TAP 2023-01

Technical Analysis Paper

GLA 2021-based Interim Projections for Camden

Introduction

GLA City Intelligence has published its annual updated population projections. The overall release includes unconstrained trend projections and housing-led projections constrained by planned developments. In addition to published population projections on the Datastore, the GLA also provides a bespoke, more nuanced, set of projections directly to London boroughs that are informed by the latest local data on planned housing development. The variant considered here is the ***GLA 2021-based Interim[1] Projection 'Camden Development, 15-year Migration Trend'*** that draws on development data supplied by the Council to the GLA in June 2022. This is the first in a new series to take account and align with 2021 Census data. It is this projection that will be used to underpin various Council strategies and to plan service delivery.

Resident population definition

GLA projections use the same population definition as the ONS mid-year estimate, using the ***usual resident population*** definition at **30 June.** This includes all people who usually live in an area, regardless of nationality. Arriving international migrants are included in the *usually resident population* if they remain for at least a year. Emigrants are excluded if they remain outside the UK for at least a year. This is consistent with the UN definition of a long-term migrant. Armed forces stationed outside of the UK are excluded. Students are taken to be usually resident at their term-time address. The *usual resident population* ***does not include visitors or short-term migrants*** who may be living in an area for less than a year, regardless that they are present. At the time of the 2021 Census, an estimated 2,900 short-term migrants (of 3-12 months stay) lived in Camden.

2021 Census and rebasing population mid-year population estimates (MYEs)

On 21 December 2022 ONS published the first in a new series of mid-year population estimates (MYE), the official population estimates for local authorities in England and Wales[2] based on the 2021 Census results. The previous 2011 Census-based series had been criticised by Camden and GLA for over-estimating the size of the population, while the 2021 Census results have been affected by the temporary loss of residents due to the COVID-19 pandemic. As a result, the population outlook for Camden has changed dramatically, from a previously predicted +60,300 (+27%) increase in population 2011-2021, to a -9,700 (-4%) decrease in population.

Comparing ONS 2011-based population estimates with 2021-based estimates for Camden

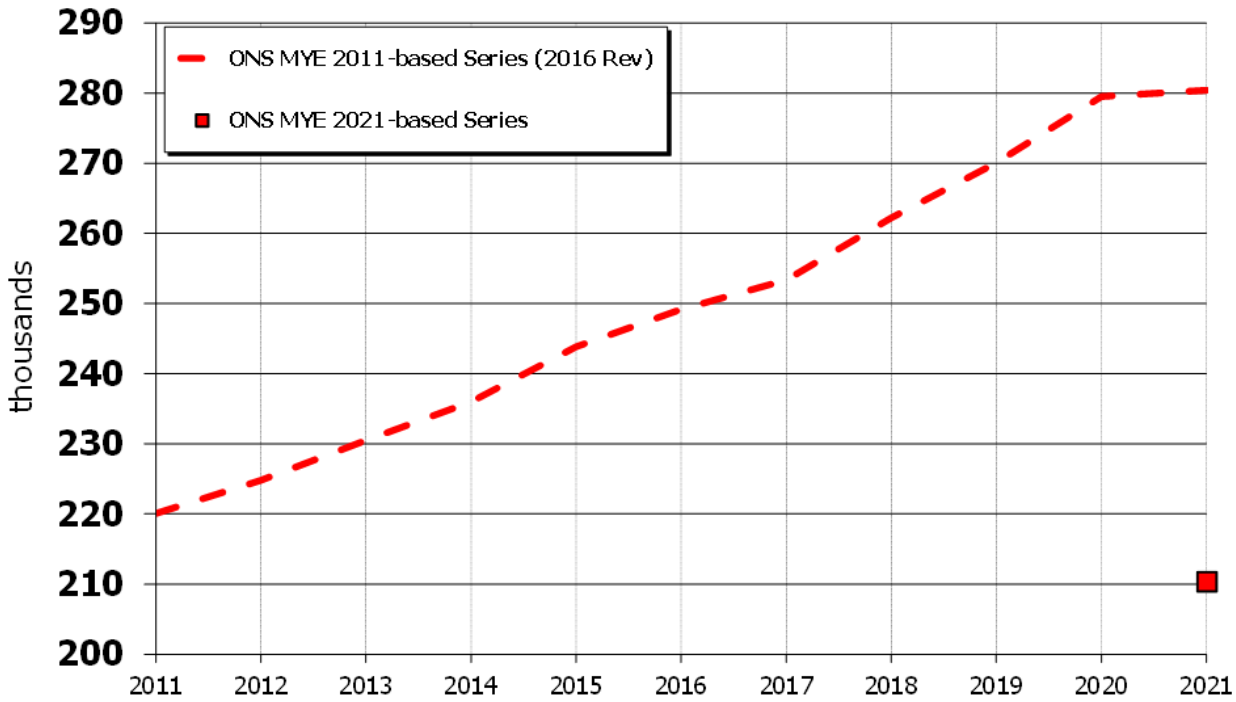
			Change	
Estimate series	2011	2021	2011-21	% 2011-21
2011-based MYE	220,100	280,400	+60,300	*+27.4%*
2021-based MYE	220,100	210,400	-9,700	*-4.4%*

