

Data Management and Analysis Group

DCLG 2003-based Projections of Households for Greater London



DMAG Briefing 2007-01

January 2007

John Hollis

ISSN 1479-7879

DMAG Briefing 2007-01

January 2007

DCLG 2003-based Projections of Households for Greater London

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, 2007

All ONS mid-year population estimates, ONS population projections and DCLG household projections presented in this *DMAG Briefing* are © Crown Copyright.

Front cover photograph
© London Borough of Brent

Data presented in this *DMAG Briefing* can be made available in other formats on request

ISSN 1479-7879



DCLG 2003-based Projections of Households for Greater London

Contents

Executive Summary	1
Introduction	2
Inputs to the Projections	3
Main Results	5
Analysis of Results	7
Impact of the population projection	
Impact of marital status and HRRs	
Married males – married couples	
Single males – one-person households and cohabiting couples	
Single females – one-person households and lone parent households	
Divorced males – one-person households	
Use of Projections by the GLA	17
Future DCLG Projections	18
Commentary	19

Executive Summary

The DCLG 2003-based household projections for local authorities in England were published in stages during 2006. The GLA received fully detailed results for London and the London boroughs in the summer and used these when preparing its own new population and household projections in relation to the *Review of the London Plan*.

The main results of the DCLG projections for London between 2006 and 2026 are:

- the number of households is projected to grow by 735 thousand (23%).
- the largest absolute growth is in one-person households: 507 thousand.
- one-person households account for 69% of the total projected household growth
- the fastest growing household type is projected to be cohabiting couple households: a 236 thousand increase, equivalent to 71%. This increase is partly a consequence of the projected fall of 148 thousand in the number of married couple households.
- average household size is projected to fall from 2.33 to 2.13.

The DCLG household projections are highly dependent upon the ONS subnational population projections. These projections used the estimated local migration trends of 1998-2003 to project migration with a constraint that international migration for all LAs in England would sum to match that previously projected in the GAD 2003-based population projection for England.

The DCLG work also incorporates assumptions about the size of the communal establishment population and the marital status of the private household population. The combination of changing size, age structure and marital status structure of the population projected for each area is, in most parts of England and particularly in London, more important in determining the household projection than the other main element of the DCLG projections: household representative rates.

The increasing proportions of the population remaining single and being divorced as well as the expectation that the main growth in population will be amongst persons aged between 45 and 69 are critical to the projected growth of cohabiting and one-person households. These factors are also important in forcing down the average household size.

Most household representative rates (specific to type of household, and the gender, age and marital status of the household representative) are quite stable over time. The exceptions relate to the recent significant growth and continued projection of rates for cohabiting couples and one-person households amongst the single and divorced.

The GLA is using the following aspects of the structural changes found in the DCLG projections in its own *London Plan* demographic work:

- the assumptions about the size of the communal establishment population by gender and five-year age groups
- the proportions of the private household population in each marital status (married, widowed, divorced and single) by gender and five-year age groups
- the household representative rates specific to married couple households, cohabiting couple households, lone parent households, other 2+ adult households and one-person households by gender, marital status and five-year age groups

Introduction

In March 2006 the Office of the Deputy Prime Minister (ODPM) released regional totals of households projected to 2026. These were based on the Office for National Statistics' (ONS) 2003-based subnational population projections and are the first new government household projections since the DETR 1996-based projections were published in 1999. In particular they are the first to reflect the results of the 2001 Census. *DMAG Update 2006-08* presented the principal results for 2006 to 2026, the main period of the revisions to the *London Plan*.

The GLA received detailed results of the projections – households by type and by gender, marital status and age of the household representatives - for each London borough in Summer 2006 from the Department for Communities and Local Government (DCLG), which inherited responsibility for the projections on its establishment.

The main structural results of the DCLG projections, principally the proportions of the private household population in each marital status and the household representative rates, have been used in preparing population and household projections for the *Review of the London Plan*.

This *Briefing* concentrates on the results for Greater London and the deconstruction of the projections relevant to the *London Plan* work.

Inputs to the Projections

There are four main components to the DCLG projections:

- ONS 2003-based subnational population projections (released in 2004)
- Estimates of the population resident in communal establishments based on the 2001 Census
- GAD 2003-based national marital status projections (released in 2005)
- DCLG projection of household representative rates based on the 2001 Census

The household projections are prepared at local authority district level and are based on the standard five-year age groups of the population, with a final age group being 85+. The underlying population projections are vital to the outcome of the household projections. The ONS projections are trend-based using recent migration data (1998 to 2003 averages) for each projection area, which are the intersections between the local authority and health authority geographies in England. Migration within England is a 'zero sum' calculation at each single year of age and gender, as each migrant from a projection area of origin must be assigned to a destination area. International migration, which includes migration with the other countries of the UK, is constrained for all projection areas to the national assumptions used in the GAD 2003-based national population projections for England. The population projections therefore take no account of planned development.

The first stage of the projections is to establish the private household population by age and gender. The 2001 Census provides the population resident in communal establishments (CEs). Up to age 74 the CE population is considered to be constant in each local authority area for each five-year age group for all projection years. For age groups 75-79, 80-84 and 85+ the assumption is that the 2001 proportions of the resident population that are resident in CEs remain constant. The projected private household population is then obtained by differencing at each age group.

The second stage is to assign the private household population at each age group to the four legal marital statuses: married, widowed, divorced and single. The 2001 Census shows the local area base line distribution of the population by marital status and the GAD's national projection of marital status provides the basis of forecasting change. Particular care has to be taken in each local authority area that the changes projected for married males and married females are in balance.

The resulting proportions of each gender and age group in each marital status are being used in the GLA's *London Plan* demography work

At this point the populations are ready for the key stage in the projections, the application of household representative rates.

The projected household representative rates (HRRs) are developed from a local authority level database built up from the 1971, 1981, 1991 and 2001 Censuses. At national level these data are enhanced by more up-to-date estimates of overall (ie not household type specific) rates from the Labour Force Survey (LFS).

HRRs are specific to gender, marital status and five-year age groups and are based upon five types of households:

- Married Couples (MCH) – only represented by married males

- Cohabiting Couples (CCH) – only represented by males
- Lone Parents with dependent children (LPH)
- One Person (OPH)
- Multi-person non-family households (ie 2+ adults), including lone parents with non-dependent children only (OTH). Gay and lesbian couples without children will also be included here but are not separately identified.

There are also HRRs for three types of concealed households (ie families that do not include a household representative):

- Concealed Married Couples (CMCF) – only represented by married males
- Concealed Cohabiting Couples (CCCF) – only represented by males
- Concealed Lone Parents with dependent children (CLPF)

The remaining household members, ie the non-representatives, are distributed as:

- Wives
- Female cohabittees
- All other household members

This means that all household members aged 15+ are assigned to a specific category and projected in the modelling process.

The projections are then carried out by applying projected HRRs (and rates for the non-representatives) to the projected private household population – specified as above – by five-year age groups from 15-19 to 85+ by marital status (married, single, widowed, divorced). There is also a technical intervening stage in the projections that establishes cohabiting status, but this does not emerge in the available results.

Before completing the projections there is a final stage at which the results are controlled. The projection for England is considered to be superior as the population is larger and hence the trends over the past four censuses are considered to be more robust. The projection also incorporates the more recent data from the LFS that are not sufficiently robust at other geographies. All projections are initially carried out independently at regional, county and local authority levels. Therefore the regional projections (including those for Greater London) are controlled at each element to the projected figures for England. The control is simply a matter of using overall scaling factors, ie when the sum of the regions for a particular component is too small/large all the regional figures are grossed up/scaled back by the same factor to match the England figure.

The controlling process is then cascaded down to the ‘virtual’ counties within each region and then to local authorities within each county. ‘Virtual’ counties are the former counties before the creation of Unitary Authorities and therefore include the present county districts plus any UAs from within the old boundaries, eg ‘virtual’ Hampshire includes Portsmouth and Southampton UAs. Within London the ‘county’ level includes Inner and Outer London and the districts are each of the London boroughs, including the City of London. Although uncontrolled projections have not been made available it is known from the DETR 1996-based projections that the controlling process mainly affects the more volatile and growing household types: one-person households and cohabiting couple households, both of which are critical growth components for London. **The controlling process effectively fine tunes the projected HRRs and leads to the HRRs that are being used in the GLA’s London Plan demography work.**

Main Results

Table 1 shows selected outputs from the projections for London for all published years. Between 2006 and 2026, the number of households is projected to grow by 735 thousand (23%). The largest absolute growth is in the one-person households: 507 thousand (44%). One-person households account for 69% of the total projected household growth in London. However, the fastest growing household type is projected to be cohabiting couple households: a 236 thousand increase, equivalent to 71%. This increase is partly a consequence of the projected fall of 148 thousand in the number of married couple households. See Chart 1.

