

Update 2017-01

Interim 2015-based Trend Projection Results

February 2017

Key Findings

- The GLA has released three sets of trend-based projections based on different assumptions about future migration patterns. These are
 - A central 10-year migration scenario
 - A short 5-year migration scenario
 - A long 14-year migration scenario
- Based on the central variant the total population of London is projected to rise by 1.88 million between 2016 and 2041 to reach 10.66 million.
- London's population is projected to reach 10 million in 2031 under the central scenario, 2028 under the short-term scenario and 2033 under the long-term scenario.
- All boroughs are projected to see a rise in population over the projection period. Barking & Dagenham is projected to have the highest proportional growth (25 per cent) over the period 2016 to 2041 while Kensington & Chelsea has the lowest proportional growth (9 per cent).
- Note: These projections do not attempt to account for the impact on London's population of the United Kingdom's exit from the European Union.

Introduction

This Intelligence Unit Update outlines the results of the GLA's interim 2015-based borough level population projections. These were released in February 2017 and incorporate ONS population estimates and internal migration estimates up to and including mid-year 2015. As there is uncertainty about future migration, caused in part by the influence of the financial crisis on recent patterns, three variant projections based on different assumptions about future migration patterns have been released. These are:

- **A central projection:** This projection uses ten years of past data to project migration trends. The GLA considers this to be the best available projection for strategic planning purposes.
- **A short-term projection:** This projection uses five years of past data to project migration trends. This projection produces higher populations for London boroughs and is closest to the ONS SNPP in methodology.
- **A long-term projection:** This projection uses 14 years of past data to project migration trends. This projection produces lower populations for London boroughs.

The projections based on the three migration scenarios are referred to as the central, short-term and long-term variants. In each case, mortality and fertility methodologies are the same but the assumptions regarding migration differ.

The full set of GLA projections are available on the London Datastore as well as information on how the variant projections relate to one another (<https://data.london.gov.uk/demographic-projections/>).

Note on Naming Convention

From January 2017 the GLA has revised its naming convention for the population projections. Projections will now be labelled based on the latest mid-year estimate data which informs the projection. As such this set of projections is the 2015-based projection. This brings the naming convention in line with that used by ONS in their Sub-National Population Projections and is hopefully more intuitive for users.

This set of projections is labelled 'interim' in anticipation of a revised set of 2015-based projections which will inform the London Plan. Once released, in spring 2017, those projections will supersede this set.

Methodology

A detailed methodology paper on the GLA cohort component model is available to download from the London Datastore¹. An annex to this document detailing minor changes implemented since the release of the methodology paper is also available² (Update 2017-05).

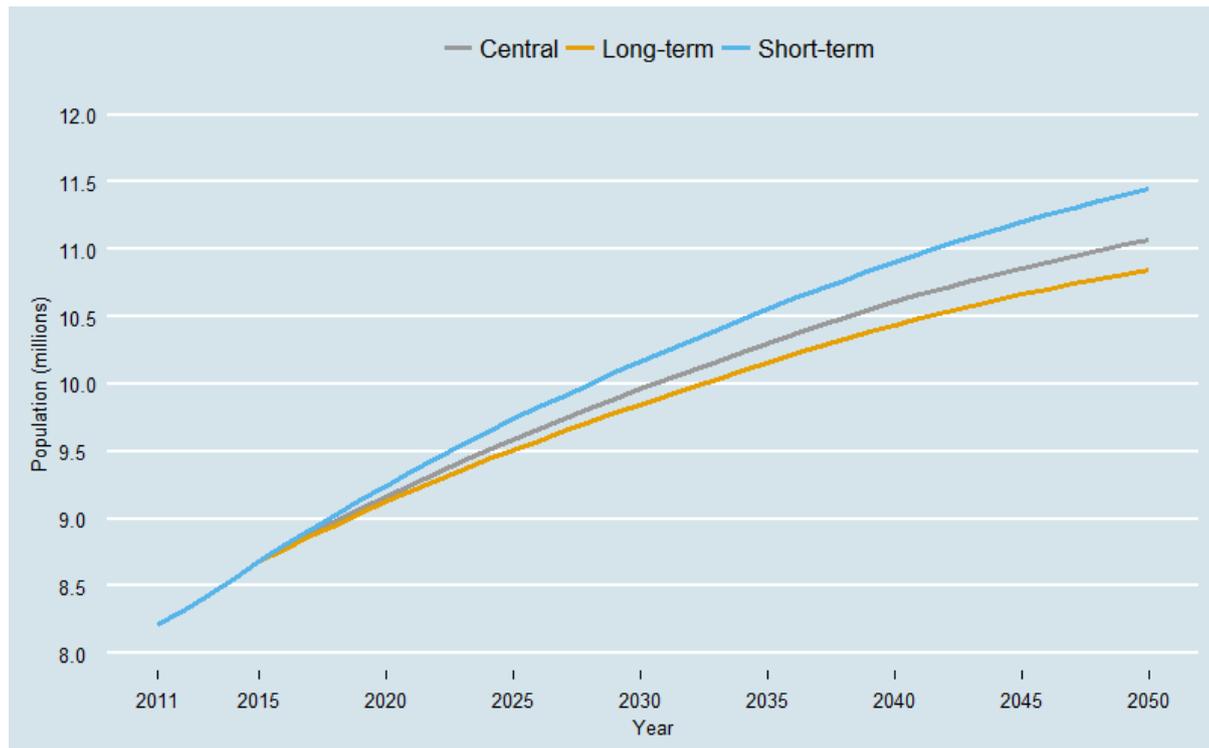
¹ <https://data.london.gov.uk/dataset/2015-round-population-projections/resource/8cb45509-626e-4845-acb0-f36383fc5704>

² <https://data.london.gov.uk/dataset/2015-based-population-projections>

Results

This Update primarily provides detail on the central variant, only including data from the short and long term variants where necessary for comparison. The projections released by the GLA extend to 2050. This Update is primarily concerned with the period to 2041 as this corresponds with the period which will be covered by the next London Plan.

Figure 1: Total Population, Greater London 2011-2050



GLA, 2015-based population projections

The 2015 Mid-Year Estimate (MYE) puts London's total resident population at 8.69 million. The GLA central variant projects that the population will reach 10 million in 2031 and that by 2041 there will be 10.66 million Londoners (an increase of 1.98 million or 22.8 per cent). This compares to 10.97 million under the short-term variant and 10.49 under the long-term variant.