The components of population change are births, deaths and migration. The births and deaths data are fairly reliable administrative data – it is the estimation of migration, especially international migration, that is very difficult for a place like Camden – with very high in and out migration flows, including students, both domestically and internationally.

[1] The projections are labelled as 'interim' because they do not yet fully take on board 2021 Census data at ward level nor the ONS re-evaluation of population components of change 2011-2021. GLA has reworked migration on the basis that internal migration (within UK) is correct from the old mid-year estimates series but have instead tweaked international migration to fit to the results of the 2021 Census. Thus, the GLA projected ward figures for the year 2021 are not wholly consistent with 2021 census ward estimates.

[2] The devolved administrations in Scotland, Wales and Northern Ireland are responsible for producing their own population estimates.

ONS Mid-year Population Estimate Series, LB Camden, 2011-based 2021-based



The above graph shows the trajectory of the previous 2011-based MYE series 2011-2021[3] and the data point for the 2021-based estimate. It is not possible at present to show the 2012-2020 estimates reconciled with the 2021-based MYE because ONS are still working on these, but they expect to publish the reconciled series in September 2023, alongside the publication of the mid-2022 population estimate.

GLA Projection variants

Projections are subject to considerable uncertainty. In effect, the figures provide different scenarios of what might happen if certain assumptions are made about future trends in births, deaths and migration flows. The GLA's *2021-based Interim projections* comprises three scenario projections which make different assumptions around future migration flows:

- **Scenario 1**: migration rates are calculated by applying the average of the last 5 years' rates to projected population. The population, births and deaths are constrained to the GLA's 2021-based 5-year migration trend projection.

- **Scenario 2**: migration rates are calculated by applying the average of the last 10 years' rates to projected population. The population, births and deaths are constrained to the GLA's 2021-based 10-year migration trend projection.

- **Scenario 3**: migration rates are calculated by applying the average of the last 15 years' rates to projected population. The population, births and deaths are constrained to the GLA's 2021-based 15-year migration trend projection.

Scenarios 2 and 3 assume larger net migration flows which lead to stronger population growth, while scenario 1 assumes more subdued flows (based on levels over the last five years), which provides a lower projected population.

[3] The last estimate in the series for 2021 was not published as an official estimate, but detail was provided in comparison data produced with the publication of the 2021 Census estimates.

GLA recommend Camden use the *GLA 2021-based Interim Projection variant: Scenario 3.* Scenario 3 was an additional variant produced to mitigate the loss of population by Central London boroughs as a result of the census being taken during the COVID-19 pandemic, i.e. at a time when people were thought to be temporarily displaced. The stronger migration trend in scenario 3 allows the population to return more rapidly. This is important, as the projection is used, along with actual school rolls data, to provide pupil forecasting for the school organisation plan.

For clarity, it should be noted that it is also possible to obtain other projections from the GLA Datastore that are also 2021-based but which have been produced using different set-ups. It is important to note that **Camden's recommended projection is not available from the GLA Datastore,** but it **is available from the Open Data Camden website** using the following link: https://opendata.camden.gov.uk/w/mnm7-vqke/7xcc-ae6v.

