

Data Management and Analysis Group

2003 Round Demographic Projections

**DMAG Briefing 2004/5
February 2004**

John Hollis

ISSN 1479-7879

DMAG Briefing 2004/5

February 2004

2003 Round Demographic Projections

For more information please contact:

John Hollis
Data Management and Analysis Group
Greater London Authority
City Hall (5 East)
The Queen's Walk
London SE1 2AA

Tel: 020 7983 4604

John.Hollis@london.gov.uk

Copyright © Greater London Authority, 2004

Any 2001 Census data and ONS mid-year estimates shown in this briefing have been reproduced with the permission of the Controller of Her Majesty's Stationery Office and are © Crown Copyright. An acknowledgement of the source is given at the end of each table.

ISSN 1479-7879

2003 Round Demographic Projections

Background

The two previous sets of population projections that informed the *draft London Plan* were each based upon the most recently available ONS mid-year estimates for the London boroughs and the average migration flows of the previous five years. This process mirrors the assumptions made nationally for migration into and out of the UK by the Government Actuary's Department (GAD) and within the UK by the Office for National Statistics (ONS) in their own demographic projections.

The *Scenario 8.1* projection was developed as part of the GLA 2000 Round. It used the 1998 mid-year estimate (7.19 million) with migration after 1998 being based upon the average of flows estimated for 1993-98. For London as a whole this was a net inflow of 11.5 thousand. This projection of 8.1 million at 2016 was used in the *draft London Plan*.

Scenario 7.9 was developed as part of the GLA 2002 Round using the first results from the 2001 Census. The Census had shown that the population of London (although not for all of the boroughs) had been consistently overestimated during the 1990s due to an underestimation of emigration overseas and a misallocation amongst the boroughs of the international inflow to London. *Scenario 7.9* was based upon the 2001 mid-year estimate (also 7.19 million) and the average of revised migration flows for the years 1996-2001. For London as a whole this was a net inflow of 9.4 thousand. This projection of 7.9 million at 2016 was published in *DMAG Briefing 2003/10* and was used at the *London Plan Examination in Public* in April 2003.

In September 2003 ONS revised the 2001 mid-year estimate by adding about 120 thousand persons (to 7.31 million) and published a mid-2002 estimate (7.36 million). The additional population in 2001 was mainly young adult males who were thought to have been missed from within households by the 2001 Census. The revision means that annual international migration flows over the years 1991-2001 are effectively revised and that there are newly estimated flows for 2001-02. The migration assumptions for the GLA 2003 Round of projections were established using these estimates. The next sections explore the options for setting the initial migration assumptions for 2002-03.

Migration 1991-2002

Table 1 shows the revised estimated gross and net international and within UK flows as they relate to Greater London as a whole.

Table 1: Greater London Migration 1991-2002: thousands

	International Migration (revised)			UK Migration			Total Net
	In	Out	Net	In	Out	Net	
1991-92	103.7	91.3	12.4	153.9	208.2	-54.3	-41.9
1992-93	98.1	70.8	27.3	149.9	200.4	-50.5	-23.2
1993-94	109.5	74.2	35.2	152.7	203.4	-50.7	-15.5
1994-95	111.1	80.1	31.0	166.6	207.8	-41.2	-10.1
1995-96	130.5	69.8	60.7	168.8	208.9	-40.1	20.6
1996-97	121.2	79.6	41.6	168.5	217.7	-49.2	-7.6
1997-98	151.5	97.1	54.4	169.5	221.5	-52.0	2.4
1998-99	197.1	101.3	95.8	167.6	220.1	-52.5	43.3
1999-00	210.4	106.4	104.0	163.3	233.2	-69.9	34.1
2000-01	227.2	109.5	117.7	163.6	232.2	-68.6	49.1
2001-02	208.2	109.5	98.7	156.0	254.2	-98.2	0.5

Recent migration patterns have seen London receive an increasing level of international migrants, particularly since 1998. However the growth in these numbers has been reversed in 2001-02, even though this year still shows the third highest level since 1991. Migration within the UK had been showing a net loss from London of 40-50 thousand persons per year up until 1999. Since then the rise in inflows to London has reversed and there has been a rise in the outflow, leading to a net migration loss in 2001-02 of over 98 thousand. More recent data shows that the annual loss rose to nearly 112 thousand in the year ending with the 1st quarter of 2003.

Therefore we have a situation that paradoxically shows the average net gain over the most recent five years to be at a very high level (25.9 thousand) while in the most recent year net migration has fallen to virtually zero after three years of very high growth. The 'traditional' five-year average may therefore not be the most suitable to incorporate as the Central assumption in the GLA 2003 Round.

Smoothed Migration Flows 1991-02

Annual estimated flows are subject to estimation error as well as the somewhat unpredictable nature of migration flows from one year to the next, this is particularly true for international movements. Table 2 shows the same statistics as Table 1 but after being subjected to a three-year smoothing process that preserves the total migration in each flow over the 11 years.