Table 1: Total population (millions)

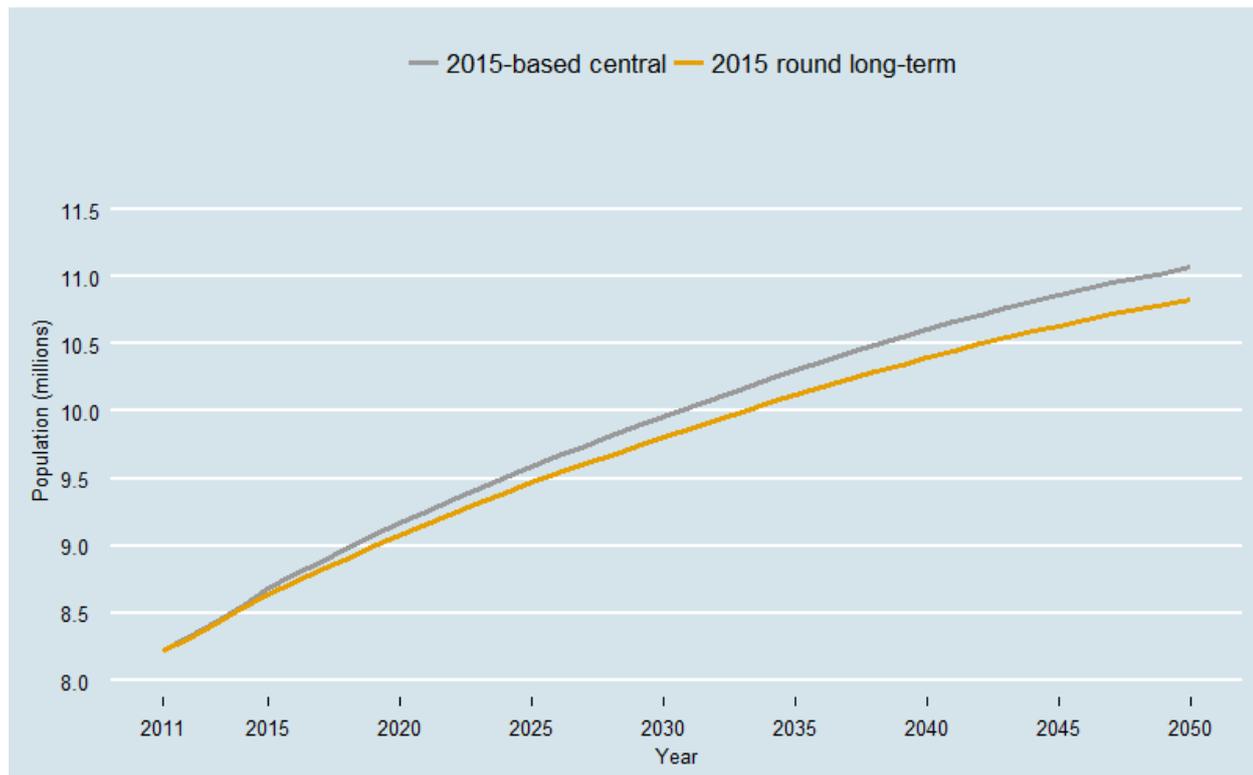
Year	Central	Long-term	Short-term
2011	8.22	8.22	8.22
2016	8.79	8.78	8.80
2021	9.26	9.21	9.35
2026	9.67	9.58	9.83
2031	10.03	9.91	10.25
2036	10.37	10.22	10.63
2041	10.66	10.49	10.97

GLA 2015-based population projections

Comparison with 2015 round results

The most recent set of GLA projections, released in July 2016, and based on the 2014 Mid-Year Estimates were the 2015 Round projections. Figure 2 compares the 2015 round long-term projection to the 2015-based central projection (the 2015 round projection used a 12-year backseries while the 2015-based central projection uses ten years of past data).

Figure 2: Comparison of 2015 round long-term projection and 2015-based central projection, London 2015-2050



GLA, 2015-based population projections & 2015 round population projections

The 2015-based projection has a higher trajectory than the 2015 round projection. This is due to a higher population for 2015 at the start of the projection and differences in projected migration. In the 2015 round projection London's population in 2015 was projected to be 8.63 million, this was 51,000 lower than the subsequent MYE. As a result the central variant starts from a higher base.

In addition the period of past data used to calculate migration rates in the two projections is different. The 2015 round used the period 2005-2014 while the 2015-based uses 2006-2015. Figure 9 below shows the impact of these varying periods on total net migration.