Uses

The GLA produces outputs for London boroughs and wards. The projections are part of an integrated national model in order to model flows between areas. The GLA projections are used to:

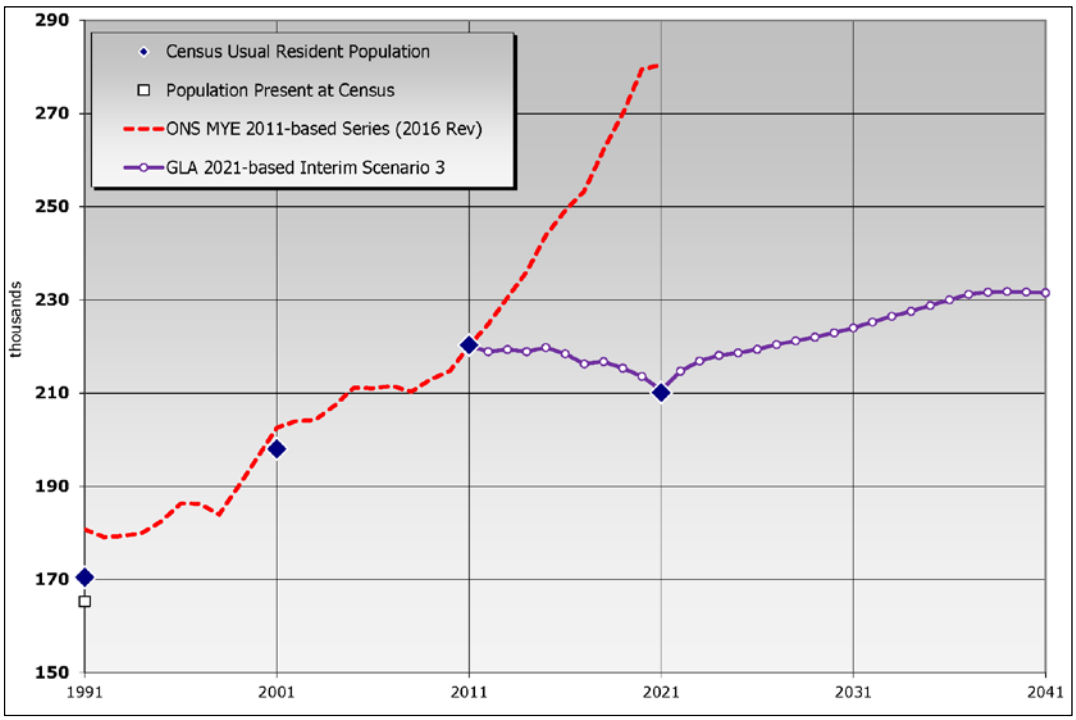
- **Underpin all Camden council strategies and with our partners**
- **To plan Camden council services**
- **Provide denominators for key demographic rates** (fertility, mortality, life expectancy)
- **Comparing populations within London**

GLA 2020-based Projection Scenario 3

Production of a revised back-series 2012-2020

The official ONS mid-2021 mid-year estimate (MYE) represents a break in the previous official MYE series (2011-2020) based on the 2011 census estimate of population. The 2011 MYE was a rolled-forward estimate from the census estimate and then subsequent years were calculated by adding estimated births, removing deaths and adding migration to the previous years' population.

ONS 2011-based MYE and GLA 2021-based Interim Projections Scenario 3 (with 2011-21 back-series)



Similarly, the 2021 MYE is rolled-forward 3 months from the 2021 census estimate, but with no reference to the earlier series. To create a consistent series for input into the GLA projection model a revised back-series of mid-year estimates was required for the period 2012-2020[4]. The revised series assumes that births, deaths and domestic migration from the existing series are correct and adjusts international migration. See Population projections documentation - London Datastore for detailed descriptions of the modelling process. By doing this, GLA are able to recalibrate fertility and mortality (survivorship) and to reset migration rates appropriate to the new population series 2011-21 and to ready the model for projecting forward.