Table 2: Greater London Migration 1991-2002 (smoothed): thousands

	International Migration (revised)			UK Migration			Total Net
	In	Out	Net	In	Out	Net	
1991-92	101.9	84.5	17.4	152.6	205.6	-53.0	-35.6
1992-93	103.8	78.8	25.0	152.2	204.0	-51.8	-26.8
1993-94	106.2	75.1	31.2	156.4	203.8	-47.4	-16.2
1994-95	117.0	74.7	42.3	162.7	206.7	-44.0	-1.7
1995-96	121.0	76.5	44.5	168.0	211.5	-43.5	1.0
1996-97	134.4	82.2	52.2	169.0	216.0	-47.1	5.2
1997-98	156.6	92.6	63.9	168.5	219.8	-51.2	12.7
1998-99	186.3	101.6	84.7	166.8	224.9	-58.1	26.6
1999-00	211.6	105.7	105.8	164.8	228.5	-63.7	42.2
2000-01	215.3	108.5	106.8	161.0	239.9	-78.9	27.9
2001-02	214.5	109.5	105.0	158.5	246.9	-88.3	16.7

The smoothed sequence removes some of the discontinuities and shows better the underlying trends in the data. The smoothed sequence shows that international inflows have reached a plateau but that the UK flows show a steadily increasing net loss due mainly to rising outflows from London. The smoothed series gives the opportunity to use past trends, rather than averages, to 'project' the gross and net flows in 2002-03 under a number of assumptions that build upon the smoothed levels in 2001-02.

Setting Migration Levels for 2002-03

Adding onto the smoothed 2001-02 flows the average differences over the previous 1, 2, 3, etc years, can give a first exploration of the 'projected' migration in 2002-03. The results of doing this are shown in Table 3.

Table 3: Greater London 'Projected' Migration 2002-03: thousands

Years of Change	International Migration (revised)			UK Migration			Total Net
	In	Out	Net	In	Out	Net	
1 2000-01 to 2001-02	2138	1105	1033	1561	2339	-978	55
2 1999-00 to 2001-02	2160	1114	1046	1554	2360	-1007	40
3 1998-99 to 2001-02	2239	1121	1118	1558	2342	-984	134
4 1997-98 to 2001-02	2290	1137	1153	1560	2336	-976	177
5 1996-97 to 2001-02	2305	1150	1156	1564	2330	-966	190
6 1995-96 to 2001-02	2301	1150	1151	1570	2328	-958	193
10 1991-92 to 2001-02	2258	1120	1138	1591	2310	-919	219

Taking five or more years of change for the trend shows a stabilising of the gross and net flows. This exercise clearly shows that looking just at the latest five-year average in the original data is giving a potentially exaggerated view of the anticipated direction of change in London's net migration over the next few years.

The short-term 'projections' (based upon 1 or 2 years of change) show international flows a little higher than in 2001-02 and UK flows at about the actual levels of 2001-02 and later.

Medium-term 'projections' (3 and 4 years of change) show international inflows equivalent to their recent peak levels and UK flows still equivalent to 2001-02.

Longer-term 'projections' (5 to 10 years of change) show international inflows above recent highs and a reduction in the net UK outflow. The longer the period taken, the higher the resulting net migration 'projected' for 2002-03. However, none of the calculations is as high as taking the average of the raw data over the period 1997-2002.

The above suggests that in order to look at the sensitivity of recent migration on the projected population of London the GLA should adopt three projections based upon short, medium and long term analysis of migration. The three options used are:

A **Central** projection using three years of change (from the smoothed data for 1998-99 to 2001-02) leading to an initial **net inflow to London of 13.4 thousand** in 2002-03. This projection uses the actual flows of each of the last five years (1997-98 to 2001-02) in setting the level for 2002-03, but not with equal weightings.