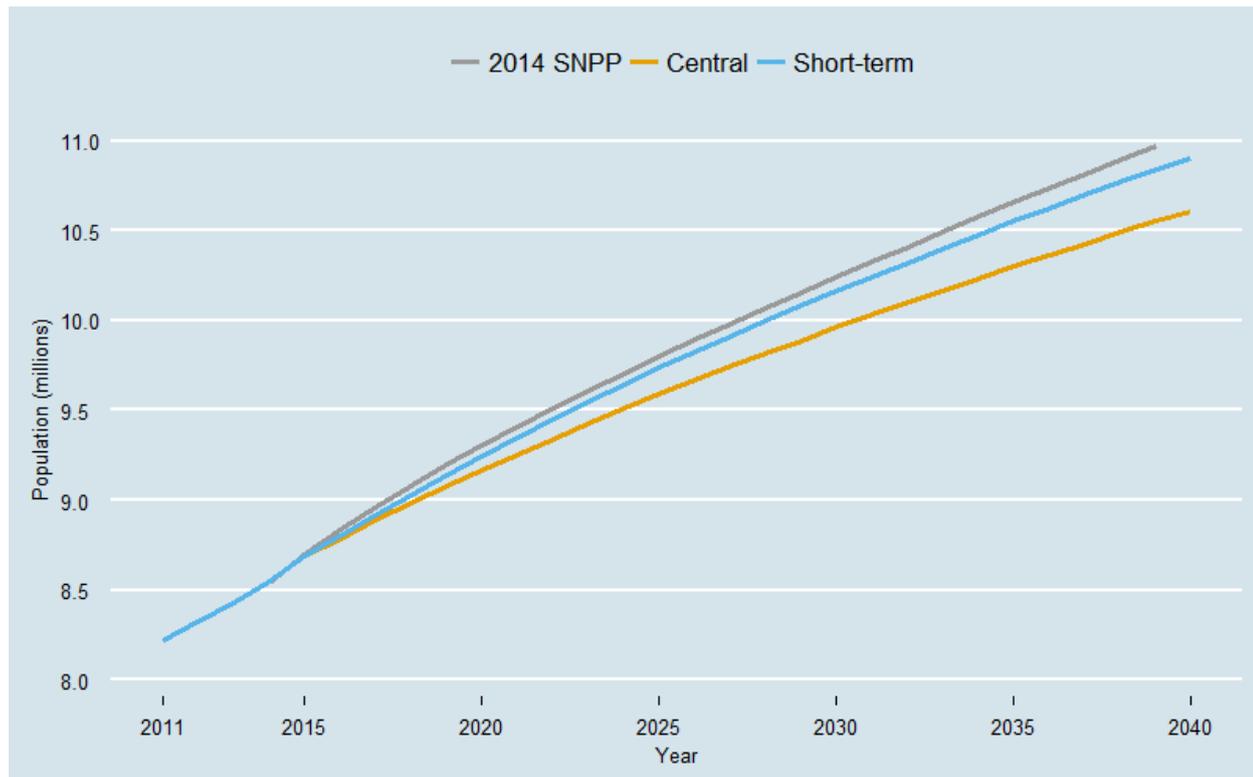
Comparison with ONS projections

The most recent ONS sub-national projection is the 2014 SNPP (released May 2016). The ONS projections are based on a broadly similar methodology to the GLA's. Both use a cohort component model and project forward according to recent trends in fertility, mortality and migration. A single projection is produced with no variants and this uses the assumption that recent patterns (five years for domestic flows, six years for international) of migration will persist for the duration of the projection period. One significant methodological difference is that the sum of ONS's subnational projections for all authorities in England and

Wales are constrained to be consistent with the results of the equivalent round of their National Population Projections (NPP).

The GLA short-term projection is the closest variant to the ONS SNPP as it uses five years of migration data for both domestic and international migration trends. Figure 3 shows the 2014 SNPP alongside the GLA short-term and central variants.

Figure 3: Difference between ONS SNPP and GLA projections, London 2011-2041

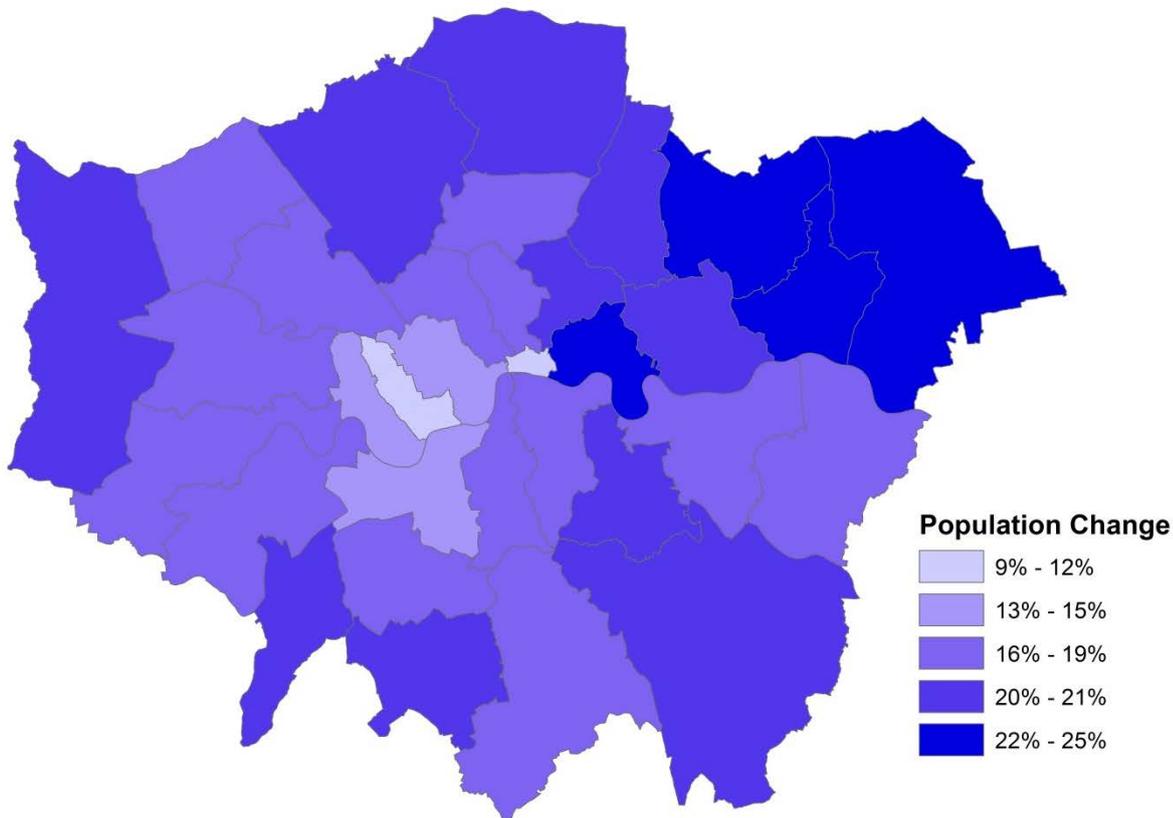


GLA, 2015-based population Projections, ONS 2014-based SNPP

At the end of the SNPP projection period in 2039 the ONS projects the population of London will be 10.98 million. This compares to 10.84 million (a difference of 133,700) in the GLA short-term variant and 10.55 million in the GLA long-term variant (a difference of 423,600).

Borough Populations

Figure 4: Population change 2015-2041, central scenario



GLA, 2015-based population projections

Figure 4 outlines the distribution of population growth in London over the period 2015 to 2041. The largest growth is projected to be in east London in the boroughs of Barking and Dagenham (25 per cent) and Havering (23 per cent). Tower Hamlets is also projected to see significant growth (24 per cent). The lowest growth is projected in the west-central boroughs of Kensington & Chelsea (9 per cent), Hammersmith and Fulham (12.4 per cent) and Westminster (14 per cent).

Table 2 shows borough total populations at five-year intervals for the period 2011-2041. The populations are taken from the central trend variant.