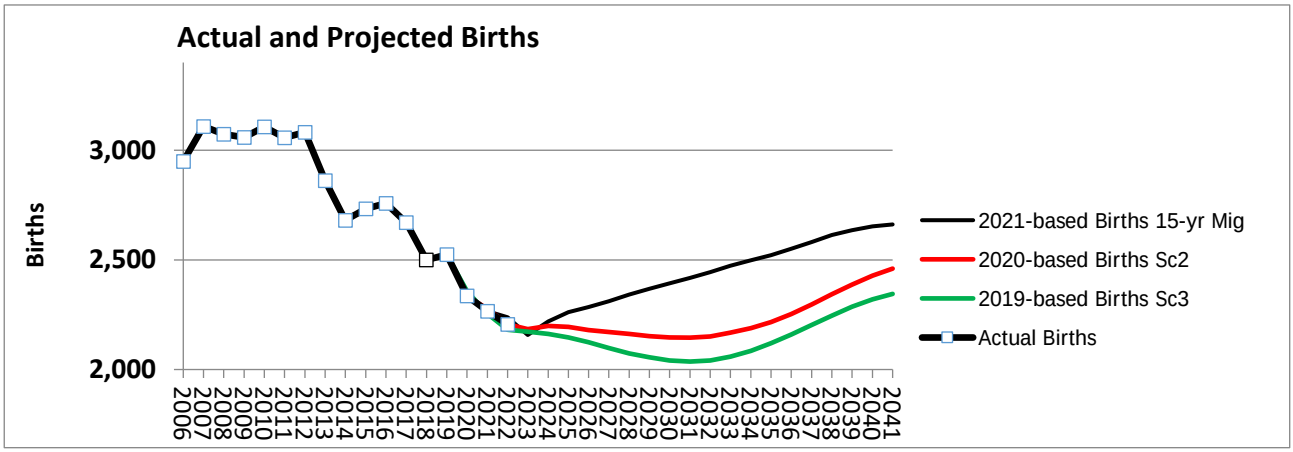
Births and Fertility

Births registered to Camden-resident mothers are taken from the ONS *Mid-year Estimates* components of population change up to mid-2021[3]. Projected births for years after mid-2021 are calculated by applying estimated *age-specific fertility rates* (ASFRs) to the female population aged 15-49. The ASFRs used are calculated on an average of Camden births by age of mother (based on 2011) and incrementally adjusted in line with the trend in known births up to mid-2021 using the newly constructed 20111-2021 back-series population.

After mid-2021, births are determined by fertility rates tracking the trends in overall fertility[5] taken from the ONS *2020-based National Population Projections*. These predict current national fertility levels will gently increase. Projected births are a function of fertility rates applied to the female population aged 15-49 in each projection year.

The actual births to Camden-resident mothers and the projected births from the last three rounds of GLA projections (2019-based, 2020-based and 2021-based) are shown in the graph below. Although not included in the latest GLA projections, births for mid-2022 are included here as they were published as components in the ONS Admin-based Population Estimates (ABPEs), *experimental statistics* produced by the Dynamic Population Model[6].

Comparing Actual and Projected Births



Sources: ONS Mid-year Estimates Components of Change, © ONS, 2022; GLA Projections; © GLA 2021-2023.

Births had been increasing in Camden since the early 1980s, peaking in 2007 and maintaining near that peak until 2012. Births to Camden-resident mothers have decreased substantially since 2012 and mirrors falls in neighbouring boroughs, in London and countrywide. Further falls in births to Camden-resident mothers indicate a declining trend, despite a couple of upturns. It is difficult to predict future births with confidence. However, the impact of the latest national fertility projection is

[4] ONS will eventually produce a reconciled set of estimates 2012-2020 in which it hopes to reconfigure migration and/or other data between the census years to account for the new populations in 2021. The data was not going to be ready in time to be used by GLA so they had to devise their own. The ONS reconciliation work is running behind schedule and is not expected until Sep-2023.

[5] Total Fertility Rate (TFR) is the sum of births expected in woman's reproductive lifetime. Although the TRF is much lower in Camden than nationally, the Camden TFR is indexed to the national TFR projection to guide the rates forward.

