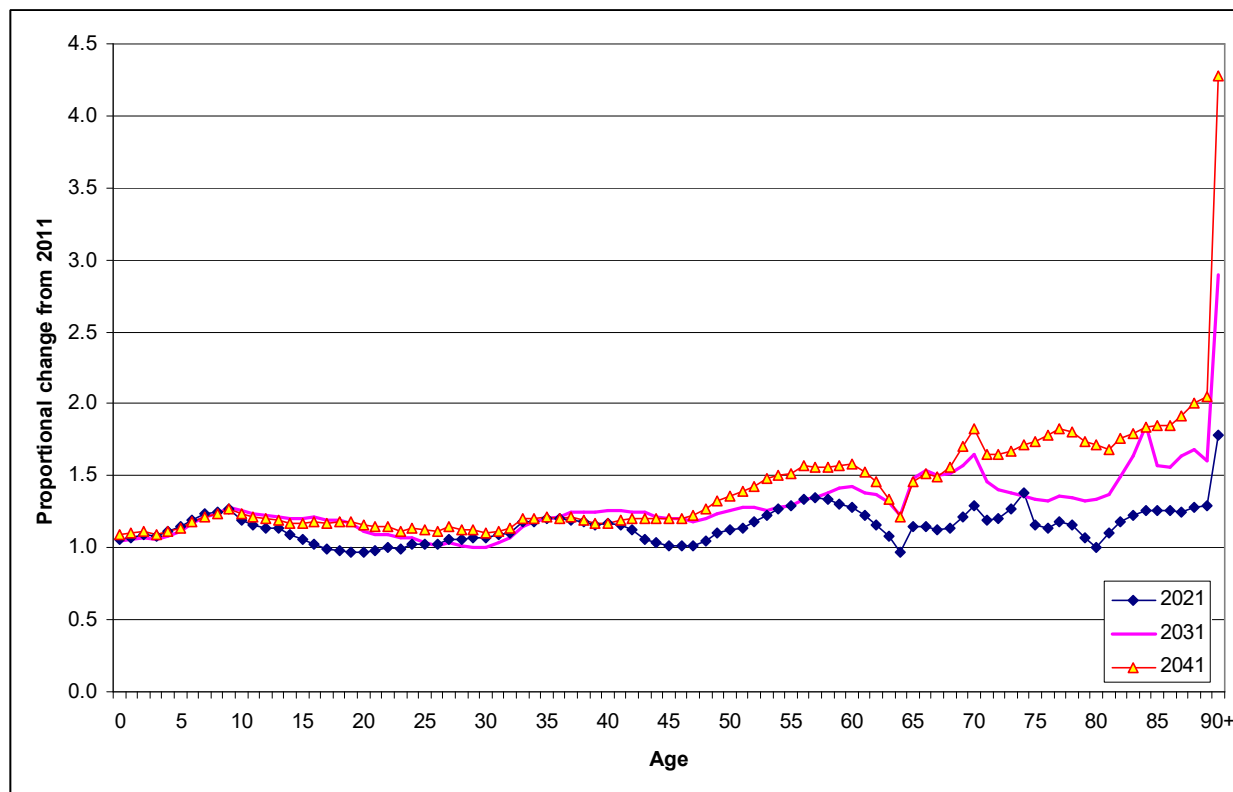
An important change for education planners is the projected increase in school-age children in London. This is a consequence of the boom in births from 2002 to 2011, coupled with recent trends of reduced migration outflows from London.

Figure 3: Trend-based projection – London's population age structure



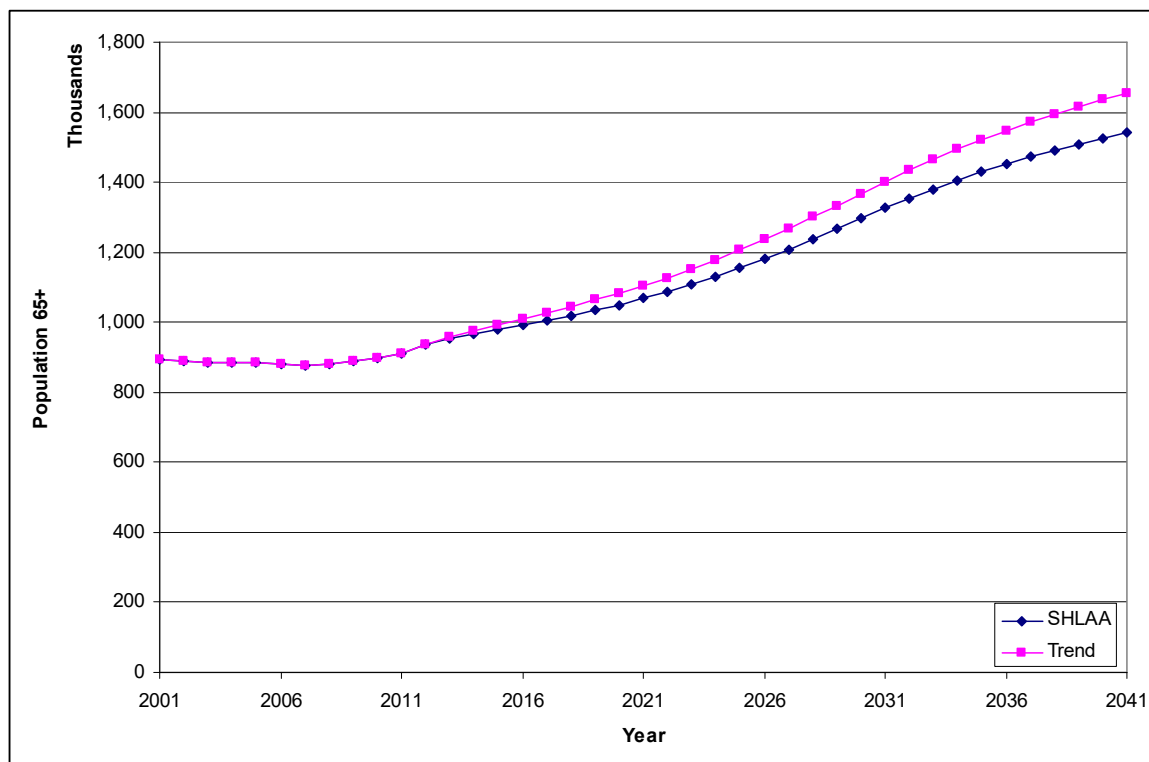
Source: GLA 2012 round projections

Figure 4: Trend-based projection – London’s proportional changes in age structure relative to 2011



Source: GLA 2012 round projections

Figure 5: London’s projected number of persons age 65+



Source: GLA 2012 round projections

Components of population growth

The drivers of population change can be split between migration and natural change (Figure 6 and Figure 7). Natural change, the difference between the numbers of births and deaths, is the largest contributor to population growth in London. Increases in births and declines in deaths since 2001 have led to a rise in natural change from under 45 thousand in 2001-02 to over 86 thousand in 2010-11.