Table 2: Borough populations, central scenario

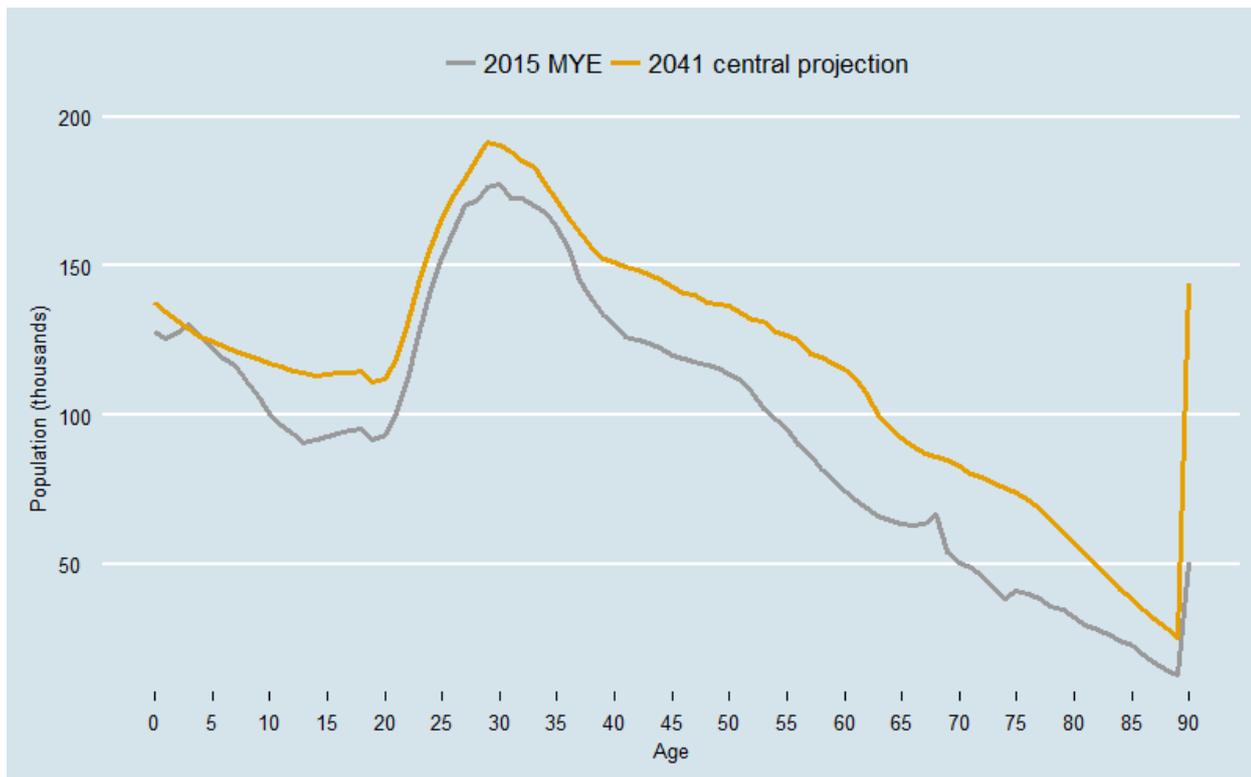
Borough	2011	2016	2021	2026	2031	2036	2041
Barking and Dagenham	187,400	205,800	222,000	236,300	248,600	259,700	269,400
Barnet	357,700	384,800	408,900	429,800	448,000	464,600	479,400
Bexley	233,000	244,500	255,400	266,500	276,900	287,000	296,200
Brent	313,100	328,300	344,200	357,700	369,500	380,300	389,600
Bromley	311,100	328,700	346,000	362,600	377,600	391,400	403,900
Camden	220,100	244,000	255,600	264,600	272,900	279,900	286,200
City of London	7,400	7,200	7,400	7,600	7,700	7,900	8,100
Croydon	364,800	382,800	401,600	419,100	434,600	449,200	462,200
Ealing	339,700	346,900	362,500	375,500	386,600	397,100	406,500
Enfield	314,000	332,600	352,300	370,100	385,900	400,400	413,300
Greenwich	255,500	277,700	292,000	305,400	317,500	328,500	338,300
Hackney	247,600	272,600	287,800	301,000	312,500	323,600	333,400
Hammersmith and Fulham	182,800	181,400	188,000	192,700	197,000	201,500	205,200
Haringey	256,400	276,800	290,400	302,100	312,600	322,600	331,200
Harrow	241,100	250,500	263,800	275,800	286,200	295,700	304,200
Havering	238,300	252,300	267,200	282,400	297,100	311,100	324,100
Hillingdon	276,100	302,000	319,200	334,900	348,800	360,800	371,300
Hounslow	255,300	272,500	287,800	300,800	311,600	321,200	329,500
Islington	206,600	229,900	239,600	248,400	256,700	264,400	270,800
Kensington and Chelsea	158,700	158,600	161,400	164,500	167,800	171,200	174,300
Kingston upon Thames	160,500	175,900	186,500	196,000	204,000	210,600	216,400
Lambeth	304,800	327,600	340,800	351,800	362,200	373,400	382,900
Lewisham	277,500	301,900	320,900	337,400	351,800	364,700	376,100
Merton	201,200	207,900	219,700	229,500	237,600	245,000	251,600
Newham	311,900	338,700	358,900	376,000	390,700	403,700	414,700
Redbridge	281,500	301,400	323,200	342,700	359,700	375,100	388,600
Richmond upon Thames	187,500	196,900	206,800	215,300	222,100	228,300	234,200
Southwark	289,400	313,400	330,600	344,900	357,700	369,400	379,500
Sutton	191,500	202,800	214,500	225,500	235,000	243,800	251,700
Tower Hamlets	256,700	301,000	322,900	340,100	354,700	367,700	378,400
Waltham Forest	260,400	275,300	291,500	305,800	318,200	329,400	339,200
Wandsworth	308,300	318,200	331,800	342,600	351,800	361,500	370,200
Westminster	219,600	244,600	254,200	262,400	269,800	276,300	282,200
London	8,217,500	8,785,500	9,255,400	9,667,800	10,031,400	10,367,000	10,662,800