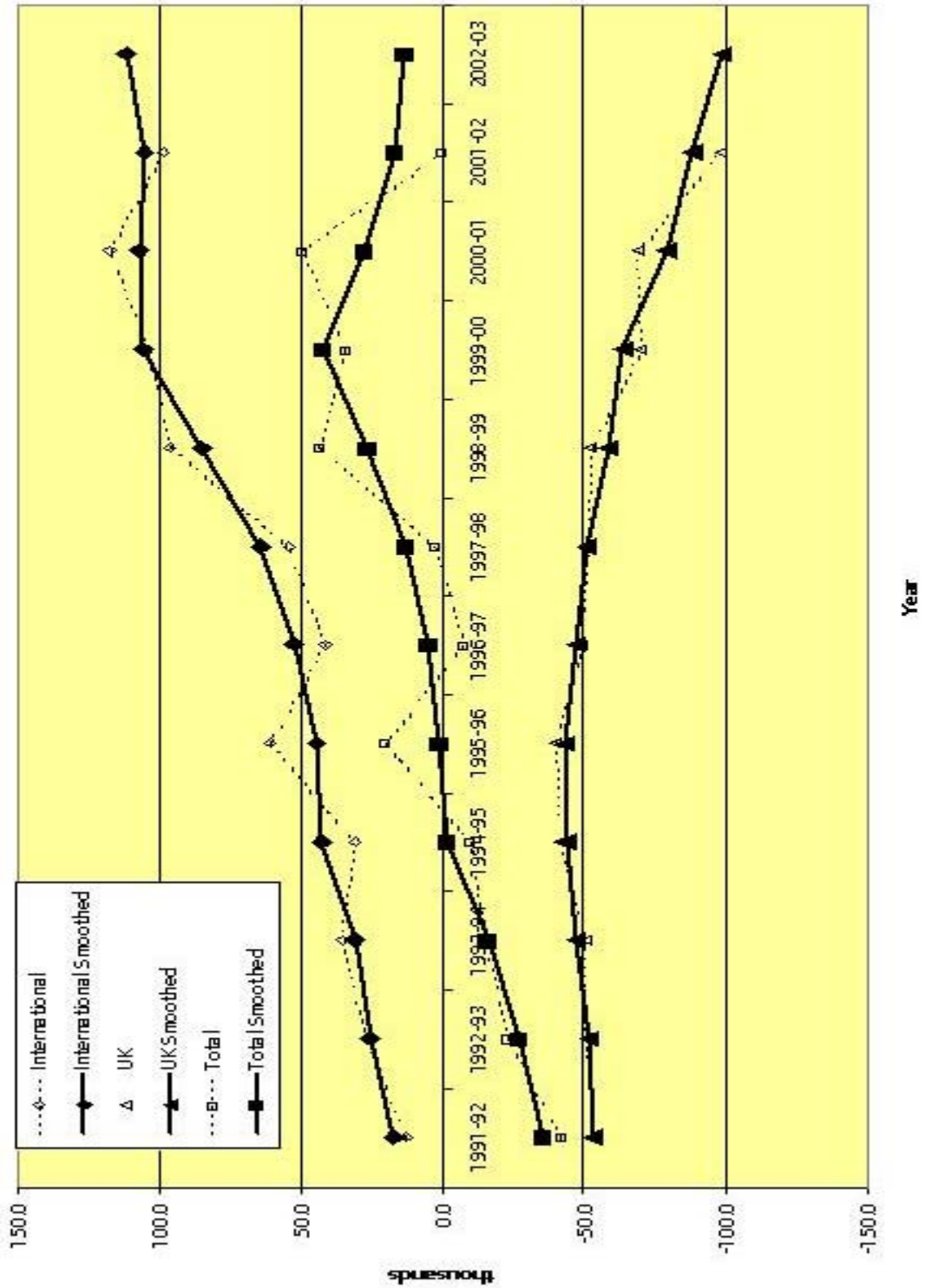
A **Low** projection using two years of change (from the smoothed data for 1999-00 to 2001-02) leading to an initial **net inflow to London of 4.0 thousand** in 2002-03.

A **High** projection using five years of change (from the smoothed data for 1996-97 to 2001-02) leading to an initial **net inflow to London of 19.0 thousand** in 2002-03.

In comparison to the initial levels of net migration (9.4 thousand) used in the *London Plan* (see *DMAG Briefing 2003/10*) the Central projection is showing about 50% more net migration, the Low about 50% less and the High about double.

Figure 1 shows the original and smoothed net migration calculations for 1991-2002 as well as the Central 'projection' for 2002-03.

**Figure 1: Greater London Original and Smoothed Net Migration: 1991-2002
& Central Projection for 2002-03**



The Central Projection

In the Central projection the gross inflows and outflows, and hence the net flows, in 2002-03 are set as described above for each of the boroughs. After 2003 the gross inflows from outside London are held constant and the probability-based model for outflows from each borough sets the annual levels of gross outflow in each stream based upon constant 2002-03 probabilities applied to the changing size and age-gender structure of the populations.

The total number of births in each borough was known for mid-2001 to mid-2002. The model 'projects' these totals using:

- the average resident female population aged 15-49 (in single years of age) in the year 2001-02
- age-specific fertility rates based upon 1995-97, and
- an overall adjustment factor.

This calculation enables a Total Period Fertility Rate (TFR) to be calculated for each borough for 2001-02. From the GAD 2002-based national projections the trend in the TFR for England & Wales is used to project the borough TFR, and hence to vary the borough age-specific fertility rates through the projection period to 2021. The net impact is that while the England & Wales TFR rises by 4.6% from 2001-02 to 2015-16, the number of births in London rises by nearly 18% (from 104 thousand to 123 thousand). The additional increase in London reflects the projected growth in the population of women in the main childbearing age groups.

Similarly, the number of deaths in each borough is known for 2001-02. The model 'projects' these totals using:

- the resident population in single years of age at 2001
- life tables for 1995-97 specific to each borough group, and
- an overall borough adjustment factor.

From the GAD 2002-based national projections 40-year survival improvement factors are available. In years after 2003 these factors are used to adjust the life table survival rates and are used alongside borough-specific average mortality adjustment factors (for the years 1991-2002) to project the total number of deaths. For London deaths are projected to decline from 61 thousand in 2002-03 to 54 thousand in 2015-16. This reduction is partly a reflection of the reducing numbers of Londoners over retirement age.

The population of London increases from 7.31 million in 2001 and 7.36 million in 2002 to 8.11 million in 2016, a rise of 800 thousand over the fifteen years. Using the benchmarked household calculation of constant average household size in each borough at 2001 levels, households would rise by 330 thousand from 3.02 million in 2001 to 3.35 million in 2016. This is a rise of 22.0 thousand per year, compared to 19.9 thousand in the *draft London Plan*. These results are shown in more detail in Table 4, which also shows the results of Scenario 7.9 that was presented at the Examination in Public. Following a recommendation of the Examination panel the projections have been extended to 2021 with a London population of 8.338 million.