In both variants, births are projected to continue to rise through to 2016 and to remain above 2011 levels for the duration of the projection period. Despite declining mortality rates, deaths are projected to rise slightly in the long term due to the increasing numbers of older people in the population. Natural change is not projected to drop significantly from present levels during the projection period.

Figure 8 shows estimated and projected domestic and international gross migration flows for the trend-based projection variant. Figure 9 shows net migration split by domestic and international flows. The GLA's estimates of overall net migration over the last decade show fluctuation between small outflows and inflows of up to 40 thousand per year.

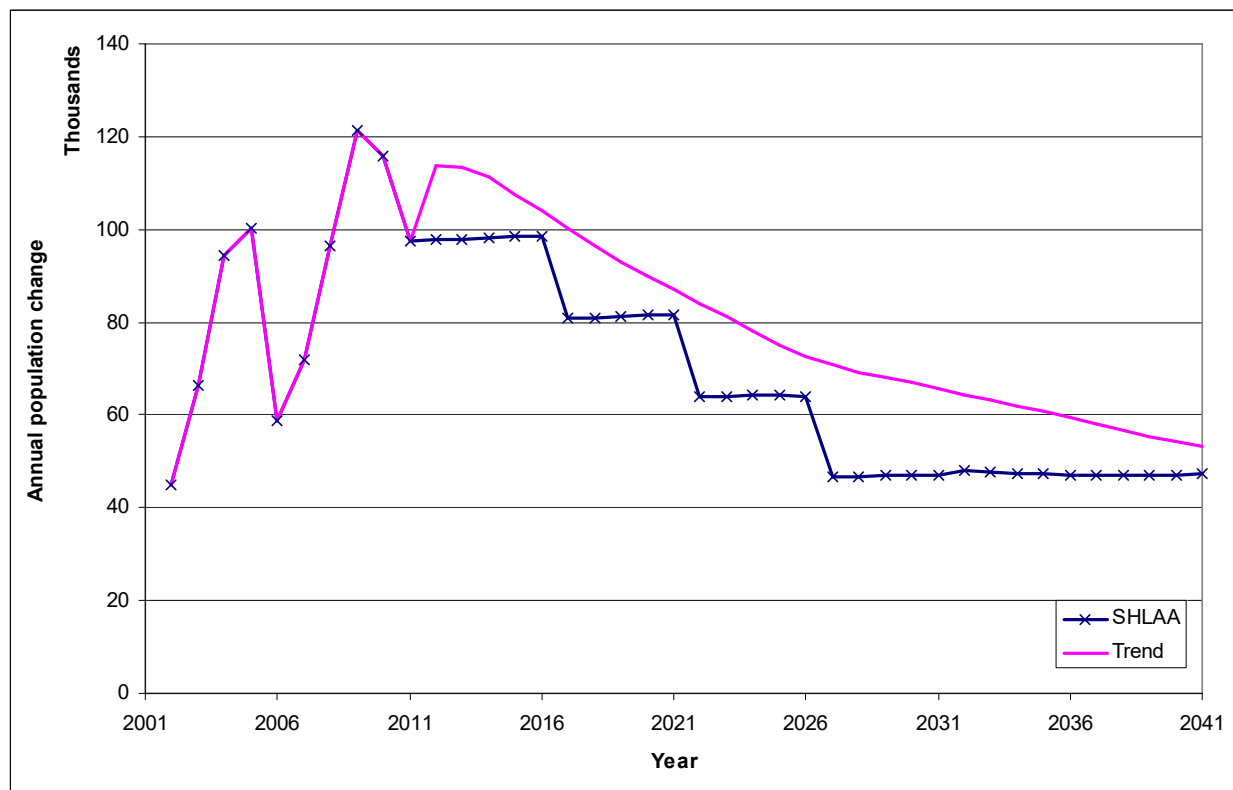
There are two peaks of net in-migration; the first coincides with an influx of migrants from the A8 countries in 2004-05, which gave rise to increased international in-migration; the second coincides with the economic downturn, primarily due to reduced outflows from London to destinations elsewhere in the UK combined with a trend of steadily increasing domestic inflows since 2004. The economic downturn does not seem to have had a strong impact on net international migration.

The SHLAA projection differs from the trend-based in that domestic migration flows are modulated such that the resulting estimate of household numbers fits with the available dwellings. This can be seen in Figure 7 where the step changes in net migration for the SHLAA projection are a result of changes in the assumed rate of new development.

For the trend-based projection (Figure 8), domestic inflows are steady at around 205 thousand until 2028. After this point the inflow rises towards 224 thousand as a result of increasing population in the rest of the UK. Both domestic and international outflows increase as the London population grows over time. Domestic outflows increase from 259 thousand in 2011-12 to 317 thousand in 2040-41. Over the same period, international outflow increases from 111 thousand to 129 thousand.