GLA 2015-based population projections

Age Structure

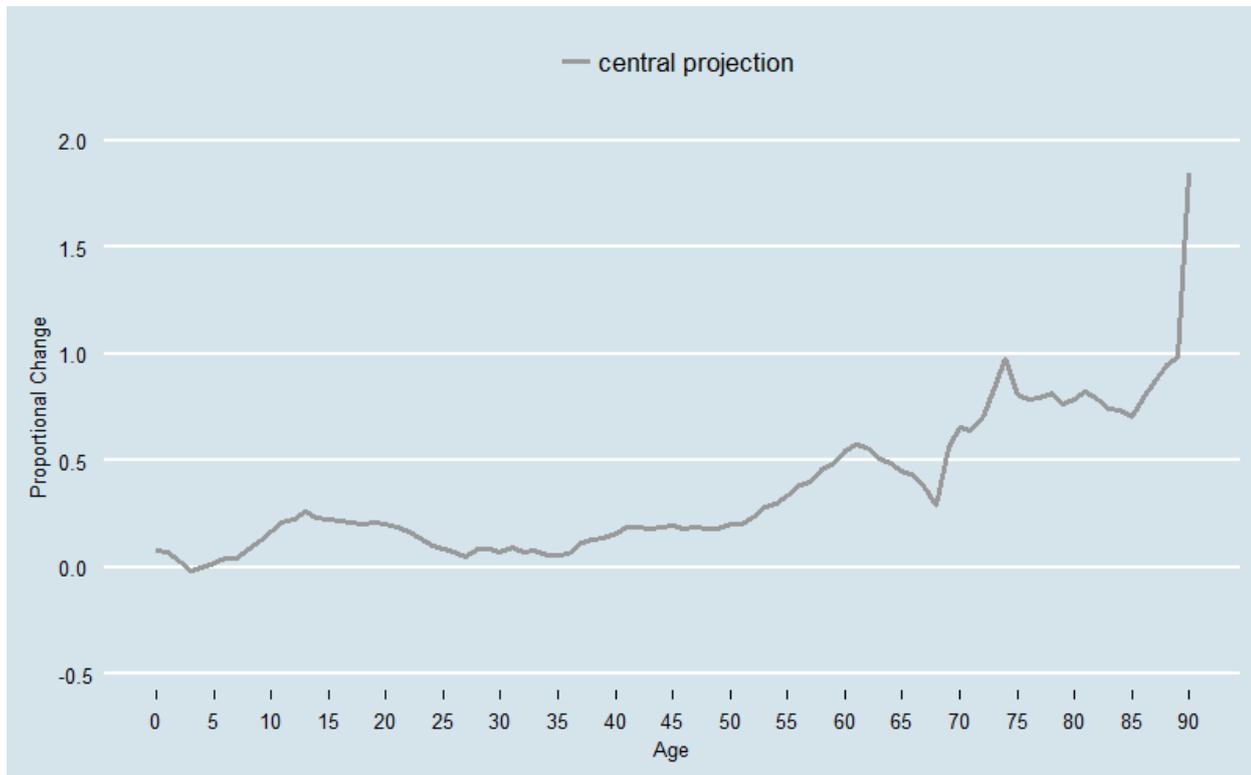
Figure 5 shows estimated and projected age structures for London for 2015 (MYE) and 2041 (central projection). It illustrates that the population is projected to rise for almost all ages over the period. Large increases are projected among children between six and 18 and for all ages over 35.

Figure 5: Age structure, London 2015 & 2041



ONS Mid Year Estimates, GLA 2015-based population projections

Figure 6 shows the proportional changes in age structure for London between 2015 and 2041 in the central projection. The largest proportional increases can be seen in the older population, particularly those age 90 and over. The smallest changes are in the very young and in the age range 25 to 35. The dip visible in the age range 65-70 is a result of the baby-boom population which, in 2015 is in this age group but by 2041 is present in the 90+ category.

Figure 6: Proportional change in age structure, London 2015-2041

Insert Source text here

Components of Change

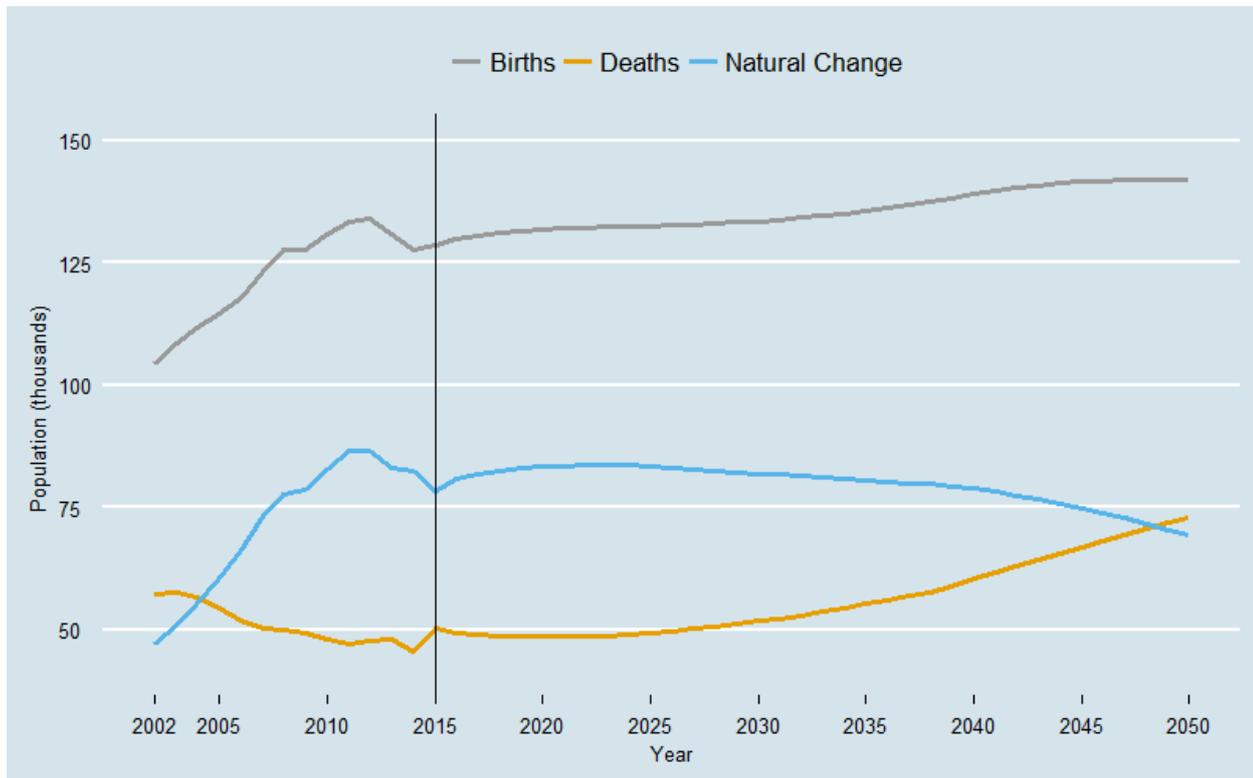
Births, deaths and migration all contribute to London's changing population. Natural change, which is the difference between the number of births and deaths, is the largest direct contributor to London's population growth. Natural change is high in London because of the age structure which, when compared to the national age structure, is much younger. The migration of young adults to the capital, and older residents away, leads to a bulge in population at the ages when family formation has traditionally occurred. This results in a relatively high number of births, and low number of deaths, in the capital. The result is high natural change.