Table 4: 2003 Round Projections and the *London Plan* Scenario 7.9

(000s)		Population			Households	Scenario 7.9	
		Low	Central (Scenario 8.1)	High	Central (Scenario 8.1)	Population Benchmarked	Households
1991	MYE		6829.3		2810.6	6829.3	2810.6
2001	MYE		7307.9		3022.8	7188.0	3022.7
2006	Projection	7544.0	7585.6	7620.1	3147.8	7441.5	3131.4
2011	Projection	7771.7	7856.7	7928.8	3257.7	7679.3	3228.8
2016	Projection	7986.1	8108.1	8213.3	3353.1	7899.1	3321.3
Change							
1991-01	MYE		478.6		212.2	358.7	212.1
2001-16	Projection	678.2	800.2	905.4	330.4	711.1	298.6
Average Annual Change							
1991-01	MYE		47.9		21.2	35.9	21.2
2001-16	Projection	45.2	53.3	60.4	22.0	47.4	19.9

The High and Low Variants

When the High and Low migration variants, as described above for London, were calculated at borough level it was noted that in some boroughs the High and Low values were in fact *vice versa*. In order to ensure that in all boroughs the resulting High projection was above the Central and the Central above the Low a number of adjustments were made. First, it was decided to maintain the same gross inflows in all three variants. Second, the High and Low values of net migration were 'switched' in those boroughs in which the order had reversed. Third, minimum differences of ± 100 from the Central assumption in 2002-03 were maintained.

The net impact was that for London the High and Low net migration assumptions in 2002-03 were +22,300 and +2,200.

Fertility and mortality are treated as in the Central projection.

The results for London in terms of population at 2016 are 8.21 million and 7.99 million respectively. More details are shown in Table 4.

Scenario 8.1

The 2003 Round Scenario 8.1 borough population projections were developed directly from the Central projection, but using the High and Low variants *en route* in the calculation process.

In Scenario 8.1 the growth in population between 2002 and 2016 in the Central projection was apportioned amongst the boroughs in accordance with the growth in homes as described in *London's Housing Capacity* (GLA, 2000). This was done in three periods: 2002-06, 2006-11 and 2011-16. For the period 2016-21 it was assumed that there would be the same number of additional homes as in the LHCS for 2011-16.

The population 'capacity' of each borough at 2006, 2011, 2016 and 2021 was estimated using:

- the total number of households (based on the 2001 Census adjusted to mid-2001 plus the additional LHCS homes)
- constant levels of average household size (based upon the 2001 Census adjusted for the additional population as in the revised 2001 estimates), and
- constant proportion of the population resident in communal establishments.

The borough total populations for intervening years (ie 2003 to 2005, etc) were estimated by interpolation. All were then constrained to sum to the Central projection for London.

In order to calculate the age structure of the revised populations, at each single year of age (for each gender) the population was calculated as being the Central projection plus (or minus) a constant proportion of the difference between the Central and High (or Low) variant projections. Finally the borough populations at each single year of age (and gender) were constrained to sum to the appropriate London population from the Central projection. In this way the Central projection was redistributed without adjusting any of the projected outcomes for London.