The average household size is projected to fall in London from 2.33 in 2006 to 2.13 in 2026. This rapid fall is in stark contrast to the virtually static average household size recorded between 1991 and 2001.

Much of the change in the number of households is dependent upon the changes projected in marital status of the population, also shown in Table 1. There are decreases projected for married persons and also for widows and widowers. The pace of decline in the number of widows is much steeper than that for widowers. This reflects the underlying national projection assumption of relatively more rapid improvement in male survivorship, leading to later widowhood, and hence reduced duration of widowhood, for females.

The last line of Table 1 shows that the underlying ONS 2003-based population projection has initially reduced and, after 2011, eventually reversed the long-standing statistic that London's population has a significant majority of adult females. The female majority of 146 thousand in 2001 is projected to become a minority of 108 thousand by 2026.

Chart 1: Projected households by type, Greater London, (000s)

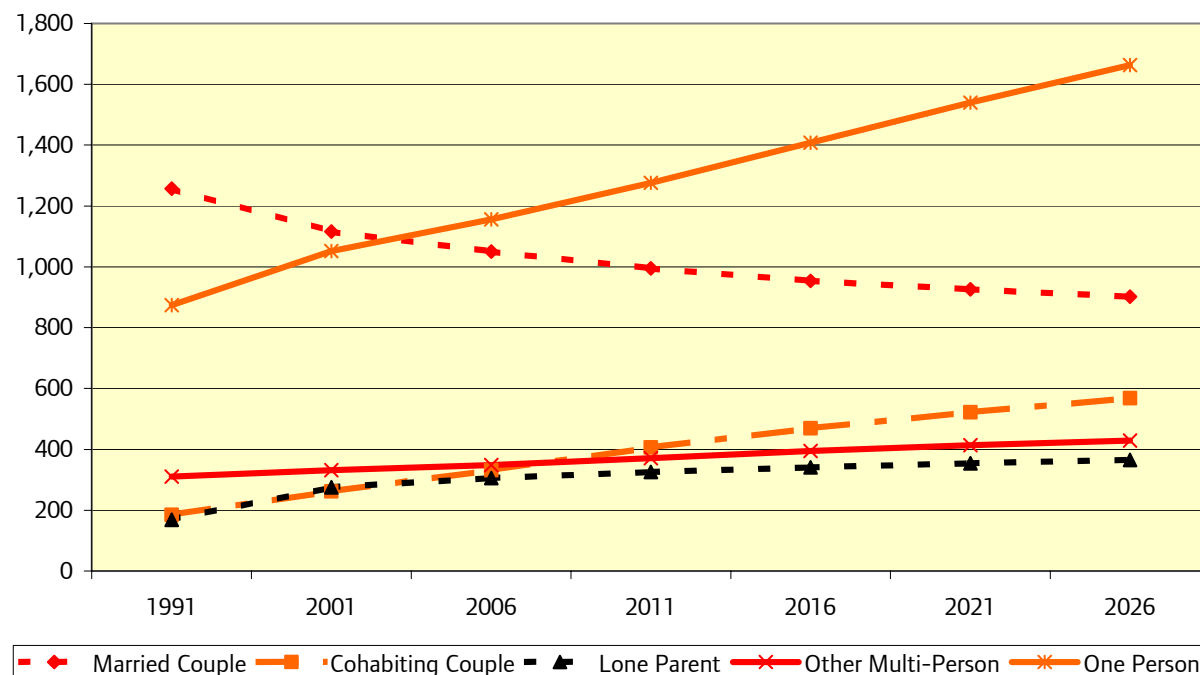


Table 1: DCLG 2003-based household projections, by type, Greater London, (000s)

Note: the average household size is presented in units.

	2001	2003	2006	2011	2016	2021	2026	Change 2006-26	Change % 2006-26
Married Couple Households	1115.7	1088.7	1050.1	995.4	954.3	925.5	901.9	-148.2	-14.1
Cohabiting Couple Households	261.7	279.5	331.9	406.0	469.3	522.3	567.7	235.8	71.0
Lone Parent Households	274.6	291.0	305.7	325.8	340.8	353.8	364.9	59.2	19.4
Other 2+ Adult Households	332.1	338.3	348.2	370.9	395.0	414.2	429.2	80.9	23.2
One-person Households	1052.0	1095.1	1155.6	1276.0	1407.9	1540.1	1662.5	507.0	43.9
Total Households	3036.1	3092.6	3191.4	3374.0	3567.2	3756.0	3926.2	734.8	23.0
Private Household Population (PHP)	7228.8	7294.8	7427.8	7665.1	7914.3	8150.2	8352.6	924.8	12.5
Average Household Size	2.381	2.359	2.327	2.272	2.219	2.170	2.127	-0.200	-8.6
Communal Establishment Population	93.6	93.0	93.1	93.1	93.5	94.6	97.0	3.9	4.2
Total Resident Population	7322.4	7387.9	7520.9	7758.3	8007.8	8244.8	8449.5	928.7	12.3
PHP Males 15+									
Married	1273.3	1239.7	1199.4	1142.8	1101.8	1074.5	1052.3	-147.1	-12.3
Widowed	74.8	73.6	71.9	69.9	68.3	67.3	67.0	-4.9	-6.8
Divorced	174.8	191.8	215.0	243.4	264.2	278.4	287.0	72.0	33.5
Single	1335.4	1409.4	1514.5	1688.0	1841.9	1984.1	2103.6	589.0	38.9
Total	2858.3	2914.5	3000.9	3144.1	3276.3	3404.3	3509.9	509.0	17.0
PHP Females 15+									
Married	1293.5	1259.1	1217.3	1158.8	1116.5	1088.2	1065.3	-152.0	-12.5
Widowed	294.0	277.2	254.6	224.9	203.7	189.7	180.4	-74.2	-29.1
Divorced	254.8	268.5	286.3	307.5	323.0	332.6	336.7	50.5	17.6
Single	1162.5	1220.9	1310.7	1464.0	1599.0	1719.5	1819.8	509.1	38.8
Total	3004.8	3025.7	3068.8	3155.2	3242.3	3330.0	3402.2	333.4	10.9
PHP 15+: Females less Males	146.5	111.2	67.9	11.0	-34.0	-74.3	-107.7	-175.6	na

Analysis of Results

Impact of the population projection

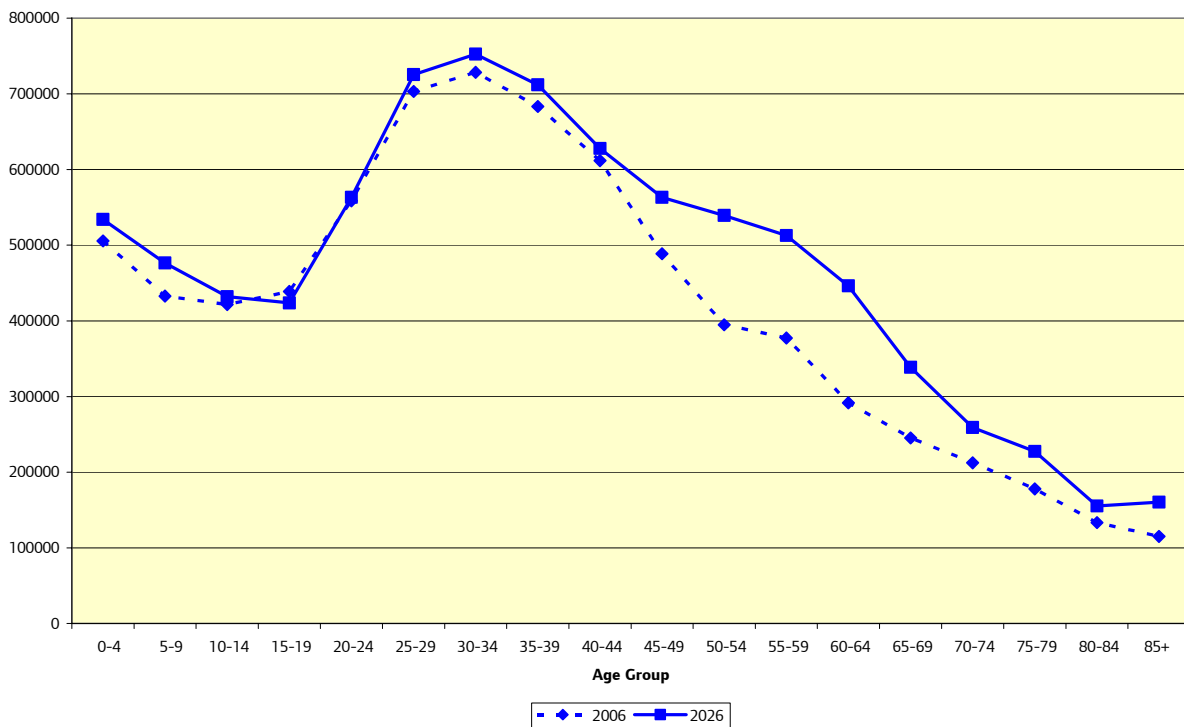
As indicated above the first input to the household projections is the population projection based largely upon the average levels of migration as estimated by ONS for the period 1998 to 2003.