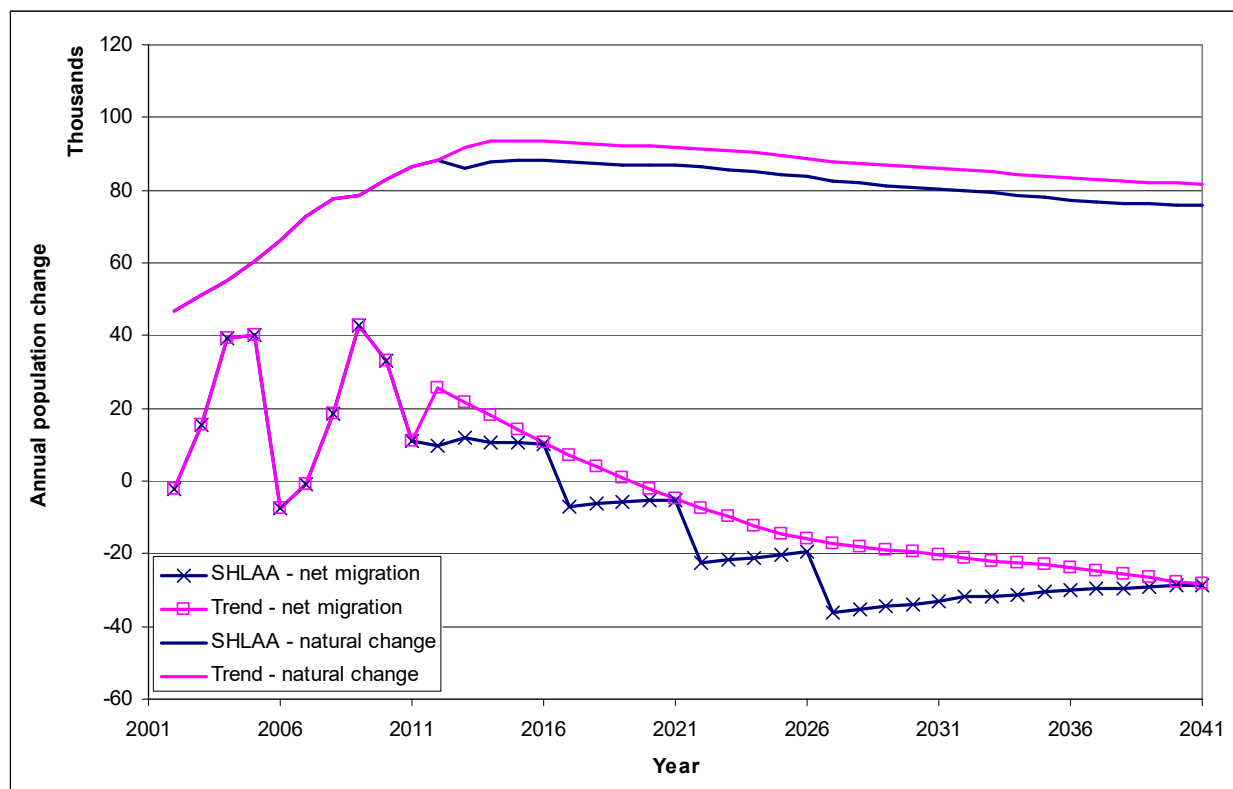
Projected international inflow in both variants is held constant at 193 thousand, an average of the last five years of historic data.