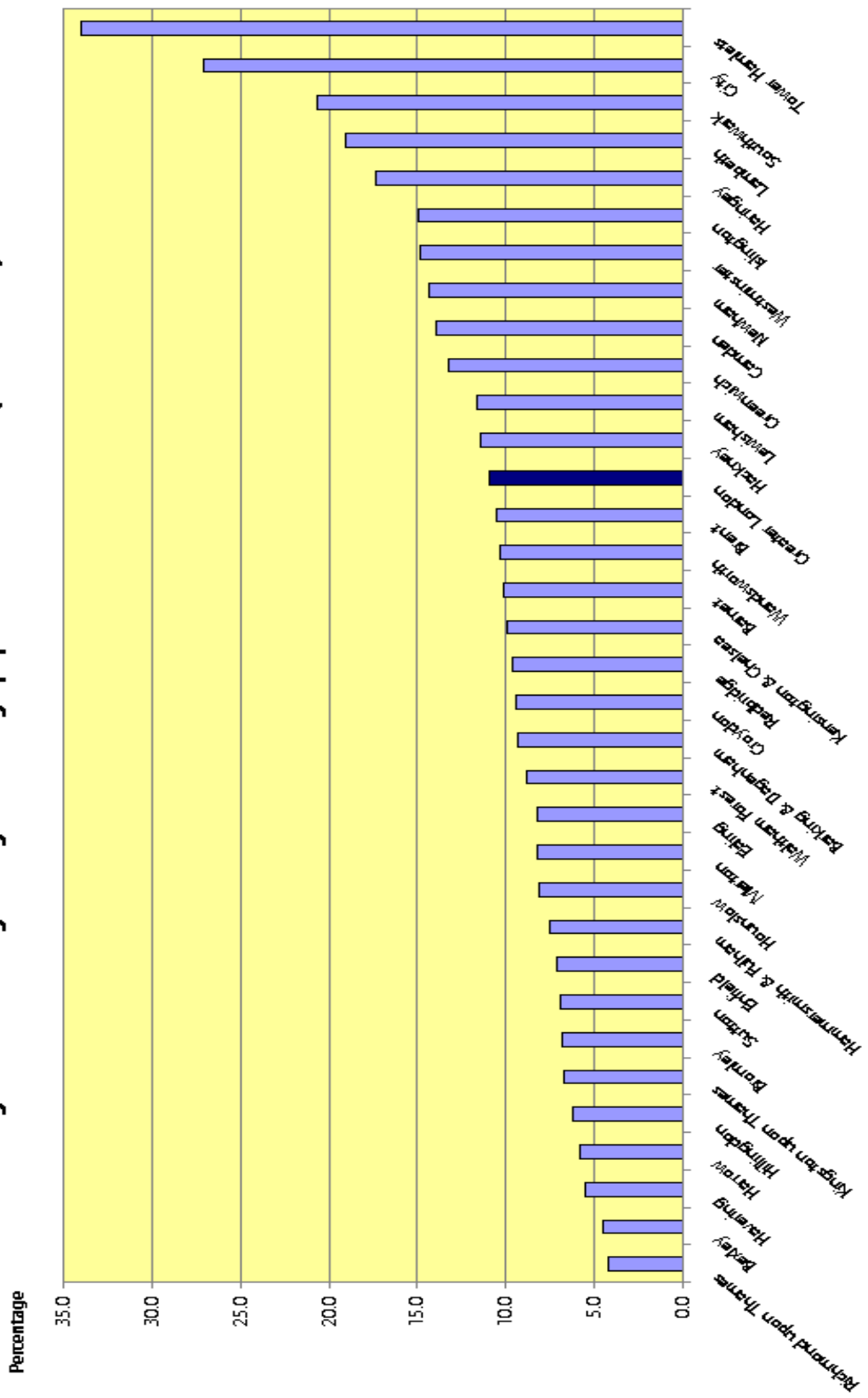
Some of the boroughs have higher projections in Scenario 8.1 than in the Central projection and *vice versa*. The main impact of the process is a shift away from Central boroughs of 58 thousand persons (by 2016) of which 41 thousand go to the Rest of Inner London. At the borough level Camden, Enfield, Greenwich and Hammersmith & Fulham all 'lose' over 30 thousand persons, while Lambeth, Lewisham and Southwark each 'gain' over 30 thousand. Fifteen boroughs have adjustments of less than 10 thousand persons; eighteen boroughs have adjustments equivalent to less than 5% of their populations.

Table 5 shows the projected populations and numbers of households for each borough for selected years to 2021. Figure 2 shows the percentage change in the population of each borough from 2001 to 2016.

Table 5: Scenario 8.1: Projected Population and Households

	2001		2006		2011		2016		2021	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Camden	91803	203002	95826	211293	100123	221332	104481	231202	108839	240464
Kingston and Chelsea	79262	162621	82413	168584	84845	174000	87044	178702	89243	182938
Westminster, City of	91383	186392	97261	197815	101411	206783	104853	214024	108295	220710
City of London	4358	7377	4755	8024	5142	8697	5555	9371	5928	10021
Central boroughs	266806	559392	280254	585716	291521	610812	301913	633299	312305	654133
Hackney	86268	207789	89841	215749	93029	224007	96080	231608	99131	238581
Hammersmith and Fulham	75546	169851	78094	175094	79679	179118	81158	182631	82637	185663
Haringey	92300	221856	97490	233654	103133	247845	108220	260350	113306	272146
Islington	82427	179821	87361	190044	91088	198685	94694	206769	98300	214297
Lambeth	118727	274200	127658	294002	134578	310777	141243	326509	147908	341356
Lewisham	107642	254886	111847	264041	115936	274435	120023	284426	124109	293643
Newham	91973	250098	96663	262076	100721	273825	105105	286064	109490	297520
Southwark	106049	251060	112702	266030	120165	284414	127847	302925	135529	320608
Tower Hamlets	78742	201645	88062	224892	96715	247669	105368	270115	114021	291809
Wandsworth	115864	267492	120840	278227	124336	287040	127692	295088	131048	302350
Rest of Inner	955538	2278698	1010559	2403807	1059380	2527815	1107430	2646483	1155480	2757973
Inner London	1222344	2838090	1290813	2989523	1350901	3138627	1409343	3279782	1467786	3412106
Barking and Dagenham	67439	165851	70746	173393	72679	178585	73729	181379	74778	183686
Barnet	12732	320082	131364	329400	135278	340089	140076	352571	144874	364106
Bexley	89636	218757	91128	221610	92355	225150	93688	228671	95021	231585
Brent	100122	270434	104054	281162	107556	290334	110634	298986	113711	306840
Bromley	126134	296218	128971	301810	131834	309283	134701	316390	137568	322658
Croydon	139399	335653	144090	345770	148528	357327	152543	367419	156559	376529
Ealing	118262	308072	121337	315077	124489	324102	127946	333489	131402	341983
Enfield	110718	277719	113382	283446	115741	290081	118590	297571	121438	304266
Greenwich	93154	217805	99533	231956	103172	241047	105437	246616	107701	251529
Harrow	79565	210456	81642	215232	82980	219323	84136	222639	85292	225364
Havering	91917	224717	94015	229019	95481	233161	96953	237040	98425	240293
Hillingdon	96662	245930	99005	251052	101013	256804	102633	261229	104253	264956
Hounslow	84124	216445	87292	223880	89216	229407	90920	234058	92624	238086
Kingston upon Thames	61576	149255	64370	153357	66635	156571	68693	159319	70751	161643
Merton	79070	191488	81262	196155	83393	201817	85552	207282	87712	212194
Redbridge	92559	242285	96750	252404	99228	259524	101450	265646	103672	271060
Richmond upon Thames	76358	174538	77834	177324	78707	179777	79506	181818	80305	183376
Sutton	76576	181644	78595	185802	80230	190152	81838	194194	83447	197716
Waltham Forest	89916	222472	92524	228181	95244	235492	97763	242006	100282	247864
Outer London	1800419	4469821	1856995	4596032	1901759	4718031	1943787	4828320	1985816	4925734
GREATER LONDON	3022762	7307911	3147808	7585555	3252660	7856659	3353131	8108102	3453602	8337899