The key outputs of the population projection are:

- growth of 1.13 million residents of London between 2001 and 2026 of which 925 thousand occurs between 2006 and 2026
- the ageing of the population: 82% of the growth between 2006 and 2026 being at ages 45 and over
- the relative loss of 254 thousand women, as compared to men, over the period 2001 to 2026, of which 219 thousand occurs between 2006 and 2026

While the actual size of London's population in 2026 will be confirmed by a number of factors not considered by the ONS trend-based projection it is important to note the structural changes that may occur, whatever the actual size of the population. Chart 2 shows the projected population at 2006 and 2026. The significant feature is that while there is growth in all age groups, except 15-19, the main growth occurs at ages 45 and over. The population over age 45 is projected to grow by 765 thousand, equivalent to 31% in the age group since 2006 and to 82% of the total population growth.

Chart 2: ONS 2003-based population projection for Greater London by age groups

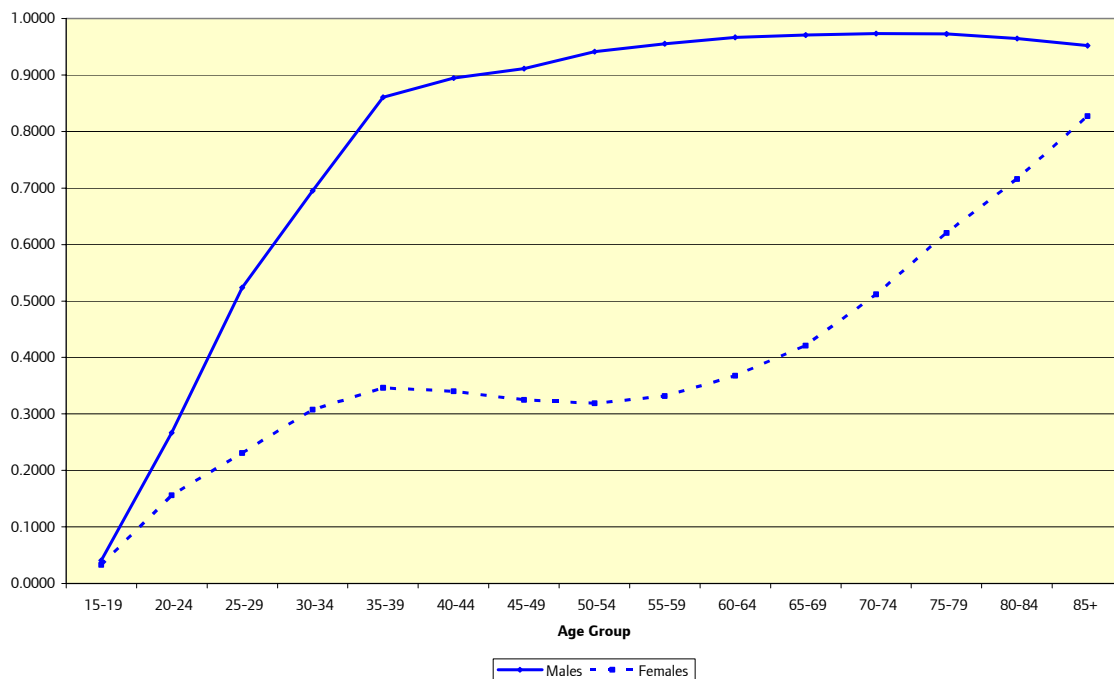


The importance of the growth being concentrated amongst the middle aged and elderly is that household representative rates are already high for these ages so, *ceteris paribus*, one

expects at least equivalent rates of growth in households formed by the population in these ages.

The actual rate of growth in households at ages 45 and over depends also upon the actual changes in the gender and age structure of this population. Chart 3 shows the overall household representative rates by gender and age for London in 2001.

Chart 3: DCLG Overall household representative rates for Greater London, 2001



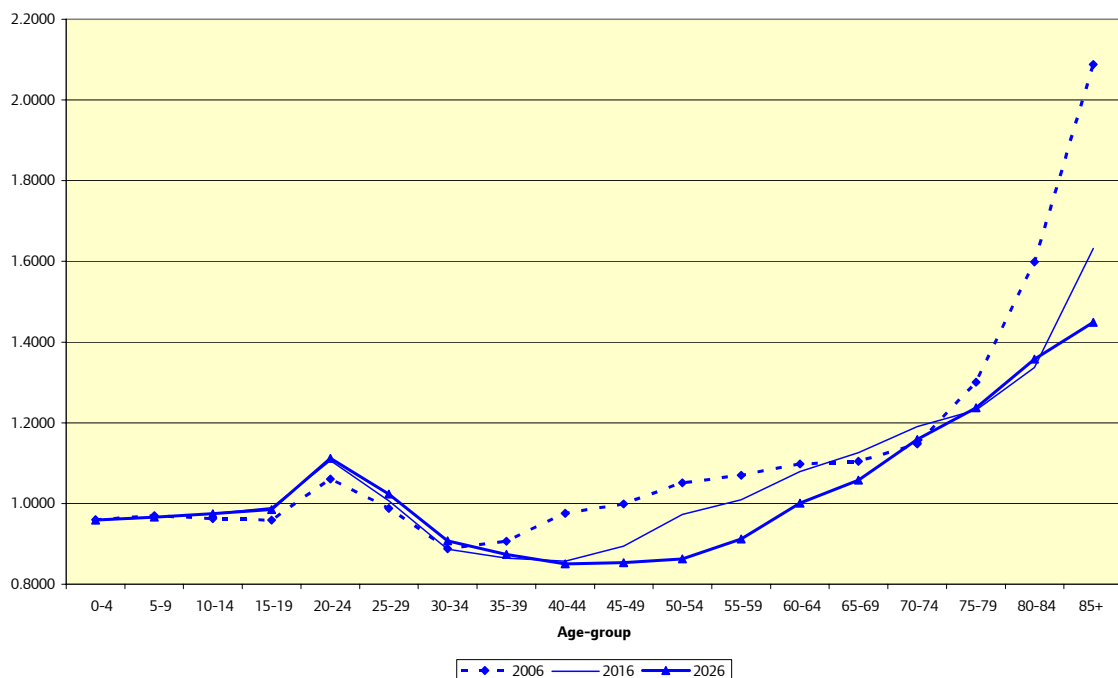
The overall HRRs are greater at all ages for males with the highest rates in the 70s. Female HRRs rise rapidly after the 50s with a peak rate at the oldest age group: 85+. An increasing elderly population therefore will place a higher proportion of the population into ages with the highest HRRs for both males and females.

The other main feature of the ONS projections for London is the switch from a female surplus to a male surplus. Chart 4 shows the female/male ratio by age groups in 2006, 2016 and 2026. While in 2006 there was a female excess at 20-24 and all age groups above 50 this changes and by 2026 the ratio is reduced at all ages above 35 and the female excess has been put back to all ages over 60. These changes are not accounted for by the ageing-on of cohorts and at ages below 70 are little affected by greater rates of improvement in male survival. Above age 70 relative survival is the only significant factor as migration is minimal. The differences between 35 and 69 must, therefore, be due to the assumptions made by ONS about the relative balance of males and females within the migration flows into and out of London. Migration is the most complicated aspect of projecting populations and there is therefore a significant risk that in these projections the relative changes in the genders projected by ONS are likely to be incorrect to the extent that it is a function of migration rather than survival.

The impact of this potential error in the population projections is that with a higher proportion of the population aged 35-69 being male there is an overall higher likelihood of projecting too many households.