Births & Deaths

Births in London rose continually from 2002 to 2012, reaching a peak of 134,000 before dropping back to 127,800 in 2014 (see Figure 7). Over the projection period (2016-2041) births are predicted to rise steadily. Deaths fell over the period 2002 to 2015 and are projected to remain relatively stable over the first years of the projection. After 2020 deaths begin to gradually increase reaching 61,600 by 2041.

The combined impact is that natural change, which increased sharply over the period 2002-2011 and then fell over 2012-2015, is projected to remain relatively stable over the projection period. There is a projected increase over the first years of the projection period followed by a gradual decrease. In 2041 the central variant projects natural change will be almost the same as 2015 levels – just 0.3 per cent lower.

Figure 7: Births, deaths & natural change, London 2002-2050

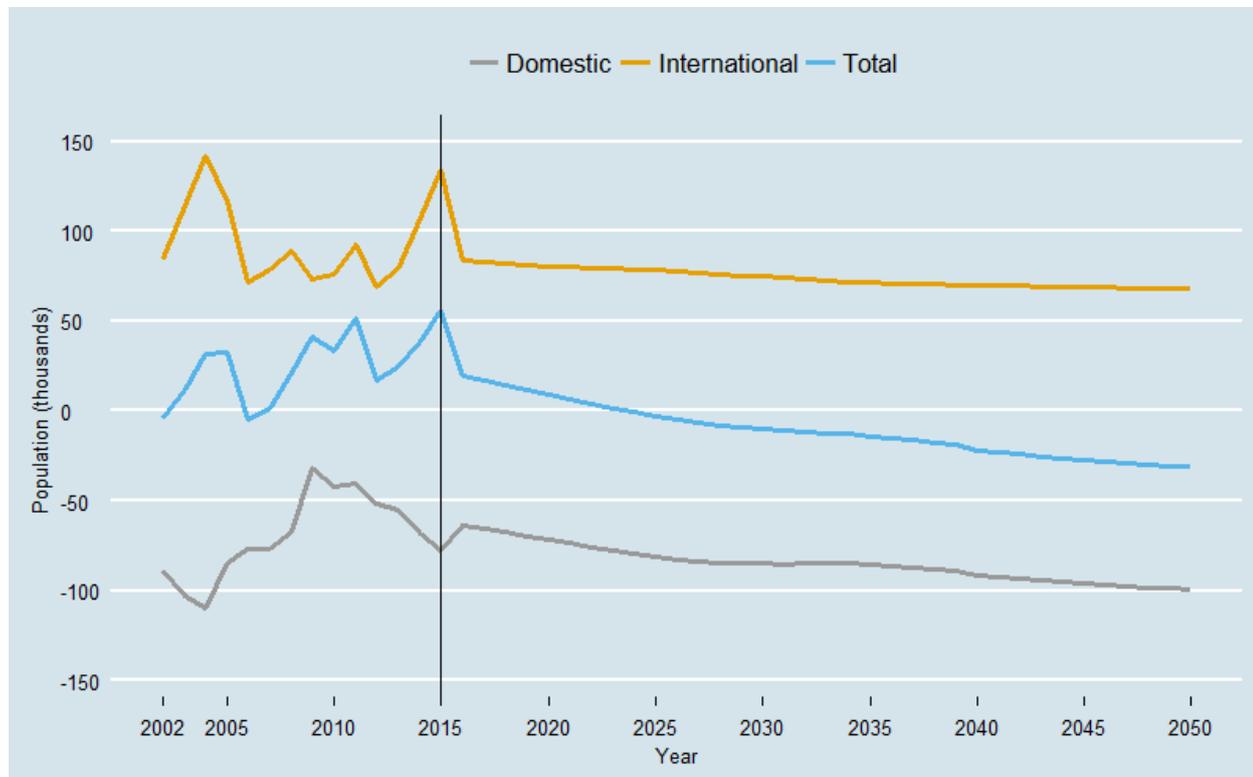


GLA, 2015-based population projections, ONS Mid Year Estimates

Note: Data pre-2016 are estimates, data for 2016 and later are projections

Migration

Figure 8: Net migration, London 2002-2050



GLA, 2015-based population projections, ONS Mid Year Estimates, ONS Internal migration estimates