[6] Although currently 'experimental statistics', ONS envisage that the ABPE (Admin-based Population Estimates) produced by the Dynamic Population Model will become the new method of deriving mid-year estimates (MYEs) of population in the future, perhaps being implemented as soon as 2024. Link to more information about the Dynamic Population Model methodology.

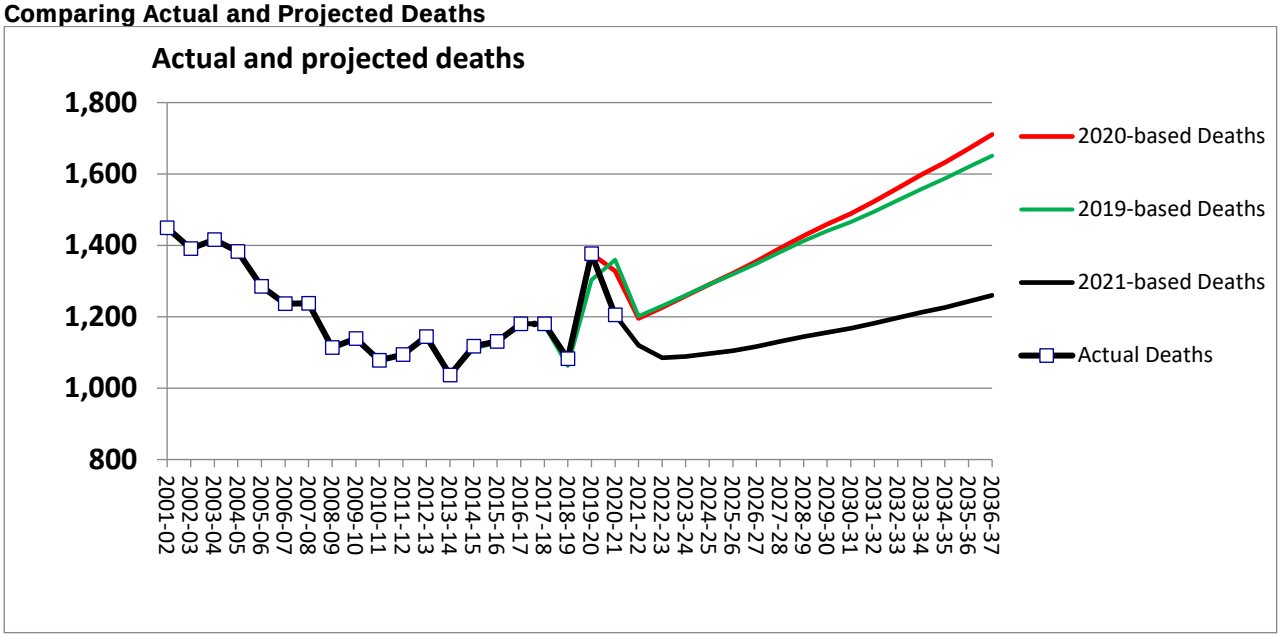
shown in the graph above where births in Camden are projected to pick up after 2023 and thereafter start to recover.

The change in the births projected by the GLA 2021-based projections is higher than that projected a year ago in the 2020-based projections as it further picks up the improving national fertility trend. The resultant change impacts upon the child population as those birth numbers feed through into pre-school and primary school cohorts. The decline in the number of births has been a well-debated topic, with the phenomenon being attributed to a number of factors, including the impact of austerity; changes to the benefits system; 'Brexit', the limited availability of affordable family accommodation (impacted by company lets, short-term lets and the high cost of housing in Camden) and most recently COVID-19.

Deaths and Mortality

Annual deaths to Camden residents had been falling since the 1980s but bottomed-out in 2013-14. The GLA 2021-based Interim Projection uses known registered deaths for Camden up to mid-2021. Higher than normal actual deaths in 2019-20 and 2020-21 resulted from COVID-19. Subsequent deaths 2021-22 onwards are calculated in line with survival trends from the ONS *2020-based National Projections*. When applied to Camden rates, they project deaths falling to 2022-23 before increasing gently thereafter (see graph below).

Comparing Actual and Projected Deaths



Sources: ONS Mid-year Estimates, © ONS, 2022; GLA Projections; © GLA 2021-2023.