To establish an order of magnitude of this error at 2026, there appears to be about 100 thousand too many males and 100 thousand too few females at ages 35-69 in comparison to 2006. The overall male HRR is about 0.95 and the overall female HRR is about 0.35 in these ages, see Chart 3. These rates imply that there could be 95 thousand too many households represented by men (mainly couples and one-person households) and 35 thousand too few households represented by women (mainly lone parents and one-person households). Therefore the projection may have exaggerated the total number of households in London at 2026 by about 60 thousand due to the potential gender imbalance of the population projection.

Chart 4: Female/male ratios by age, Greater London, ONS Projection



Impact of marital status and HRRs

Table 2 gives a more detailed breakdown of the household projections for London showing the gender and marital status of the representatives of all five types of household. This table indicates the categories of households that are driving the overall changes. There are five categories where most of the growth between 2006 and 2026 is projected to take place:

- Single Males: One-person – 268 thousand
- Single Males: Cohabiting couples – 238 thousand
- Single Females: One-person – 146 thousand
- Single Females: Lone parent – 78 thousand
- Divorced Males: One-person – 75 thousand

There are other categories where the total numbers of households have been projected to rise faster than in some of the types mentioned above but the numbers involved are less significant in the total change. Against these rises there is just one category that has a significant decline, married males representing married couples, which is projected to fall by 148 thousand.

Table 2: DCLG 2003-based household projections, by type and by gender and marital status of representatives, Greater London

(000s)			2001	2006	2011	2016	2021	2026	Change 2006-26	Change % 2006-26
Males	Married	Married Couple	1115.7	1050.1	995.4	954.3	925.5	901.9	-148.2	-14.1
		Cohabiting Couple	21.4	11.8	10.7	9.9	9.2	8.7	-3.2	-26.6
		Lone Parent	9.6	10.8	11.2	11.2	11.0	11.2	0.4	3.8
		Other	20.2	20.4	20.4	20.6	21.0	21.1	0.7	3.5
		One-person	51.6	56.1	59.0	60.6	61.9	62.8	6.7	11.9
Males	Widowed	Cohabiting Couple	3.0	2.3	2.1	1.9	1.8	1.6	-0.6	-28.5
		Lone Parent	2.5	2.3	2.1	1.9	1.7	1.5	-0.8	-36.1
		Other	12.0	10.8	9.6	8.7	7.8	7.2	-3.5	-32.9
		One-person	51.6	51.7	52.2	52.7	53.5	54.6	2.9	5.6
Males	Divorced	Cohabiting Couple	42.7	45.1	48.3	49.3	48.5	46.9	1.8	4.1
		Lone Parent	6.3	7.9	8.4	8.4	8.0	7.6	-0.3	-4.1
		Other	17.2	19.1	19.2	18.9	18.5	18.1	-1.0	-5.3
		One-person	86.6	116.9	142.3	163.6	180.3	192.1	75.2	64.4
Males	Single	Cohabiting Couple	194.6	272.7	344.9	408.2	462.9	510.4	237.8	87.2
		Lone Parent	6.3	7.7	9.1	10.6	12.3	13.8	6.1	79.4
		Other	123.9	135.5	151.4	166.1	175.9	182.8	47.3	34.9
		One-person	291.0	339.1	398.0	463.9	535.1	607.2	268.0	79.0
Females	Married	Lone Parent	57.1	57.7	55.9	54.4	54.4	55.6	-2.0	-3.5
		Other	16.5	16.6	16.7	16.6	16.2	15.7	-0.9	-5.5
		One-person	37.0	38.7	40.2	41.7	42.8	43.1	4.4	11.4
Females	Widowed	Lone Parent	12.5	10.8	9.2	7.8	6.7	5.9	-4.8	-44.9
		Other	46.9	38.7	32.1	27.1	23.3	20.1	-18.5	-47.9
		One-person	199.5	178.7	163.3	152.9	147.0	144.0	-34.7	-19.4
Females	Divorced	Lone Parent	59.8	63.4	60.3	54.8	49.5	46.2	-17.2	-27.1
		Other	34.9	42.1	49.9	57.7	64.8	70.2	28.1	66.7
		One-person	98.7	116.7	132.1	144.9	152.7	155.0	38.3	32.8
Females	Single	Lone Parent	120.6	145.2	169.5	191.8	210.3	223.1	77.9	53.7
		Other	60.6	65.1	71.5	79.2	86.6	94.0	28.8	44.3
		One-person	236.1	257.7	288.9	327.5	366.9	403.8	146.1	56.7

It is worth looking at each of the six main categories of change to determine the main drivers of growth or, in the case of married couples, decline.

Married Males – Married Couples

Chart 5: Proportions married by age, Greater London, 2006 and 2026

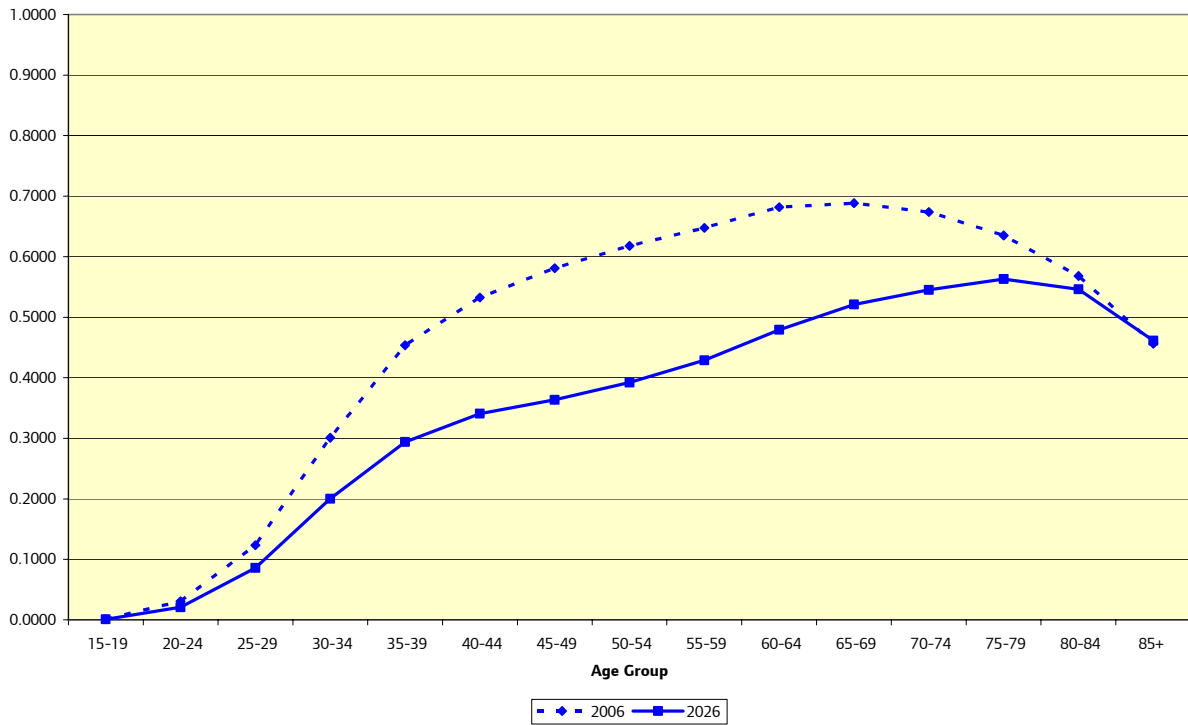


Chart 5 clearly shows that a key reason for the fall in the number of married couples is the decline at all ages, and by around 20 percentage points between 40 and 64, in the proportion of males who are married. Chart 6 shows that the HRRs have changed little.