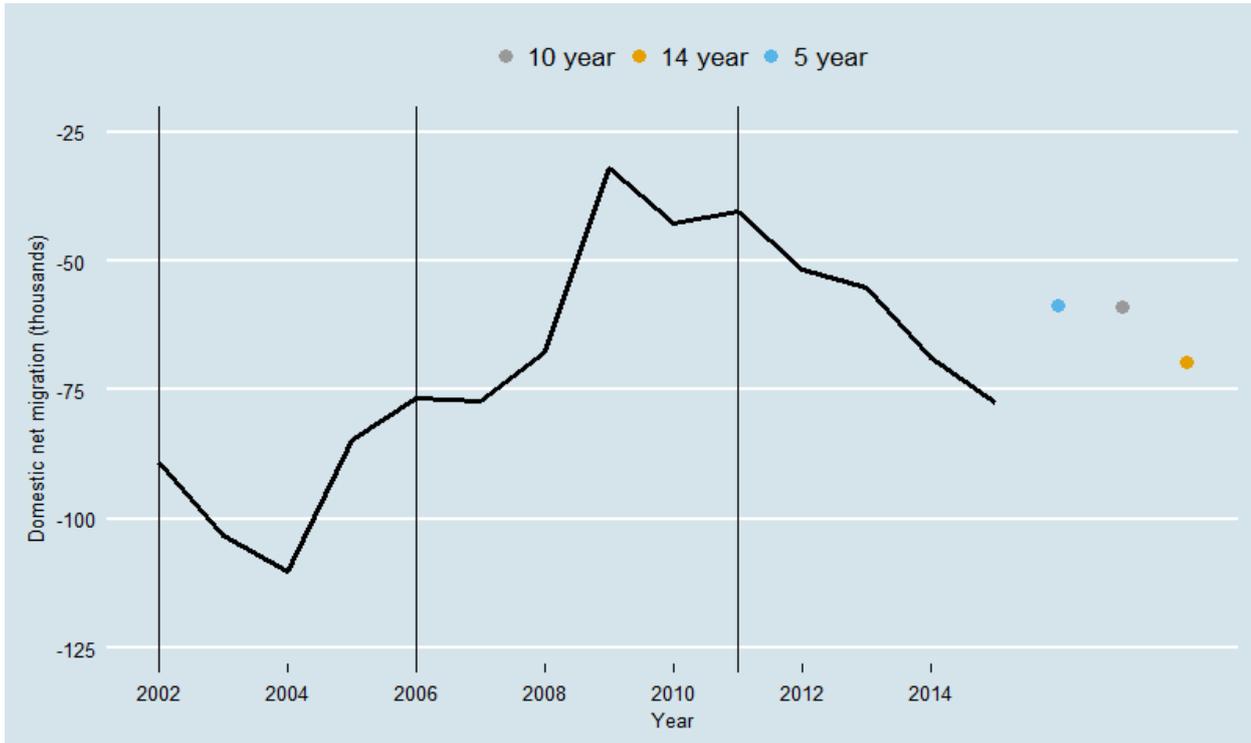
Figure 8 shows net migration for London (domestic, international and net). Total net migration in London has fluctuated between a net outflow of 4,900 in 2006 and a net inflow of 56,400 in 2015. The central projection, using a ten-year trend, projects that total net migration in 2016 will be 20,000. This is then projected to fall consistently across the projection period. In 2024 total net migration is projected to move from a positive flow (inflow exceeds outflow) to a negative flow (outflow exceeds inflow). In 2041 there is projected to be a net outflow of 23,200 from London.

Net international migration into London was positive over the period 2002 to 2015 indicating inflows from abroad have exceeded outflows. The 2015 level of 133,900 is almost as high as the 2004 peak when ten new countries joined the EU. Over the projection period net international migration falls gradually so that in levels in 2041 are around 84 per cent of those in 2016.

Net domestic migration is below zero and therefore constitutes an outflow from London to the rest of the UK. The period immediately following the financial crisis saw a sharp fall in out-migration from London leading to a reduction in net out migration. This reached a minimum in 2009 with a net outflow of 31,900. Since 2009, migration levels have been returning to pre-crisis levels so that flows in 2015 were of the same magnitude as those seen in 2007. The trajectory shown in figure 8 is based on a ten-year average of migration rates and shows net domestic outflows reaching 93,000 by 2041.

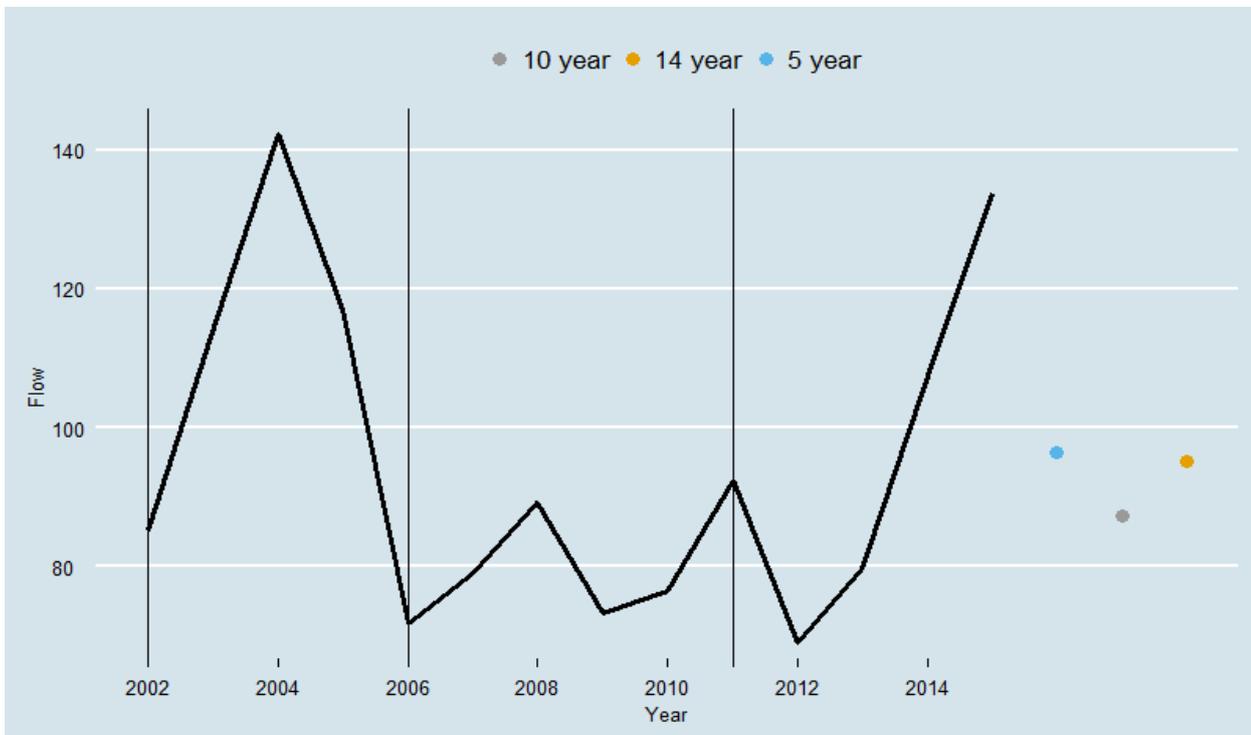
Figure 9 shows the impact of varying the length of the backseries used in calculating future migration rates.