Figure 6: Greater London – projected annual population growth



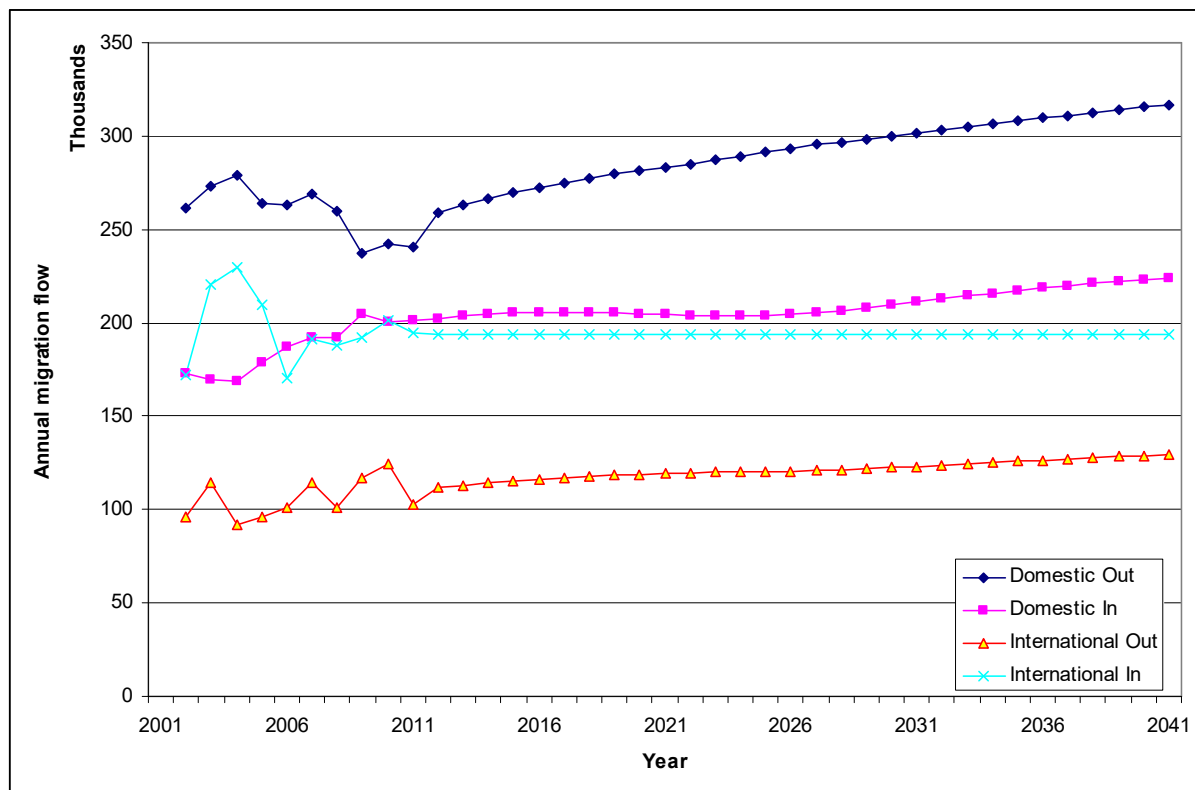
Source: GLA 2012 round projections

Figure 7: Greater London – components of population change



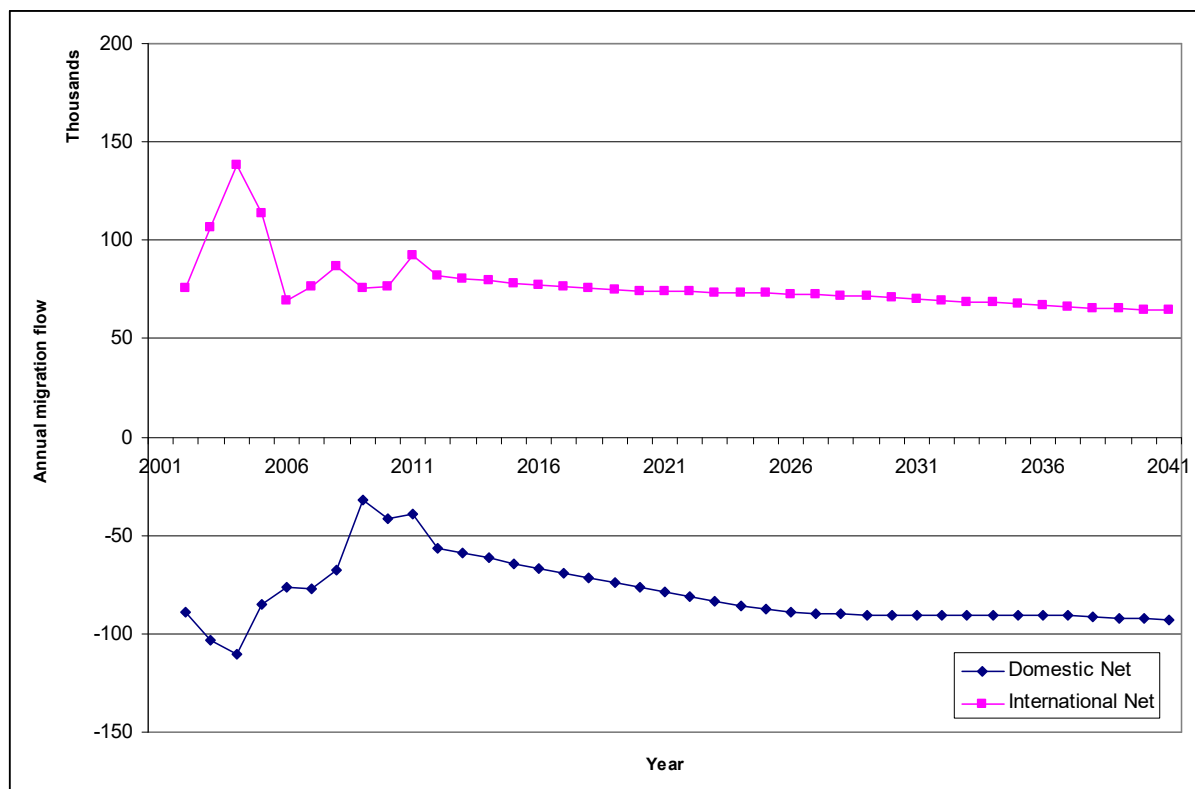
Source: GLA 2012 round projections

Figure 8: Gross migration flows to and from Greater London – trend projection



Source: GLA 2012 round projections

Figure 9: Net migration flows for London – trend projection



Source: GLA 2012 round population

Borough results

Differences between the SHLAA- and trend-based projections

There are large variations in individual boroughs' growth between the two sets of projections (see Table 2, Table 3, Figure 10, and Figure 11). Twenty-one local authorities show lower growth in the SHLAA than trend-based projections and 12 show the converse. Figure 11 illustrates the geographical distribution of these differences. At one extreme are Greenwich and Tower Hamlets, where development-linked growth greatly outstrips prior trends. At the other extreme are Redbridge and Enfield where the SHLAA development trajectory provides insufficient new dwellings to keep pace with recent trends (*assuming that 2011 household formation rates continue to apply*).

The SHLAA is much lower than the trend-based projection for many Outer London boroughs, but higher for a band of Inner and East London boroughs. Comparison of the SHLAA-based projections and the assumed development trajectories (see Table 5) confirms the expected correlation between development and projected growth.

Where population growth is significantly higher in the SHLAA-based projection, growth can be thought of as being driven by new development. Conversely, where the trend-based projection is significantly higher, recent trends in population change outstrip the modelled capacity for further population increase. In these cases, it can be argued that increased pressure on housing could lead to increasing household sizes. This, in turn, would suggest that the existing SHLAA projection is excessively conservative and a more likely outcome may lie somewhere between the two projections. For this reason the GLA is looking to produce additional projection variants that make use of alternative assumptions about future household formation rates. These variants will be published alongside the standard projections and discussed in an addendum to this Update.

Table 2: SHLAA-based population projections, London boroughs (thousands)

	2001	2006	2011	2016	2021	2026	2031	2036	2041
Camden	202.8	205.2	220.1	228.9	237.1	244.7	251.4	258.0	264.6
Kensington & Chelsea	161.1	163.4	158.3	162.5	171.1	174.7	176.4	178.1	179.6
Westminster	202.9	211.3	219.6	230.5	238.0	243.4	248.7	253.9	259.2
City of London	7.3	7.3	7.4	8.1	9.2	10.0	10.8	11.6	12.4
Central boroughs	574.2	587.3	605.3	630.0	655.3	672.9	687.2	701.6	715.9
Hackney	207.8	228.5	247.2	264.2	277.6	289.5	298.4	307.5	316.5
Hammersmith & Fulham	169.5	178.1	182.4	189.4	197.5	204.4	209.0	213.5	218.0
Haringey	223.0	237.6	255.5	271.9	279.2	284.4	290.6	296.8	303.1
Islington	179.9	185.7	206.3	221.7	234.4	247.8	259.3	270.8	282.3
Lambeth	274.6	289.8	304.5	322.6	338.9	357.5	373.3	389.1	404.9
Lewisham	254.8	263.9	276.9	295.3	306.1	316.7	326.6	336.6	346.7
Newham	251.2	275.1	310.5	355.5	389.2	404.8	414.5	424.4	434.2
Southwark	258.1	265.7	288.7	313.7	340.3	354.8	368.9	383.2	397.5
Tower Hamlets	202.1	220.9	256.0	292.0	331.3	356.8	371.2	385.7	400.1
Wandsworth	272.2	292.8	307.7	321.4	340.1	355.9	365.0	374.1	383.1
Rest of Inner boroughs	2,293.1	2,438.2	2,635.8	2,847.6	3,034.7	3,172.6	3,276.7	3,381.8	3,486.6
Inner London	2,867.3	3,025.5	3,241.1	3,477.6	3,690.0	3,845.4	3,963.9	4,083.4	4,202.6
Barking & Dagenham	165.3	168.7	187.0	209.3	226.5	239.0	249.1	259.3	269.5
Barnet	319.8	333.3	357.5	402.0	417.1	439.6	449.7	459.9	469.9
Bexley	219.1	224.2	232.8	236.1	241.0	246.5	251.7	257.0	262.1
Brent	271.3	293.4	312.2	330.4	344.4	353.4	358.1	362.8	367.5
Bromley	295.6	298.1	310.6	318.7	325.8	330.6	334.9	339.4	343.6
Croydon	335.5	348.7	364.8	385.6	402.1	415.2	428.7	442.4	456.0
Ealing	308.4	324.6	339.3	353.0	364.9	378.7	387.8	397.0	406.2
Enfield	278.2	292.0	313.9	320.7	329.2	335.9	339.4	342.9	346.4
Greenwich	217.3	246.1	255.5	291.3	320.9	339.8	345.6	351.5	357.4
Harrow	210.7	226.8	240.5	248.0	253.3	259.5	266.5	273.5	280.4
Havering	224.8	228.0	237.9	251.8	268.5	276.7	282.1	287.6	292.9
Hillingdon	246.1	255.9	275.5	286.7	293.2	301.5	307.8	314.2	320.5
Hounslow	217.1	232.9	254.9	261.4	268.3	275.6	280.7	285.9	291.0
Kingston upon Thames	149.1	148.5	160.4	165.1	169.6	173.6	177.1	180.7	184.2
Merton	191.0	188.4	200.5	206.1	210.6	215.2	220.5	226.0	231.3
Redbridge	242.2	259.7	281.4	293.3	302.5	307.8	312.3	316.8	321.4
Richmond upon Thames	174.1	180.3	187.5	191.2	194.0	196.4	198.7	201.0	203.2
Sutton	181.4	181.3	191.1	194.7	197.4	200.4	203.1	205.8	208.5
Waltham Forest	222.8	245.3	259.7	272.5	282.5	291.1	299.0	306.9	314.8
Outer London	4,469.6	4,676.1	4,963.3	5,218.0	5,411.7	5,576.5	5,692.6	5,810.6	5,926.8
Greater London	7,336.9	7,701.6	8,204.4	8,695.5	9,101.7	9,422.0	9,656.5	9,893.9	10,129.4