Chart 6: Household headship rates: married couples, Greater London

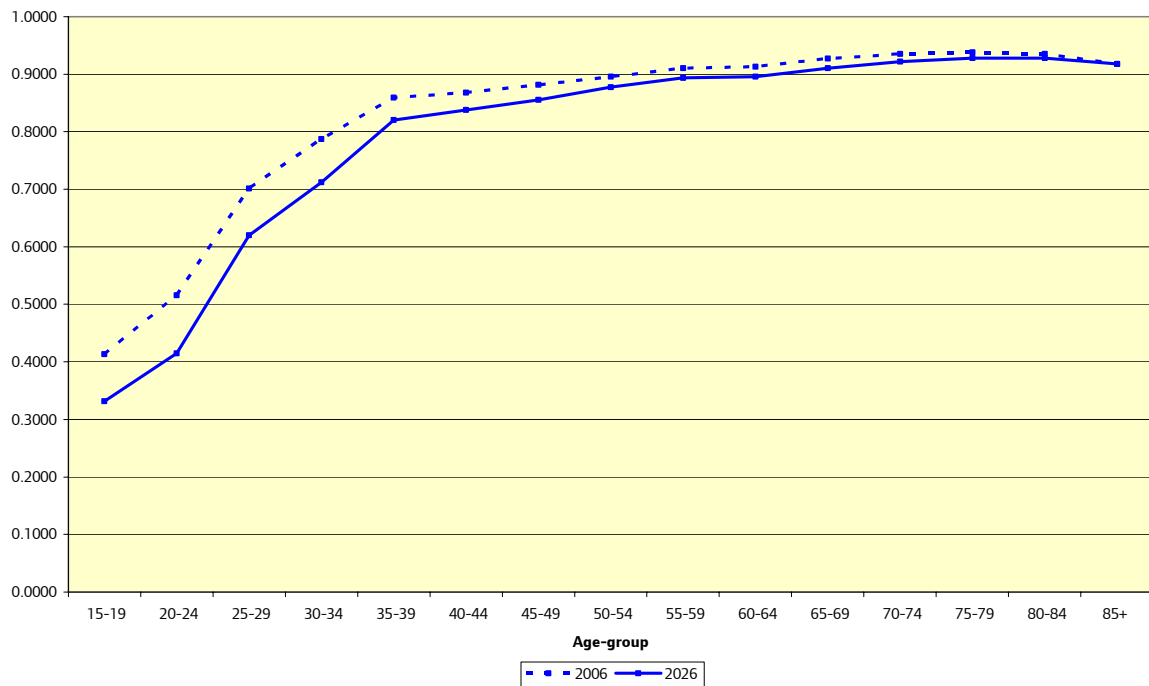


Chart 7: Proportion of males single by age, Greater London, 2006 and 2026

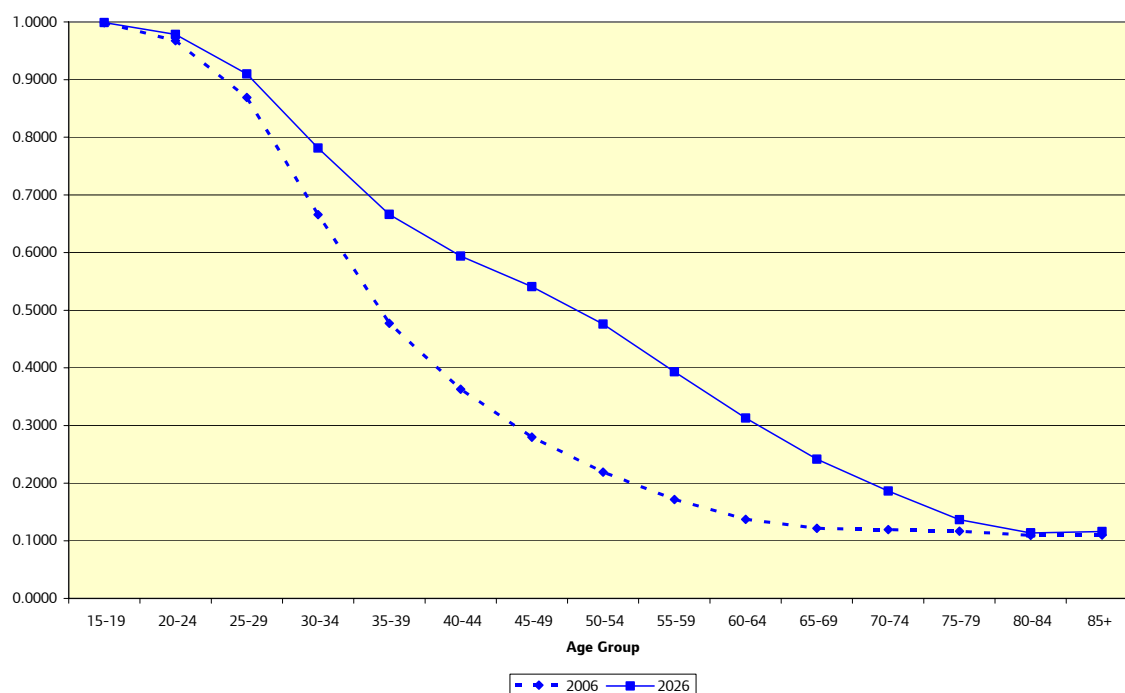


Chart 7 shows almost the reverse of Chart 5, the proportions of males who are single increases at each age group and by over 20 percentage points between 40 and 59. The proportions double between the ages 45 and 69. Almost irrespective of what happens to the underlying sizes of the age groups and the HRRs, changes of this magnitude will influence an increase in households.

Chart 8 shows that the rates of single males heading one-person households are projected to change little between 2006 and 2026, in fact there is a fall in all rates above age 50. Therefore the main factors in the rise in single male one-person households are the rises in both the population of the older cohorts and the proportion of them who remain single. It is worth noting that while the legal marital status of these men is 'single' many will have been former cohabiters and may also have responsibility for a child. These men will therefore probably not be content with accommodation more normally associated with either the young or the elderly one-person households. Their needs and preferences will be closer to those of divorced males of a similar age.

Chart 9 indicates a slightly different picture for cohabiting couples headed by single men. In this case the HRRs are projected to increase substantially for single males aged over 40, with many rates more than doubling over twenty years. Hence there is a triple effect in seeing the rise in cohabiting couples with a single male representative: the increasing population of men (particularly between the ages of 40 and 59, the increasing likelihood of their remaining single and the subsequent increasing likelihood of being in a cohabiting couple.

Chart 8: Household headship rates: single males, one-person households, Greater London.

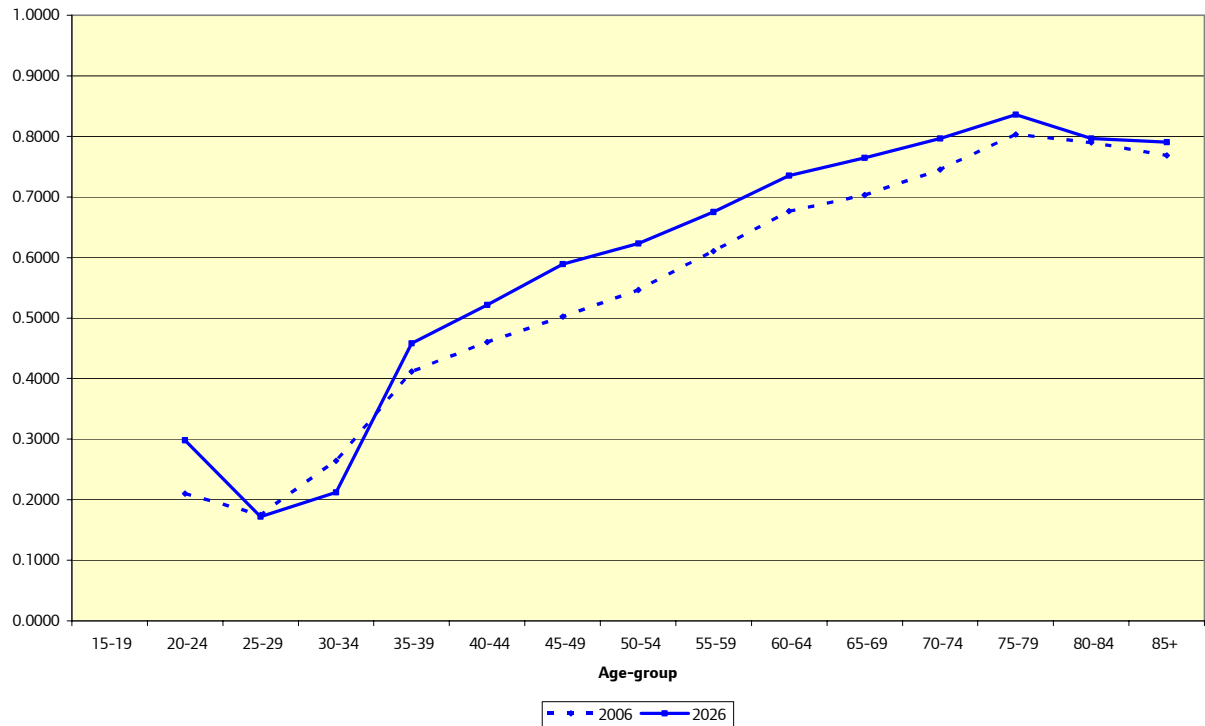


Chart 9: Household headship rates: single males, cohabiting couples, Greater London.