Figure 2: Percentage change in Borough population 2001 - 2016 (Scenario 8.1)



Analysis of Change

Table 6 shows the change analysis for London from the Central (Scenario 8.1) projection. Births rise steadily throughout and deaths decline after 2002-03 leading to a growth in natural change. The level of net migration falls each year after 2003 and becomes a net outflow after 2007. Overall, of the 800 thousand growth projected from 2001 to 2016 natural change accounts for 867 thousand and net migration is a loss of 67 thousand.

Table 6: Greater London: Analysis of Population Change

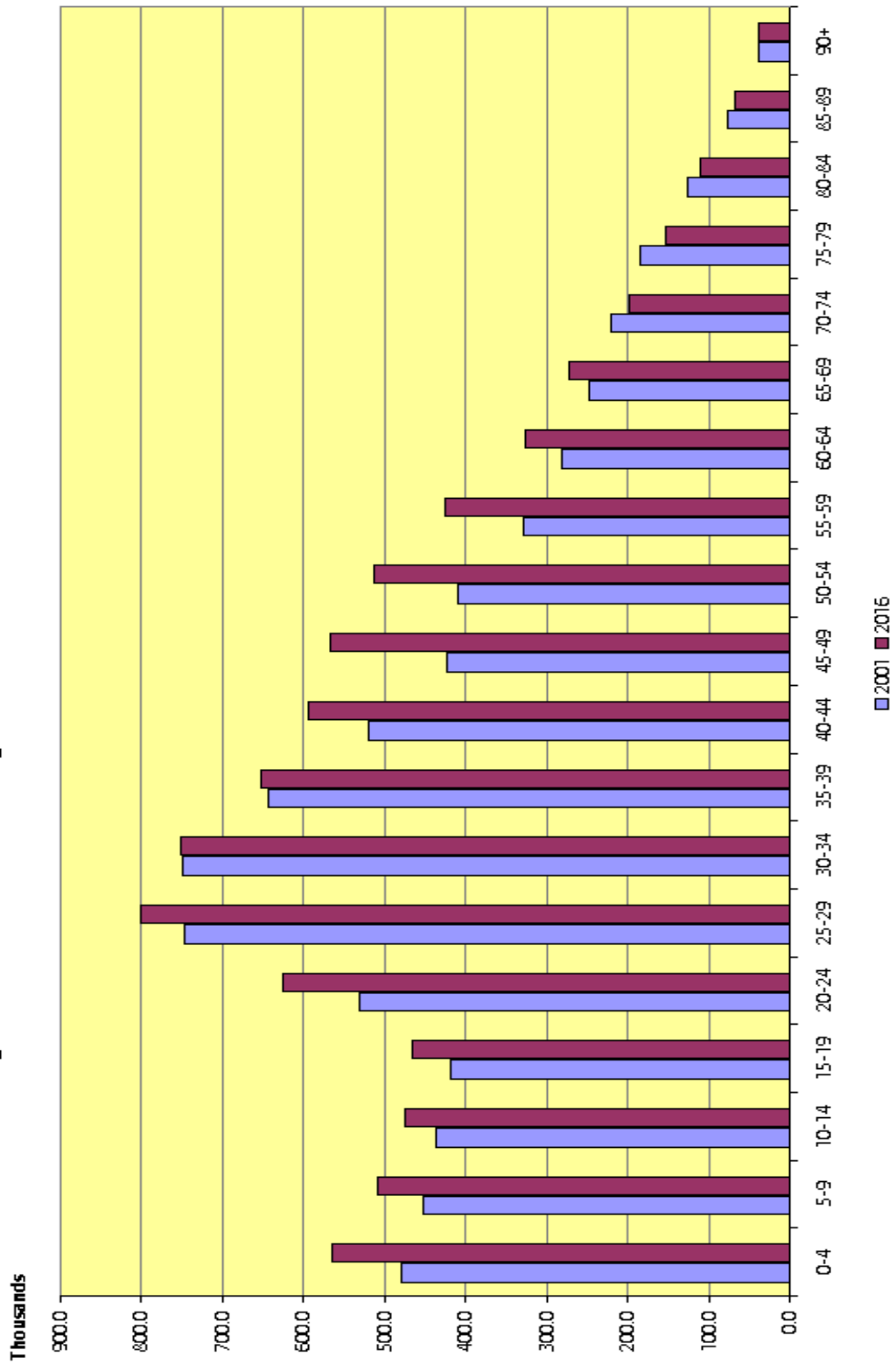
	(ooos)	Start	Births	Deaths	Natural	Net	End
		Population			Change	Migration	Population
2001-2002		7307.9	104.3	57.3	47.0	0.7	7355.6
2002-2003		7355.6	106.2	61.4	44.7	13.8	7414.2
2003-2004		7414.2	108.3	60.7	47.7	10.3	7472.2
2004-2005		7472.2	110.0	59.9	50.1	7.0	7529.3
2005-2006		7529.3	111.5	59.2	52.4	3.9	7585.6
2006-2007		7585.6	113.1	58.4	54.7	1.0	7641.2
2007-2008		7641.2	114.7	57.8	57.0	-1.9	7696.3
2008-2009		7696.3	116.2	57.2	59.0	-4.7	7750.5
2009-2010		7750.5	117.5	56.8	60.7	-7.3	7804.0
2010-2011		7804.0	118.7	56.3	62.3	-9.6	7856.7
2011-2012		7856.7	119.7	55.9	63.8	-12.0	7908.5
2012-2013		7908.5	120.7	55.4	65.3	-14.2	7959.6
2013-2014		7959.6	121.5	55.0	66.5	-16.2	8009.9
2014-2015		8009.9	122.2	54.7	67.6	-18.1	8059.4
2015-2016		8059.4	122.9	54.3	68.5	-19.8	8108.1
2016-2017		8108.1	123.3	54.1	69.3	-21.5	8155.9
2017-2018		8155.9	123.8	53.8	70.0	-23.1	8202.8
2018-2019		8202.8	124.2	53.6	70.6	-24.6	8248.7
2019-2020		8248.7	124.5	53.5	71.0	-26.0	8293.8
2020-2021		8293.8	124.8	53.4	71.4	-27.3	8337.8
Summary							
2001-2006		7307.9	540.3	298.4	241.8	35.8	7585.6
2006-2011		7585.6	580.2	286.5	293.7	-22.6	7856.7
2011-2016		7856.7	607.0	275.3	331.7	-80.2	8108.1
2016-2021		8108.1	620.5	268.3	352.2	-122.5	8337.8