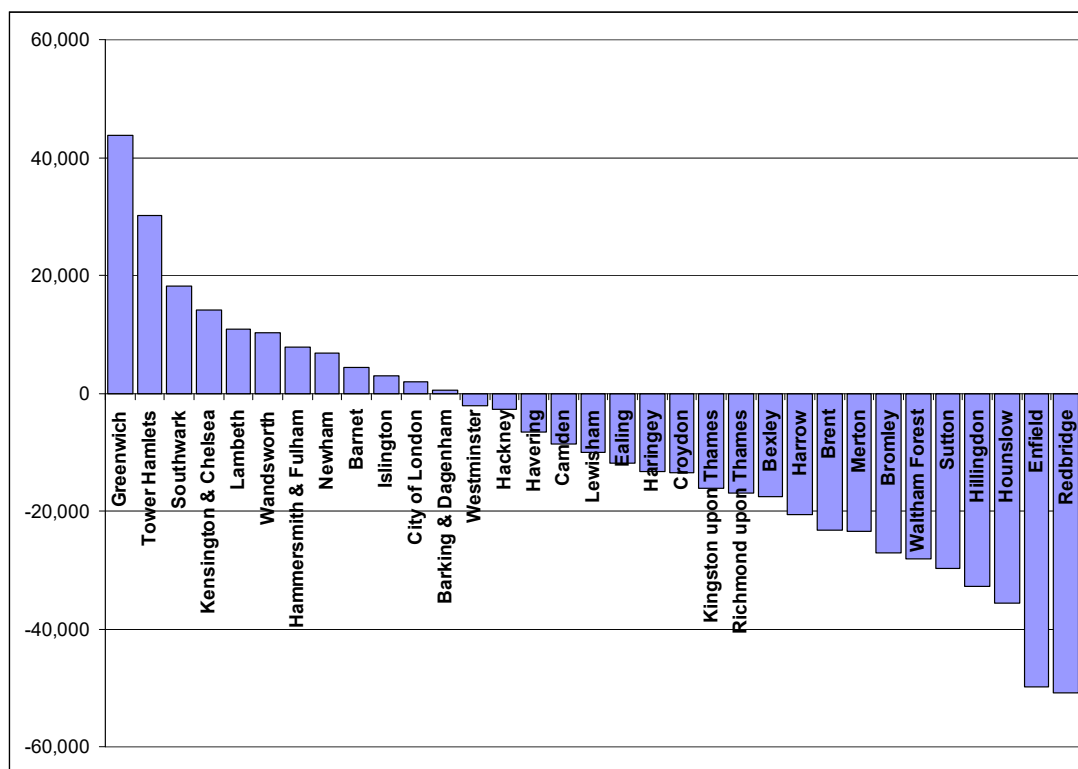
Source: GLA 2012 round projections

Table 3: Trend-based population projections, London boroughs (thousands)

	2001	2006	2011	2016	2021	2026	2031	2036	2041
Camden	202.8	205.2	220.1	235.4	245.0	252.7	260.1	267.1	273.0
Kensington & Chelsea	161.1	163.4	158.3	157.3	158.5	160.0	162.1	164.4	166.7
Westminster	202.9	211.3	219.6	231.1	238.5	244.8	250.7	256.4	261.2
City of London	7.3	7.3	7.4	8.0	8.4	8.6	8.9	9.1	9.3
Central boroughs	574.2	587.3	605.3	631.9	650.3	666.1	681.8	697.1	710.4
Hackney	207.8	228.5	247.2	263.6	278.6	290.6	301.1	311.5	321.1
Hammersmith & Fulham	169.5	178.1	182.4	188.1	193.2	197.0	200.9	205.1	208.9
Haringey	223.0	237.6	255.5	271.3	284.3	294.8	304.0	312.5	320.3
Islington	179.9	185.7	206.3	226.0	238.8	248.0	256.4	264.4	271.1
Lambeth	274.6	289.8	304.5	324.3	340.0	351.6	362.2	373.2	383.2
Lewisham	254.8	263.9	276.9	295.7	311.8	325.3	336.8	347.2	356.7
Newham	251.2	275.1	310.5	343.6	369.9	390.6	407.7	422.4	435.0
Southwark	258.1	265.7	288.7	310.5	326.6	339.3	350.4	360.8	370.0
Tower Hamlets	202.1	220.9	256.0	286.7	309.5	326.4	340.7	354.0	365.3
Wandsworth	272.2	292.8	307.7	324.2	337.0	346.2	354.5	363.5	372.2
Rest of Inner boroughs	2,293.1	2,438.2	2,635.8	2,834.2	2,989.6	3,109.8	3,214.7	3,314.6	3,403.7
Inner London	2,867.3	3,025.5	3,241.1	3,466.1	3,639.9	3,775.8	3,896.6	4,011.7	4,114.1
Barking & Dagenham	165.3	168.7	187.0	205.8	222.4	236.6	248.5	259.0	268.5
Barnet	319.8	333.3	357.5	384.1	407.9	428.0	445.2	460.3	473.8
Bexley	219.1	224.2	232.8	242.8	252.4	261.4	269.6	277.3	284.4
Brent	271.3	293.4	312.2	333.5	352.2	368.0	381.7	393.8	404.3
Bromley	295.6	298.1	310.6	324.3	338.1	351.0	362.5	372.8	382.5
Croydon	335.5	348.7	364.8	387.6	408.6	426.9	442.6	456.6	469.3
Ealing	308.4	324.6	339.3	357.8	374.5	388.4	400.3	411.0	420.7
Enfield	278.2	292.0	313.9	336.6	357.1	374.8	390.3	404.3	416.9
Greenwich	217.3	246.1	255.5	268.0	280.2	291.4	301.1	309.9	317.9
Harrow	210.7	226.8	240.5	254.0	266.8	277.8	287.6	296.2	304.1
Havering	224.8	228.0	237.9	250.5	263.9	276.9	289.3	300.8	311.3
Hillingdon	246.1	255.9	275.5	296.3	313.2	328.0	341.1	352.4	362.1
Hounslow	217.1	232.9	254.9	275.8	292.5	305.9	316.8	326.3	334.5
Kingston upon Thames	149.1	148.5	160.4	171.6	179.9	187.3	193.8	199.1	203.4
Merton	191.0	188.4	200.5	214.2	226.4	236.5	244.8	252.0	258.6
Redbridge	242.2	259.7	281.4	305.7	328.0	347.5	364.1	378.7	391.8
Richmond upon Thames	174.1	180.3	187.5	196.3	204.1	210.7	216.0	220.6	225.1
Sutton	181.4	181.3	191.1	203.2	214.7	224.8	233.3	240.8	247.8
Waltham Forest	222.8	245.3	259.7	280.1	298.7	314.4	327.7	339.3	349.7
Outer London	4,469.6	4,676.1	4,963.3	5,288.4	5,581.4	5,836.4	6,056.2	6,251.2	6,426.6
Greater London	7,336.9	7,701.6	8,204.4	8,754.5	9,221.3	9,612.2	9,952.8	10,262.9	10,540.7