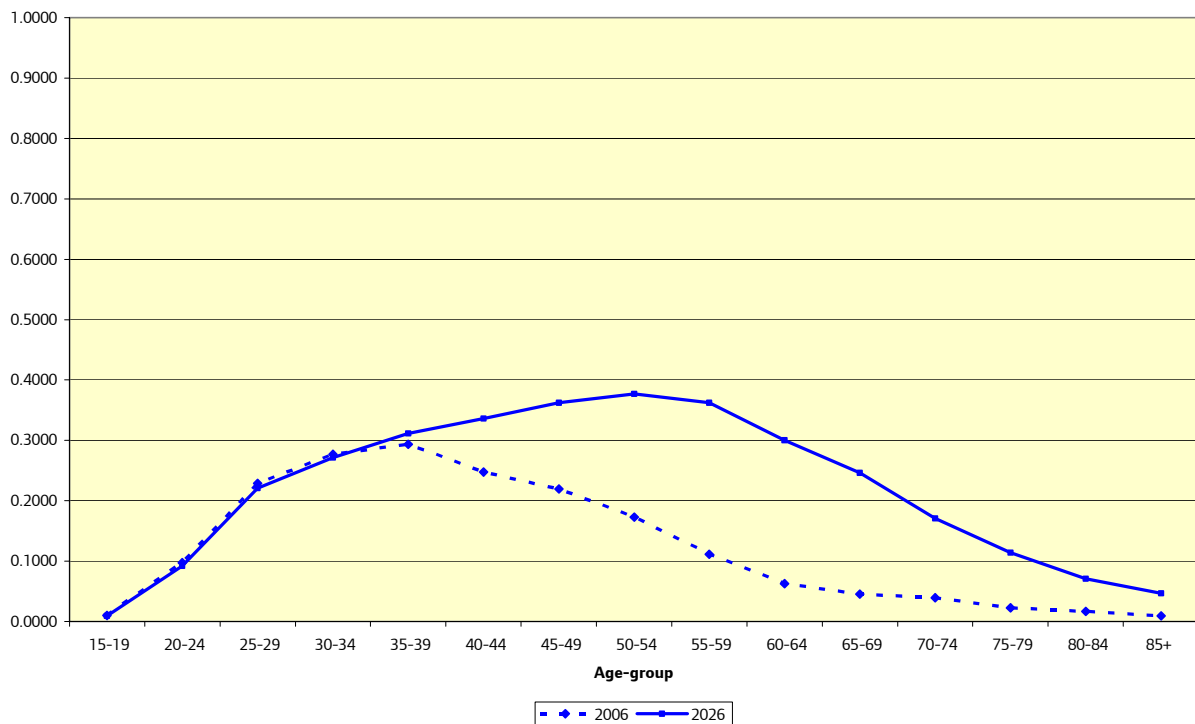
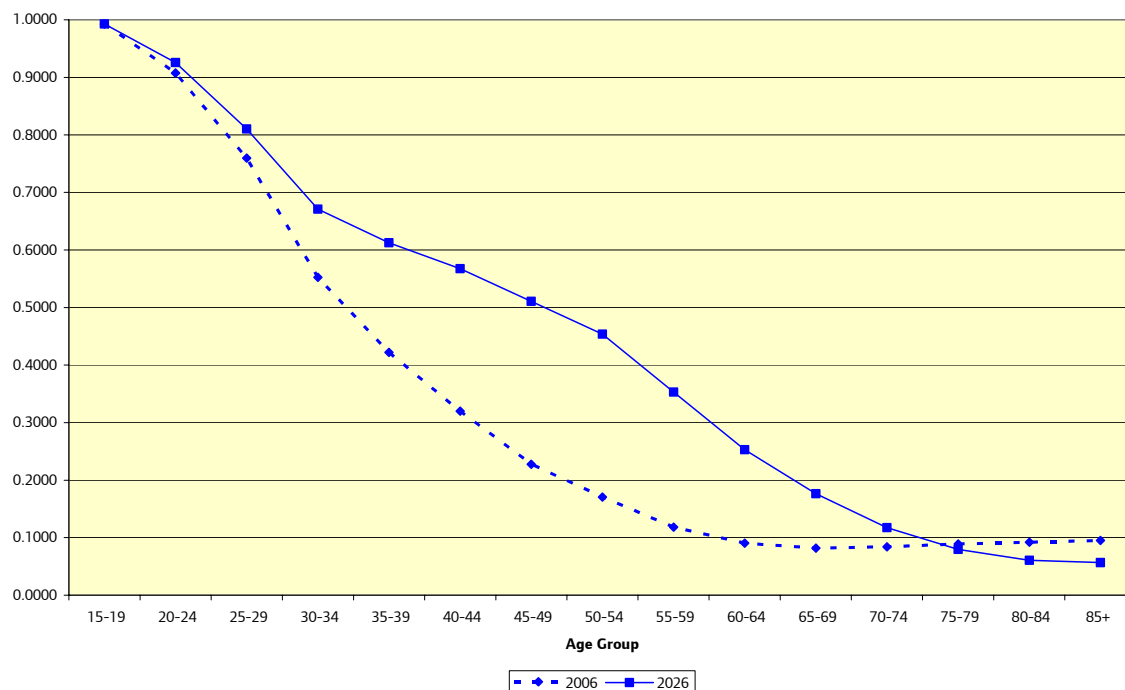


Chart 10: Proportion of females single by age, Greater London, 2006 and 2026



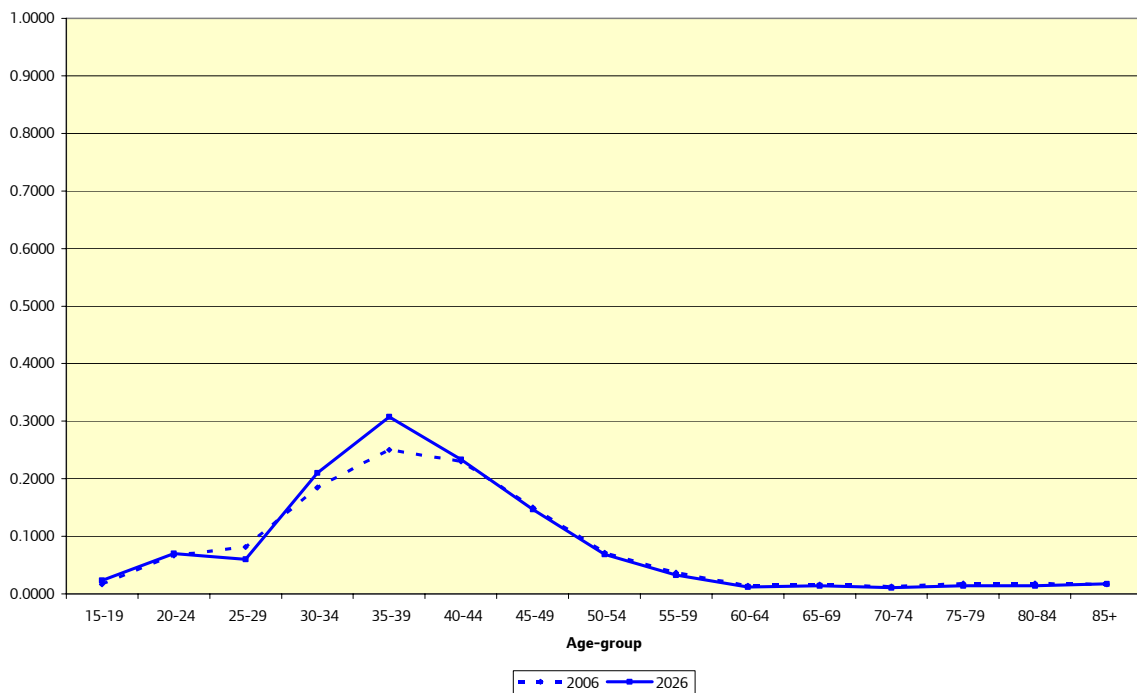
The change in the proportion of females who are single (see Chart 10) is very similar to the chart for males, although showing that females leave the legal single state on average earlier than males. The differences in the proportions over time show a very similar pattern to the males. It is projected that half of women remain single until they are part of the age group 45-49, rather than 30-34 in 2006.

The chart for the HRRs for single female one-person households is also very similar to that for single males, with rates rising with age but with very little change between 2006 and 2026. It is not presented here.

Chart 11 shows the HRRs for single female lone parent households. Although it does not show much change between 2006 and 2026 it is presented here as it shows a different age pattern of rates to those presented above for other household types. The rates are relatively low, but significant in the 30s and 40s.