Age Structure

Figure 3 compares the London populations in five-year age groups at 2001 and 2016 from the Central (Scenario 8.1 projection). This shows that the main growth in population is concentrated in the main working ages (20-64) for which a growth of 620 thousand is projected. There is a further decline of 51 thousand in the number of persons over 65 but increases for all child age groups and those aged 15-19 amounting to 231 thousand. In more detail the main growth is concentrated at ages 45-54. This is due in large part to the large cohorts born in the 1990s replacing those born in the low fertility years in the late 1940s and early 1950s. Although the over 65s decline there is a projected increase of those aged 65-69 as well as the younger 60-64 cohort. The growth in those aged 65-69 reflects the large immediate post-war baby boom cohorts reaching retirement.

Between 2016 and 2021 the main additional change is that the fall in those aged over 65 is reversed as persons born between 1951 and 1956 reach retirement age and the over 65 age group as a whole increases by 28 thousand persons. The main working ages are projected to rise by a further 128 thousand persons.

Figure 3: Greater London Age Structure - 2001 and 2016 (Scenario 8.1)



Availability of the Projections

The Scenario 8.1 population projection has been used as the basis for ward level projections. The borough level results – excluding the City of London – are therefore contained on the *GLA 2003 Round Ward Projections* CD-Rom. This projection is also available on the GLA Demography Extranet and may be supplied by email. The Low, Central and High variants are also available on request. All enquiries relating to the results should be directed to Georgia Hay (020 7983 4347 or georgia.hay@london.gov.uk).

The only household results are those shown in this *Briefing*. Full household projections will not be prepared until the results of the ODPM 2002-based subnational household projections are available in Spring 2005. This will provide the first analysis of household representative rates and marital status rates from the 2001 Census.

At the borough level the Scenario 8.1 projections will be converted to economically active resident labour force projections. These will incorporate the results of the 2001 Census and the ONS national labour force projections that are expected later in 2004. In the meantime the ward level populations will be provisionally converted to resident labour force estimates for mid-2004 using the 2001 Census economic activity rates. These calculations are being made in order that the soon-to-be-released ONS Claimant Count data at ward level may be converted to resident unemployment rates. For more information on this please contact Lorna Spence (020 7983 4658 or lorna.spence@london.gov.uk).