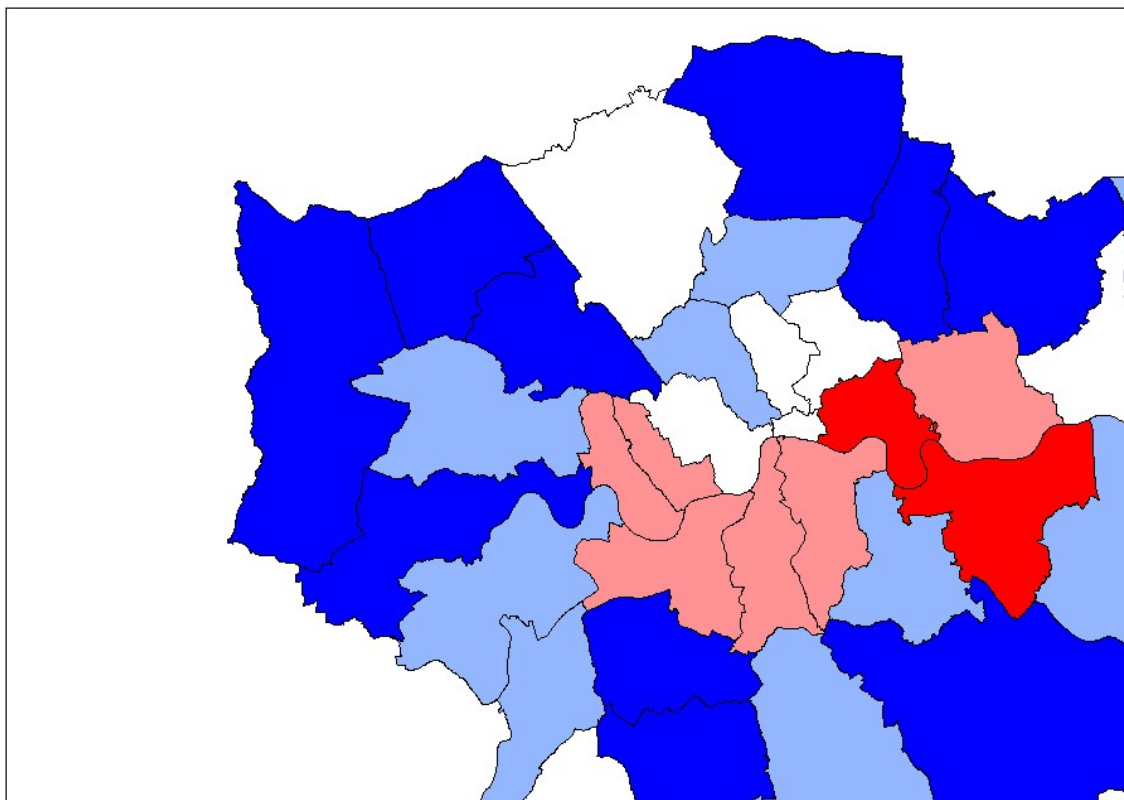
Source: GLA 2012 round projections

Figure 10: Difference in projected 2031 populations between SHLAA and trend-based variants



Source: GLA 2012 round projections

Figure 11: Difference in projected 2031 populations between SHLAA and trend-based variants (red denotes SHLAA higher than trend, blue that it is lower)



Source: GLA 2012 round projections

Availability of data

The projections are available for download from the London Datastore:

<http://data.london.gov.uk/datastore/package/gla-demographic-projections>

Population outputs

For both variants, the main projection output can be found on the worksheet titled “Population” within the relevant workbook.

Estimated and projected populations are provided by single year of age and gender for each year from 2001 to 2041. In all cases the data refers to numbers at mid-year by age at last birthday. Total population, births, deaths and net migration estimates and projections are provided in columns to the right hand side of the worksheet. Note that no estimates of births, deaths or migration are included for the period 2000 to 2001.

Supplemental outputs

In addition to estimated and projected population by age and gender, the 2012 round includes additional outputs. Accompanying the SHLAA-based projection is a worksheet containing a breakdown of the population into private household and institutional populations (see Table 4). Additionally, the number of households and the average household size is included.

Accompanying the trend-based projections are additional worksheets containing estimates and projections of births by gender, gross migration flows, total fertility rates, and life expectancy at birth (Figure 12). Fertility rates and life expectancy are also valid for the SHLAA-based projection, but the migration flows are not. With the current implementation of the model, detailed migration flows are difficult to extract for development-linked projections, but approximations will be produced in due course and added to the dataset.

Ward and ethnic group projections are being prepared by the GLA and will be available on the London Datastore when complete.

Other borough and ward projections will be produced by the GLA that incorporate similar assumptions to those used in the 2012 round SHLAA projections but which use development data provided by the boroughs from their own latest housing trajectories. These will not be published on the Datastore, but sent to local authority contacts directly.