In summary, for single females the rise in one-person households, as with single males, reflects the rises in both the populations of the older cohorts and the proportion of them who remain single. For single female lone parents the main factors of change is the rise in the likelihood of remaining single, with the growth in the population of those in their 30s and 40s a secondary factor.

Chart 11: Household headship rates: single females, lone parent households, Greater London.



Divorced Males - One-person Households

Chart 12: Proportion of males divorced by age, Greater London, 2006 and 2026

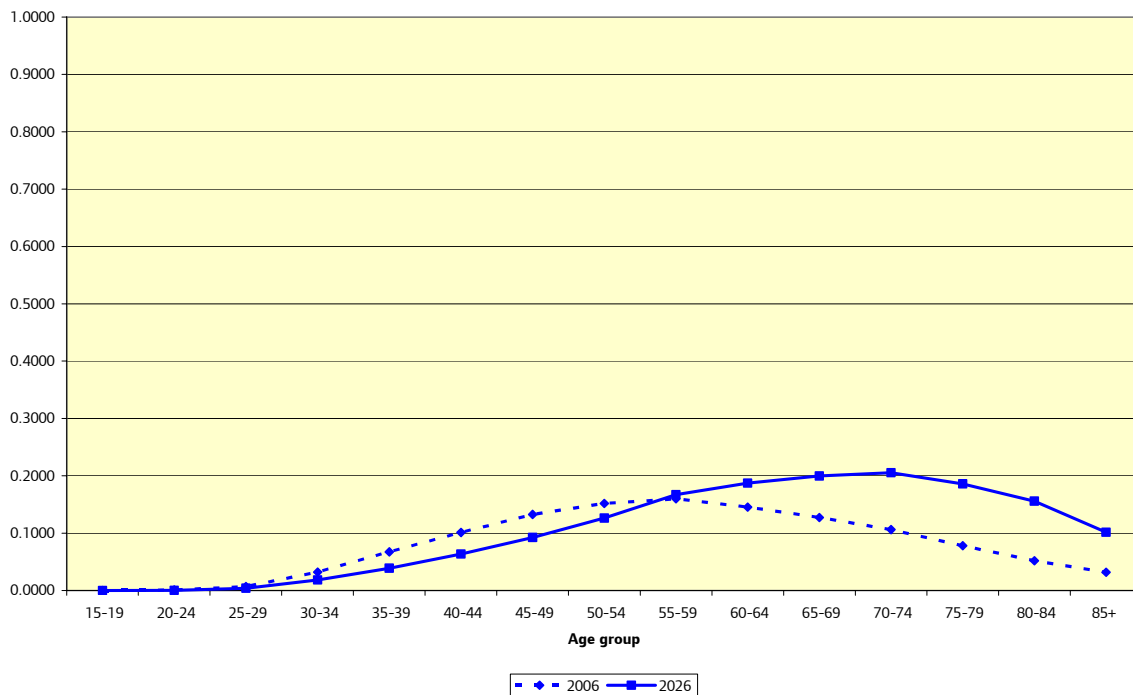
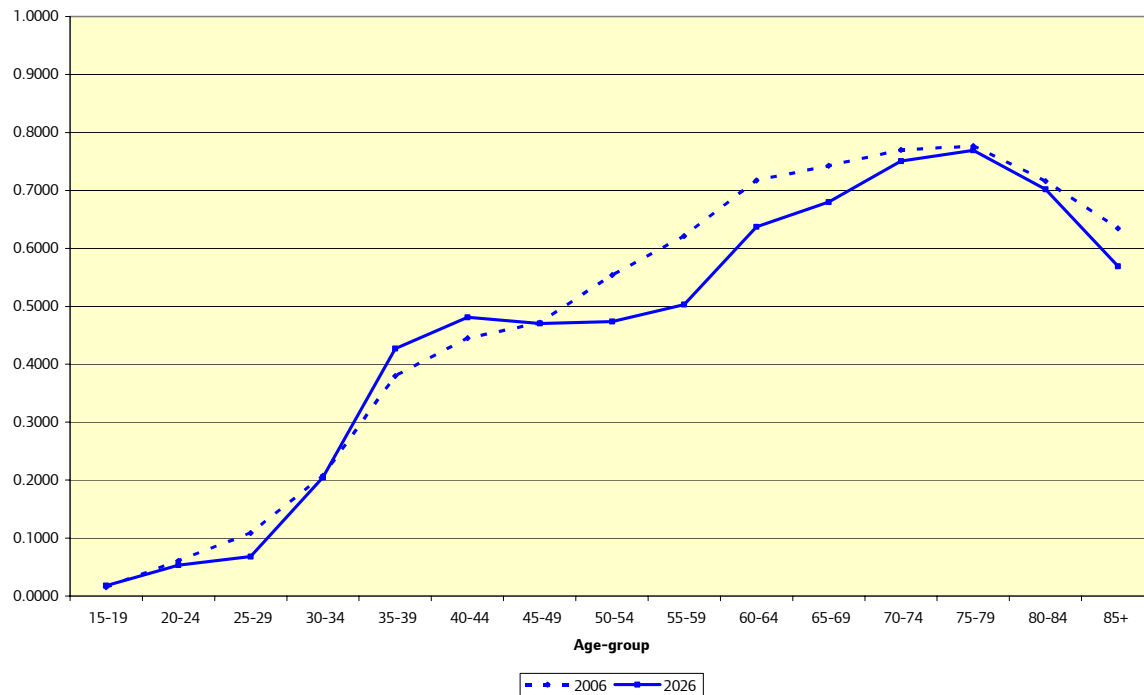


Chart 12 shows that the proportions of males projected to be divorced actually falls at ages below 55, reflecting the expectation of fewer members of these cohorts actually marrying, but rises by about 10 percentage points at ages over 60. Even so the highest proportions

divorced are expected to be about 20% for those in their early 70s. People in the divorced category must initially have been married and some may be in an intervening status before remarrying, however in 2026 over two-thirds of divorced males are projected to be one-person households with just 16% representing a cohabiting couple household.

Chart 13: Household headship rates: divorced males, one-person households, Greater London.



The HRRS for divorced male one-person households show a similar rising trend with age to the rates for single males and single females, however between age 35 and 79 the rates are all projected to rise. Therefore the significant growth in divorced male one-person households is a combination of a growing population with higher growth at older ages coupled with the increasing likelihood of being divorced in the 60s and 70s and increasing likelihood of then being a one-person household at most ages.

Use of the Projections by the GLA

In preparing the 2006 round of demographic projections, referred to as RLP Low and RLP High, for use in the *Review of the London Plan*, the GLA has used the key structural features of the DCLG 2003-based household projections.

The main differences are that the GLA has used its own population projection model for the boroughs and that it has also used development data from the London Development Database and the 2004 London Housing Capacity Study to constrain the RLP Low projections.

Inputs from the DCLG projection at London borough and Greater London levels have been used for years 2001, 2006, 2011, 2016, 2021 and 2026 as follows:

- assumptions about the size of the communal establishment population by gender and five-year age groups
- the proportions of the private household population in each marital status (married, widowed, divorced and single) by gender and five-year age groups
- the household representative rates specific to married couple households, cohabiting couple households, lone parent households, other 2+ adult households and one-person households by gender, marital status and five-year age groups

Therefore the GLA projections differ from the DCLG projections mainly because of the different population projections, with the GLA projections having some differences in age structure and a more significantly different gender balance. The impact of the differences is principally seen in the GLA projections having a higher average household size. The patterns of change in each of the household types are similar. The GLA RLP High projection is based on the GAD 2004-based projection for the UK and assumes that London continues to have the 1999-2004 proportions of gross international flows to and from the UK. Table 3 presents comparisons between the latest DCLG and GLA projections (see *DMAG Briefing 2006/32* for more details on the GLA projections).

Table 3: DCLG and GLA projections compared

		2006	2026	Change
DCLG	Population	7.521m	8.450m	0.929m
	Households	3.191m	3.926m	0.735m
	AHS	2.33	2.13	-0.20
GLA RLP Low	Population	7.469m	8.257m	0.788m
	Households	3.154m	3.700m	0.546m
	AHS	2.34	2.20	-0.14
GLA RLP High	Population	7.572m	8.710m	1.138m
	Households	3.196m	3.916m	0.720m
	AHS	2.34	2.20	-0.14

The *London Plan draft Further Alterations* also has a constrained version of RLP High in which the household representative rates are held at 2006 values. With the same population projection this gives a 2026 household total of 3.879m and an average household size of 2.22. It implies a twenty-year growth of 682 thousand households.

Future DCLG Projections

Both the ONS and the DCLG are committed to a two-year cycle of producing updated population and household projections.