Regular Briefings from the GLA Data Management and Analysis Group

The latest *DMAG Briefings* are:

DMAG 2003/1	Disabled people and the labour market	Lorna Spence
DMAG 2003/2	2001 Borough Demographic Profiles	Baljit Bains/ Iryna Pylypchuk
DMAG 2003/3	2002 Round of Demographic Projections	John Hollis/ Baljit Bains
DMAG 2003/4	Greater London Demographic Review: 2001	Baljit Bains/ Iryna Pylypchuk
DMAG 2003/5	Census Information Note CIN 2003-1	Eileen Howes
DMAG 2003/6	Third country nationals living in London 2000/01	Lorna Spence
DMAG 2003/7	2001 Census Key Statistics: Initial summary of results	Eileen Howes
DMAG 2003/8	2001 Census Key Statistics: Household variables	John Hollis
DMAG 2003/9	2001 Census Key Statistics: Ethnicity, religion and country of birth	Eileen Howes
DMAG 2003/10	Household Forecasts based on 2001 Census Key Statistics	John Hollis
DMAG 2003/11	2001 Census: Copyright and Licensing for Census users	Rachel Leeser /Hywel Davies
DMAG 2003/12	Women and the Labour Market	Lorna Spence
DMAG 2003/13	2001 Census Key Statistics: Means of travel to work	Eileen Howes
DMAG 2003/14	2001 Census Key Statistics: People, Families and Households	Rachel Leeser
DMAG 2003/15	Census Information Note CIN 2003-2	Eileen Howes
DMAG 2003/16	2001 Census Key Statistics: Health Indicators	Gareth Piggott
DMAG 2003/17	Public sector employment in London	Lorna Spence
DMAG 2003/18	Trade union membership in London	Lorna Spence
DMAG 2003/19	Fertility of Ethnic Groups in London	Ed Klodawski
DMAG 2003/20	ONS 2001 (revised) and 2002 Mid-year Population Estimates	John Hollis/ Baljit Bains
DMAG 2003/21	Workless Households with dependent children in London: Output area maps	Declan Gaffney/ Bill Armstrong
DMAG 2003/22	Mapping Diversity: 2001 Census results	Eileen Howes
DMAG 2003/23	2001 Census: Ethnic Groups in London and other districts	Eileen Howes/ Giorgio Finella
DMAG 2003/24	Cross-border pupil mobility	David Ewens
DMAG 2003/25	Integrating the 2001 Census into the GLA Demographic Models	John Hollis
DMAG 2003/26	Unemployment in London: An analysis of 2001 Census data	Lorna Spence
DMAG 2003/27	Census Information Note CIN 2003-3	Eileen Howes
DMAG 2003/28	Census Information Note CIN 2003-4	Giorgio Finella
DMAG 2003/29	Greater London Demographic Review: 2002	Georgia Hay
DMAG 2004/1	2003 Round Ward Population Projections	Georgia Hay
DMAG 2004/2	London's Workers Part 1: 2001 Census data	Eileen Howes
DMAG 2004/3	Borough Demographic Profiles	Georgia Hay
DMAG 2004/4	DMAG Annual Review 2003	Jackie Maguire

Contact details for the Data Management and Analysis Group are as follows:

Rob Lewis (020 7983 4652) is **Head of the Data Management and Analysis Group**.
rob.lewis@london.gov.uk

Bill Armstrong (020 7983 4653) works in the **Census Team** with particular responsibilities for **commissioned tables, workplace data** and **mapping**. bill.armstrong@london.gov.uk

Baljit Bains (020 7983 4613) works in the **Demography Team** and is responsible for **ethnic demography**, including **ethnic group projections**. baljit.bains@london.gov.uk

Shen Cheng (020 7983 4889) works in the **Education Team** and is responsible for school roll projections.
shen.cheng@london.gov.uk

Hywel Davies (020 7983 4696) is responsible for the **SASPAC** project and for the development of **GIS** work.
hywel.davies@london.gov.uk

David Ewens (020 7983 4656) is responsible for **education research and data analysis** and school roll projections. david.ewens@london.gov.uk

Georgia Hay (020 7983 4347) works in the **Demography Team** and is responsible for **ward level projections**, the **Demography Extranet** and **borough liaison**. georgia.hay@london.gov.uk

Giorgio Finella (020 7983 4328) works in the **Census Team**. giorgio.finella@london.gov.uk

Dennis Grenham (020 7983 4532) works mostly on **statistical compendia, election statistics** and **special publications**. dennis.grenham@london.gov.uk

John Hollis (020 7983 4604) is responsible for the work of the **Demography Team** and the **Social Exclusion Team**, and particularly for **demographic modelling**. john.hollis@london.gov.uk

Eileen Howes (020 7983 4657) is responsible for the work of the **Census Team**.
eileen.howes@london.gov.uk

Ed Klodawski (020 7983 4694) works in the **Demography Team**. His post is joint with the **London Health Observatory** and specialises in **ethnic** and **health** issues. edmund.klodawski@london.gov.uk

Rachel Leeser (020 7983 4699) works in the **Social Exclusion Team** with particular responsibilities for **indicators** and **income data**. rachel.leeser@london.gov.uk

Alan Lewis (020 7983 4348) is a member of the **SASPAC Team**. alan.lewis@london.gov.uk

Jackie Maguire (020 7983 4655) is responsible to the Group Head and co-ordinates the administrative and financial work of the Group. jackie.maguire@london.gov.uk

Michael Minors (020 7983 4654) is responsible for the work of the **General Statistics and Education Team**.
michael.minors@london.gov.uk

Gareth Piggott (020 7983 4327) works in the **Census Team**. gareth.piggott@london.gov.uk

Lorna Spence (020 7983 4658) is a member of the **Social Exclusion Team**, with particular responsibilities for the **Labour Force Survey** and **benefits data**. lorna.spence@london.gov.uk

Please use the above descriptions in deciding whom to contact to assist you with your information needs.