Additional variants

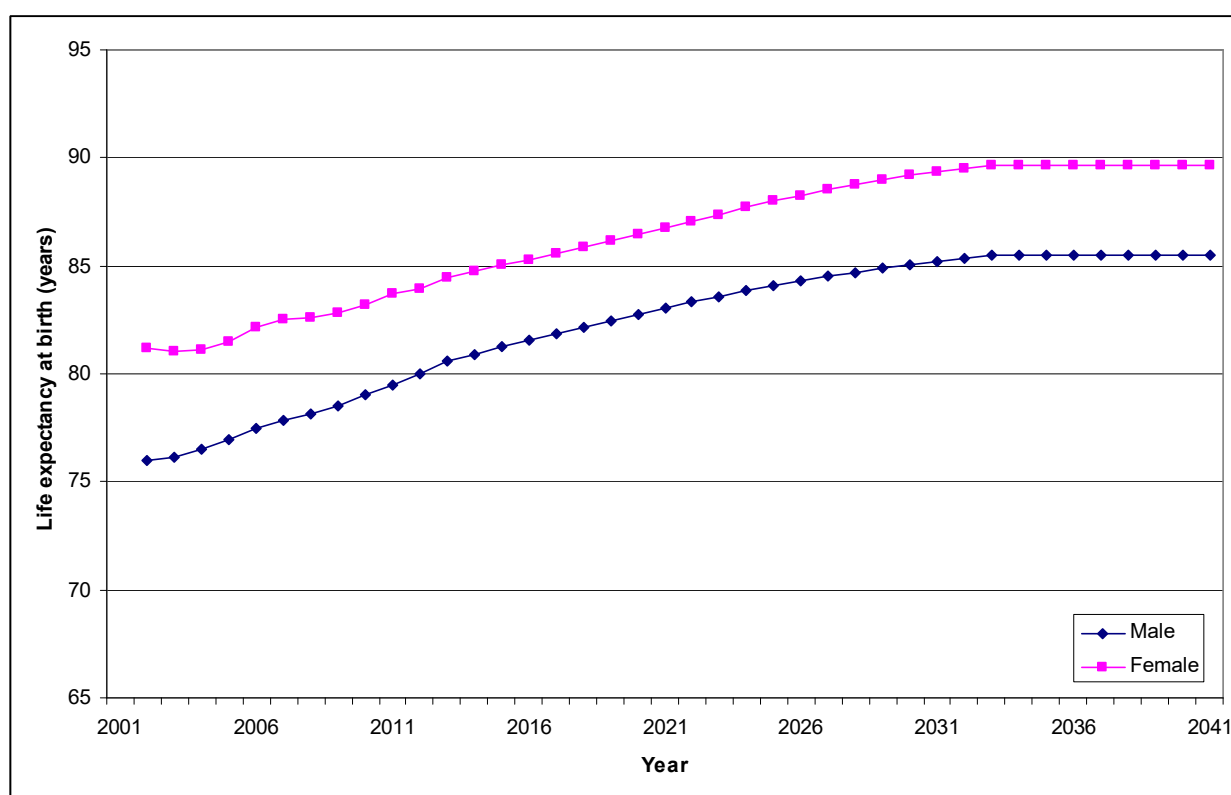
Additional variants will be produced and released by the GLA in coming months. The choice of variants has yet to be finalised, but may include alternative fertility and migration scenarios, and different sets of household formation rates.

Table 4: Summary of 2012 round SHLAA projections for London

Year	Total Population	Institutional Population	Private Household Population	Households	Average Household Size
2011	8,204,407	99,407	8,105,000	3,285,129	2.467
2016	8,695,532	101,578	8,593,954	3,482,126	2.468
2021	9,101,691	104,603	8,997,088	3,645,206	2.468
2026	9,421,994	109,186	9,312,808	3,772,284	2.469
2031	9,656,500	114,354	9,542,145	3,863,712	2.470
2036	9,893,949	120,323	9,773,625	3,955,141	2.471
2041	10,129,372	125,351	10,004,020	4,046,570	2.472

Source: GLA 2012 round projections

Figure 12: Life expectancy at birth, Greater London (weighted average of borough figures)