Figure 9: Net domestic migration flow, London 2002-2015



ONS, Internal migration estimates

Figure 10: Net international migration flow, London 2002-2015



ONS, Mid-Year Estimates

The short-term projection uses a five-year average of rates (2011 to 2015) which yields an average domestic net migration of 58,600 persons from London to the rest of the UK. The central projection takes a

ten-year average (2006 to 2015) and yields an net outflow of 58,900 persons. Finally, the long-term projection uses 14 years of data yielding the higher outflow and lower net migration of 69,800 persons.

Table 3: Net migration flows, 2015 & 2041

Borough	2015			2041		
	Domestic	International	Total	Domestic	International	Total
City of London	-2	665	663	122	284	406
Barking and Dagenham	-1154	2509	1355	-3230	1719	-1511
Barnet	-3379	5407	2028	-2556	3146	590
Bexley	413	760	1173	79	572	651
Brent	-7732	7640	-92	-6777	5166	-1610
Bromley	1342	796	2138	507	340	846
Camden	-2900	7504	4604	-3458	3101	-357
Croydon	-2605	2438	-167	-1858	1317	-541
Ealing	-6473	4007	-2466	-4127	2809	-1318
Enfield	-2069	3164	1095	-2465	2085	-380
Greenwich	-413	3366	2953	-2918	1762	-1157
Hackney	-717	3359	2642	-3118	1349	-1769
Hammersmith and Fulham	-3354	2926	-428	-735	-32	-767
Haringey	-4195	6675	2480	-5081	3853	-1228
Harrow	-3644	2833	-811	-2375	2055	-320
Havering	1708	604	2312	968	295	1263
Hillingdon	-1616	4139	2523	-2892	2521	-371
Hounslow	-3993	4425	432	-4134	3061	-1073
Islington	-1439	6295	4856	-3109	2417	-692
Kensington and Chelsea	-1747	2234	487	115	-143	-27
Kingston upon Thames	-226	2547	2321	-1579	1546	-33
Lambeth	-1562	4598	3036	-3693	2241	-1453
Lewisham	-1503	3683	2180	-3502	2159	-1342
Merton	-2051	1077	-974	-2011	1057	-954
Newham	-7237	11182	3945	-11661	8656	-3005
Redbridge	-2912	3685	773	-2317	1878	-438
Richmond upon Thames	-1180	913	-267	153	-142	11
Southwark	-2399	5497	3098	-5546	4047	-1499
Sutton	161	568	729	181	208	388
Tower Hamlets	-2715	10532	7817	-5982	4195	-1787
Waltham Forest	-5767	5814	47	-4813	3303	-1510
Wandsworth	-2507	1296	-1211	-1561	-475	-2036
Westminster	-3242	10763	7521	-3607	3426	-181

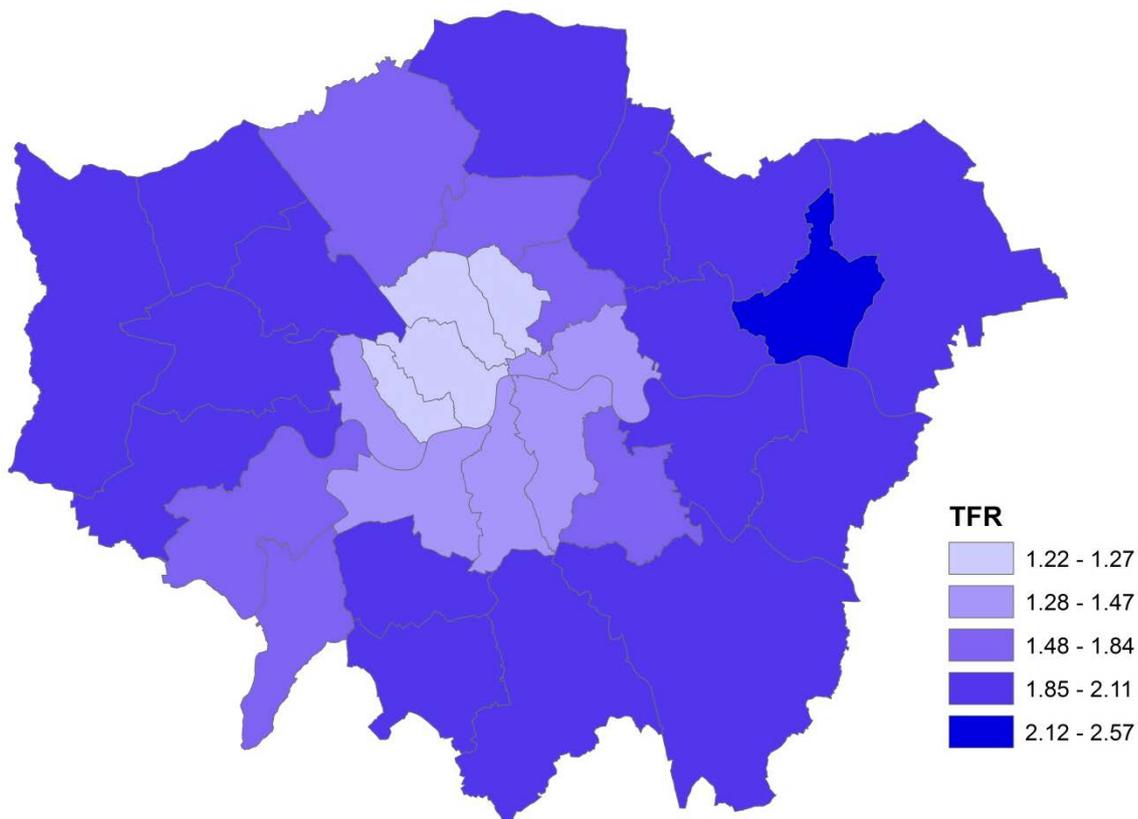
GLA 2015-based population projections

Total Fertility Rate (TFR)

Total fertility rate for 2016 shows a clear pattern of being lower in Inner London and higher in Outer London (Figure 11). Barking and Dagenham is projected to have the highest TFR (2.57 births per woman) while Westminster is projected to have the lowest rate (1.22 births per woman).

Eight boroughs have a TFR over 2.0 while ten have a rate lower than 1.5.

Figure 11: TFR, 2016



GLA, 2015-based population projections

For more information please contact Demography, GLA Intelligence
Greater London Authority, City Hall, The Queen's Walk, More London, London SE1 2AA
Tel: 0207 983 5523 e-mail: demography@london.gov.uk