2004-based projections

In October 2006 ONS published 2004-based subnational population projections. These were constrained to the GAD 2004-based projections for England that were published in November 2005.

DCLG intends to use the new ONS projections in its 2004-based household projections in February 2007. These projections are expected to be a minimum update of the 2003-based projections with very little being done to alter assumptions regarding marital status and household representative rates. The ONS 2004-based projection for 2026 for London is 8.68 million, as compared to the 2003-based projection of 8.45 million. **The DCLG 2004-based household projection for 2026 is likely to be some 100 thousand more at about 4.03 million.**

Revised 2004-based projections

ONS has indicated that it will be publishing revised methodology for estimating international migration at local authority level during Spring 2007. This means that the new methodology will be applied retrospectively and revised mid-year population estimates for 2002 to 2005 will be prepared and, probably, published together with the mid-2006 estimates in August 2007. This will give ONS the opportunity to revise their 2004-based subnational projections by October 2007, using the same GAD 2004-based national projections as constraints. DCLG has not said whether (or when) it might then revise its own household estimates for 2002 to 2004 and its 2004-based projections.

Present indications are that the ONS mid-year estimates for London up to 2005 will fall slightly, possibly by 10-15 thousand a year since 2001. This will lead to the revised 2004-based population projection also being lower, possibly by around 250-375 thousand at 2026. **If this assessment is correct then the implied revised 2004-based projected number of households at 2026 could be 3.86-3.92 million.**

2006-based projections

The ONS National Statistics Centre for Demography was established in January 2006 and includes the former GAD national population projections team. ONS intends to publish 2006-based national projections in October 2007. If former timetables are to be continued this gives the opportunity for ONS to prepare 2006-based subnational projections by Autumn 2008 and for DCLG to use these projections as inputs to 2006-based household projections by Spring 2009. These projections are expected to have an end date extended to 2031.

Commentary

The DCLG 2003-based household projections are important as they represent the first thorough analysis of national and local household formation patterns since the results of the 2001 Census became available.

The projections take account of the latest work on the changing patterns of marital status, notably a continuing trend to later first marriage, reduced proportions in cohorts ever marrying, increased divorce rates and increased cohabitation. It is clear that many of the persons who remain *de jure* single in their 50s and 60s will in fact be ex-cohabitees and presumably have different housing aspirations as one-person households to young singles and elderly widows/widowers. They will be more akin to divorcees in their housing requirements and preferences.

Changes in age structure and marital status are critical factors in establishing projected changes in the types of households likely to be formed in the next 20 years. Irrespective of changes in representative rates the ageing of the population and its fragmentation away from couple households are leading to continued falls in average household size.

The DCLG projections show that the average household size in London could fall by 8.6% over 20 years. This means that London will need to increase the number of homes by about 275 thousand between 2006 and 2026 (ie 13.7 thousand per year) just to maintain its present population size.

The main strength of the DCLG projection is in the analysis of past trends, from 1971 to 2001, in household representative rates and their subsequent projection. For each local authority there are 29 combinations of household types (5) with the potential gender/marital status categories (8) from which representatives are drawn (see Table 2 for details). In addition there are 15 age groups to which the rates can apply. Hence there are 435 rates for each area for each projection year, and this total does not include concealed households and non-representatives. This is a mammoth undertaking! While some rates are projected to change quite radically, ie rates for cohabiting couples and for some categories of one-person households, most of the rates are fairly stable and some are expected to decline.

The five main growth sectors for London are:

- Single Males: One-person
- Single Males: Cohabiting couples
- Single Females: One-person
- Single Females: Lone parent
- Divorced Males: One-person

Together these groups account for an increase of over 800 thousand household between 2006 and 2026. The total difference in this period, 735 thousand, results from reductions in some other categories, notably 148 thousand married couples, and less significant rises in others

In each of these household categories the changes in representative rates are less significant than the underlying growth, ageing and changing marital statuses of the population.

While the DCLG projections are a very useful guide to the structure of household changes that are expected up to 2026 they are not the best guide to actual numbers of future households, particularly at borough level. The underlying ONS population projections at borough level are susceptible to problems of migration estimation within London and the projections are not designed to incorporate future development. For these reasons the GLA uses only the structural information contained within the DCLG projections in its own demographic work, preferring to base its own population projections on its own migration-based projection model tempered by the knowledge of recent and forecast growth in the number of homes in each borough.

Regular Briefings from the GLA Data Management and Analysis Group

Recent *DMAG Briefings*:

DMAG 2006/1	Census Information Note 2006-1	Eileen Howes
DMAG 2006/2	Simpson's diversity indices for wards 1991 and 2001	Gareth Piggott
DMAG 2006/3	2001 Census: The health of a diverse population	Gareth Piggott
DMAG 2006/4	London borough residents country of birth	Giorgio Finella
DMAG 2006/5	GLA Resident Labour Force Projections	John Hollis
DMAG 2006/6	Parents and Work in London	Lorna Spence
DMAG 2006/7	Claimant Count Model: Technical Note 2006	Lorna Spence / Georgia Hay
DMAG 2006/8	Demography Team Workplan 2006-07	John Hollis
DMAG 2006/9	Benefits Data for London: No. 4: Housing and Council Tax Benefits	Lovedeep Vaid
DMAG 2006/10	Household Representative Rates: Technical Report	Georgia Hay
DMAG 2006/11	Borough and Sub-regional Demographic Profiles, 2006	Georgia Hay
DMAG 2006/12	Interim Household Projections	John Hollis / Georgia Hay
DMAG 2006/13	Social Exclusion Team Workplan 2006-07	John Hollis
DMAG 2006/14	Benefits Data for London: No 5 Pension Benefits	Lovedeep Vaid
DMAG 2006/15	Census Information Note 2006-2	Giorgio Finella
DMAG 2006/17	Sub-Regional Demographic Profiles 2006	Georgia Hay
DMAG 2006/18	Independence for Statistics	John Hollis
DMAG 2006/19	Child Poverty in London	Lorna Spence (ed)
DMAG 2006/20	Benefits Data for London: 6 Tax Credits	Lovedeep Vaid
DMAG 2006/21	Family and Children's Study 2004	Lovedeep Vaid
DMAG 2006/22	GLA 2005 Round Interim Ethnic Group Population Projections	Baljit Bains / Edmund Klodawski
DMAG 2006/24	National Insurance Registrations by overseas nationals	Gareth Piggott
DMAG 2006/26	A Profile of Londoners by First Language	Lorna Spence
DMAG 2006/27	2001 Census Profile: Jewish population of London	Gareth Piggott / Rob Lewis
DMAG 2006/28	Review of the 2001 Census Small Area Microdata	Rachel Leeser / Giorgio Finella
DMAG 2006/29	Children dependent on benefits by Parliamentary Constituencies	Lovedeep Vaid
DMAG 2006/30	Londoners and the labour market: key facts	Lorna Spence
DMAG 2006/31	The Census Language Needs Indicator	Gareth Piggott
DMAG 2006/33	Women and the labour market in London: Key facts	Lorna Spence
DMAG 2006/34	PayCheck 2006: Unequalised and Equalised Household Income	Lovedeep Vaid

A full list of DMAG Briefings is available to internal customers through the GLA Intranet; otherwise please contact dmag.info@london.gov.uk A CD containing PDF versions of the Briefings, or hard copies, can be provided.

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

Gareth Baker (020 7983 4965) is the **GIS Manager**. gareth.baker@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

David Ewens (020 7983 4656) works in the **Education Team** and is responsible for **research and data analysis**. david.ewens@london.gov.uk

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

Caroline Hall (020 7983 4347) works in the **Demography Team** and is responsible for **ward level projections**, the **Demography Extranet** and **borough liaison**. caroline.hall@london.gov.uk

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

Eileen Howes (020 7983 4657) is responsible for the work of the **Census, SASPAC and General Statistics Teams** and particularly for **census analysis**. 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 4696) works in the **Social Exclusion Team** with particular responsibilities for **surveys, income data** and the **Social Exclusion Data Users Group**. rachel.leeser@london.gov.uk

Alan Lewis (020 7983 4348) is currently seconded to the **GIS Team** but usually works on the **SASPAC** project. alan.lewis@london.gov.uk

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

Kelly Rump (020 7983 4655) is DMAG's **Senior Coordinator**. kelly.rump@london.gov.uk

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

Lovedeep Vaid (020 7983 4699) works in the **Social Exclusion Team** with particular responsibilities for **benefits, indicators, income data** and the **Social Exclusion Extranet**. lovedeep.vaid@london.gov.uk