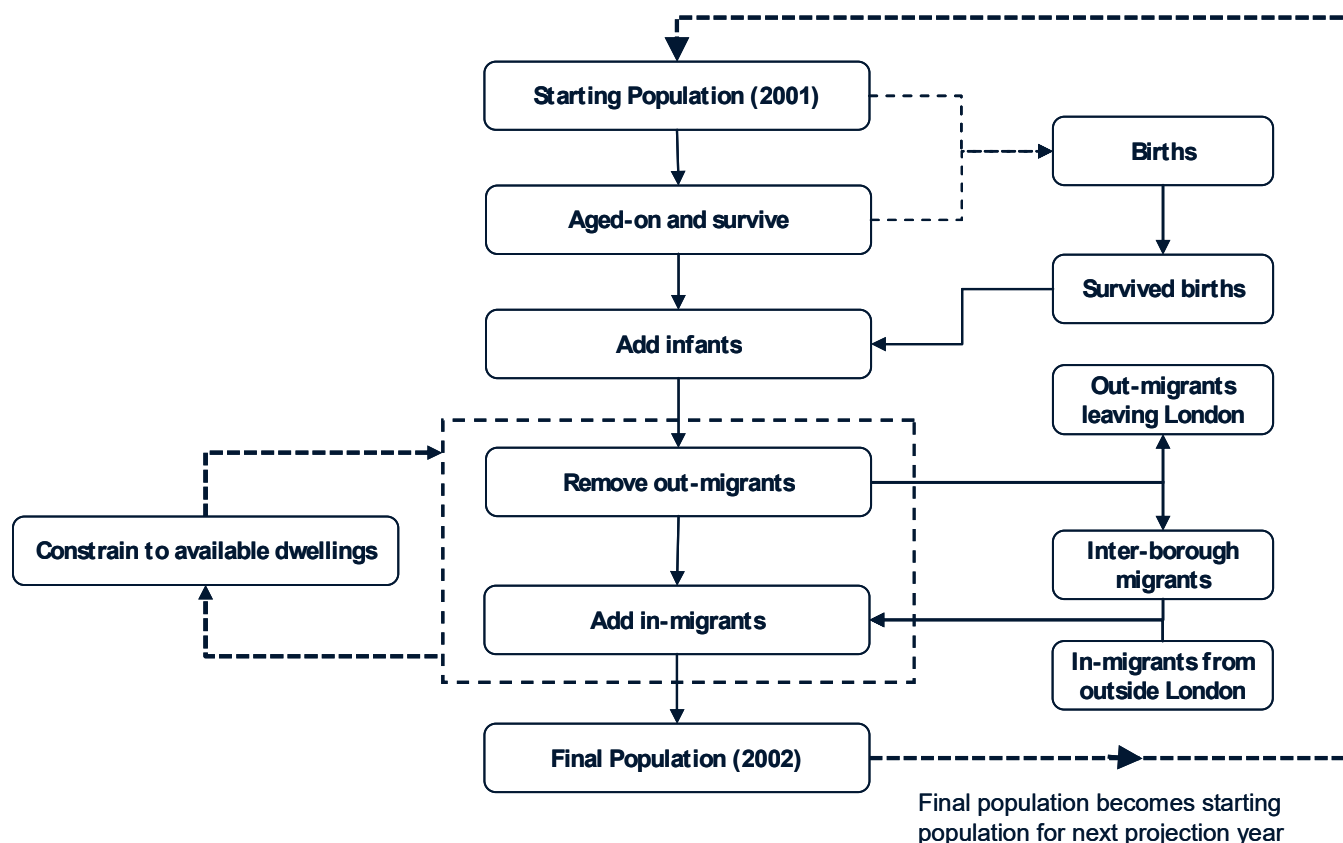
Source: GLA 2012 round projections

Appendix: Projection methodology and data used

The GLA's borough-level population projections are produced using a cohort component projection model. Projections are produced from the starting point of the 2011 mid-year estimate. This starting population is aged-on a year, and deaths, births and migration are accounted for such that an estimated population for mid-year 2012 is arrived at. This process is repeated, using the final population calculated in each loop as the starting population for the next. Beyond the last year with actual data available, values for births, deaths and migration flows are projected using age specific probabilities for fertility, mortality and migration generated from historical trends. The resulting is a trend-based projection that does not take into account development data.

The process of generating a projected population linked to development is an iterative one. Candidate population projections are created and converted into households by applying a set of Household Representative Rates (HRR). The number of households that the population forms is compared to the available household spaces implied by the housing trajectory. Migration flows are adjusted until a population is found which yields a number of households that matches the available household spaces. For the 2011 round of projections, only outflows to domestic locations outside of London were adjusted, whereas for the 2012 round the adjustments were made to both inflows and outflows.

Figure 13: Process of producing the GLA's borough-level projections



Data used in the 2012 round of population projections

Population base

The ONS 2011 mid-year estimate is taken as the base for the projections. Data is by single year of age from 0 to 90+ and gender.

Population back series

Population estimates for preceding years are necessary in order to generate fertility, mortality and migration rates to project forward. Due to the current lack of a consistent series of estimates between the 2001 and 2011 mid-year estimates, the GLA has created a synthetic series as a temporary measure until the ONS has completed work on its revised series (estimated for March 2013). When these become available, the GLA will refresh its projections with this data.

It should be noted that this back series does not align perfectly with the past migration assumptions used in the model. However, this mismatch is not expected to cause a significant distortion to the projections.

Births and deaths

Births and deaths from historic ONS mid-year estimates (MYE) were used for mid-year 2002 to 2011. A trend of previous births and deaths to mid year and calendar year births and deaths for 2011 were incorporated to create projected values to mid year 2012.

Fertility and mortality trends

Age Specific Fertility Rate (ASFR) and Age Specific Mortality Rate (ASMR) trends beyond 2012 were taken from the "Principle" assumptions used in the 2010-based ONS National Population Projections (NPP) for England. Proportional changes in these rates were used to roll the estimated 2012 ASFR and ASMR rates forward.

Household formation rates

Rates were based upon the 2011 rates from the 2008-based DCLG household projections, modified to be consistent with the data currently available from the 2011 Census. These rates are held constant for the duration of the projection period.

Migration data

Domestic flows

For 2002 to 2011, domestic migration flows were taken from moves recorded in the National Health Service Central Register (NHSCR).

International flows

For 2002 to 2005, international flows were based on the ONS MYE values, modified to better fit with estimated population change between 2001 and 2011. For 2006 to 2011, the ONS inflow estimates using the Migration Statistics Improvement Programme (MSIP) methodology were used unchanged.

Migration rates and characteristics

Age and gender characteristics of migrant flows are based on a combination of data from the 2001 Census and from the ONS 2010 based subnational projections.

Future migration trends

International inflows are assumed constant beyond 2011 and fixed at the mean inflow for the last five years of historic data. All other migration flows are projected forward using constant age and gender specific probabilities. The probabilities used are an average of the previous five years of probabilities that have been scaled to fit estimated flows and populations.

Dwellings

Housing Provision

From 2012 the projections use the annual average borough housing capacities for 2011-16, 2016-21, 2021-26 and 2026-31 as determined by the SHLAA. These are equivalent to Table 4.15 in the 2009 London Strategic Housing Land Availability Assessment and Housing Capacity Study². These capacities include conventional supply on identified large and small sites, non-self contained accommodation and dwellings returned from vacant. For the period 2031-41 the values for 2026-31 were replicated.

² <http://www.london.gov.uk/shaping-london/london-plan/docs/strategic-housing-land-study-09.pdf>

Table 5: Annual Average Housing Capacities for London boroughs by SHLAA phase

	2009-11 Phase 1	2001-16 Phase 2	2016-21 Phase 3	2021-26 Phase 4	2026-31 Phase 5
Camden	822	812	749	691	592
Kensington & Chelsea	647	381	817	331	142
Westminster	1,302	1,019	721	526	507
City of London	92	74	132	97	97
Central boroughs	2,864	2,286	2,419	1,645	1,338
Hackney	1,319	1,380	1,092	964	722
Hammersmith & Fulham	503	586	712	601	391
Haringey	449	1,265	577	413	486
Islington	1,815	1,461	1,188	1,240	1,054
Lambeth	1,770	1,530	1,392	1,587	1,333
Lewisham	882	1,558	922	901	828
Newham	1,125	2,939	2,210	1,015	625
Southwark	1,894	2,153	2,270	1,220	1,185
Tower Hamlets	3,783	2,860	3,135	2,013	1,118
Wandsworth	1,751	1,129	1,580	1,331	737
Rest of Inner boroughs	15,289	16,861	15,078	11,283	8,480
Inner London	18,152	19,147	17,497	12,927	9,818
Barking & Dagenham	887	1,740	1,330	959	758
Barnet	658	3,491	1,170	1,707	710
Bexley	150	318	414	435	398
Brent	771	1,267	967	617	308
Bromley	632	751	617	400	335
Croydon	1,515	1,707	1,326	1,023	1,038
Ealing	474	1,014	862	990	640
Enfield	451	585	674	512	248
Greenwich	1,531	2,870	2,374	1,494	426
Harrow	570	523	348	418	466
Havering	468	1,202	1,423	687	433
Hillingdon	1,603	863	480	602	445
Hounslow	1,279	507	512	537	369
Kingston upon Thames	248	441	375	317	261
Merton	321	433	345	342	393
Redbridge	1,168	903	679	373	306
Richmond upon Thames	344	325	239	190	165
Sutton	389	321	223	237	197
Waltham Forest	688	992	760	647	571
Outer London	14,146	20,251	15,118	12,488	8,465
Greater London	32,298	39,399	32,615	25,415	18,284

Source: The London Strategic Housing Land Availability Assessment and Housing Study 2009, GLA