Net migration

Net migration is the summary outcome of gross flows of people, by age and sex, to and from Camden and interactions with other areas. It is the balance of in-migration *minus* out-migration. The migration flows are influenced by past migration trend data, and into the future influenced by the borough's forecast dwelling capacity. The GLA projects full migration in and out flows for both domestic and international migration.

Key Findings

The results presented here are for the GLA 2021-based Interim Projection Scenario 3 variant[7].

Note. The 10-yearly census is used to recalibrate population estimates. The 2021 Census has reset the Camden's population to a level much lower than had been previously expected.

- The **current *usual resident population*** in Camden at **mid-2023** is forecast to be **216,900**.

5-year change

- **Overall population** is forecast **to grow** by **4,300** to **221,200** (+2.0%) by **mid-2028**.
- **By age**, the largest growth is in the younger working-age group and aged 65+, but also with some growth in the older working age, pre-school and young adults:

25-44: +3,500 (*+4.6%*)
65-74: +1,700 (*+12.8%*)
75+: +1,000 (*+8.5%*)
45-64: +500 (*+1.1%*)
0-3: +400 (*+5.4%*)
16-24: +200 (*+0.4%*)

There are declining populations in primary and secondary aged children:

4-10: -1,700 (*-13.0%*)
11-15: -1,300 (*-12.6%*)

10-year change

- **Overall population** is forecast **to grow** by **9,600** to **226,500** (+4.4%) by mid-2033.
- **By age**, the largest growth is in the younger working-age and aged 65+, but also with some growth in pre-school aged children:

25-44: +6,700 (*+9.0%*)
65-74: +4,600 (*+33.9%*)
75+: +2,100 (*+17.8%*)
0-3: +800 (*+11.1%*)

There are declining populations of school-aged children and in the older working-aged:

11-15: -2,600 (-25.1%)
4-10: -1,500 (-11.2%)
45-64: -700 (-1.3%)

Current and projected population in 5 and 10 years, by summary age groups

Summary Age groups: Persons					5 Year Change		10 Year Change	
Age description	**Age**	**2023**	**2028**	**2033**	**2023-28**	**%**	**2023-33**	**%**
Total	**All Ages**	**216,900**	**221,200**	**226,500**	**4,300**	***2.0%***	**9,600**	***4.4%***
Pre-school	0-3	7,600	8,000	8,500	400	*5.4%*	800	*11.1%*
Primary	4-10	13,200	11,500	11,700	-1,700	*-13.0%*	-1,500	*-11.2%*
Secondary	11-15	10,400	9,100	7,800	-1,300	*-12.6%*	-2,600	*-25.1%*
Young Adults	16-24	36,300	36,500	36,300	200	*0.4%*	0	*0.0%*
Younger Working Age	25-44	75,100	78,600	81,800	3,500	*4.6%*	6,700	*9.0%*
Older Working Age	45-64	48,700	49,200	48,000	500	*1.1%*	-700	*-1.3%*
Younger Pensioner Age	65-74	13,700	15,400	18,300	1,700	*12.8%*	4,600	*33.9%*
Older Pensioner Age	75+	11,900	12,900	14,000	1,000	*8.5%*	2,100	*17.8%*

Source: GLA 2021-based Interim Projections Scenario 3, © GLA 2023.

[7] GLA 2021-based interim Projection Scenario 3 is a dwelling led (Camden Development) projection, with 15-year migration trend assumptions. The projection was produced in June 2023. © GLA City Intelligence, 2023.

Total population

The ONS 2021 Census-based mid-year estimate found that the usually resident population of Camden had decreased from 220,100 at mid-2011 to 210,400 at mid-2021, resetting the official population of Camden at mid-2021. This represents a decrease of 4,700 people (-4.4%) over the decade. The GLA 2021-based Interim Projections uses that revised mid-2021 population estimate as a starting point. Over the two years mid-2021 to mid-2023, the GLA projection forecasts Camden's current population to 216,800, an increase of +6,300 (+3.0%).

Over the coming five years to mid-2028, GLA forecast that Camden is to grow by +4,300 (+2.0%) and over ten years to mid-2033 Camden is projected to grow by +9,600 (+4.4%).

Sex

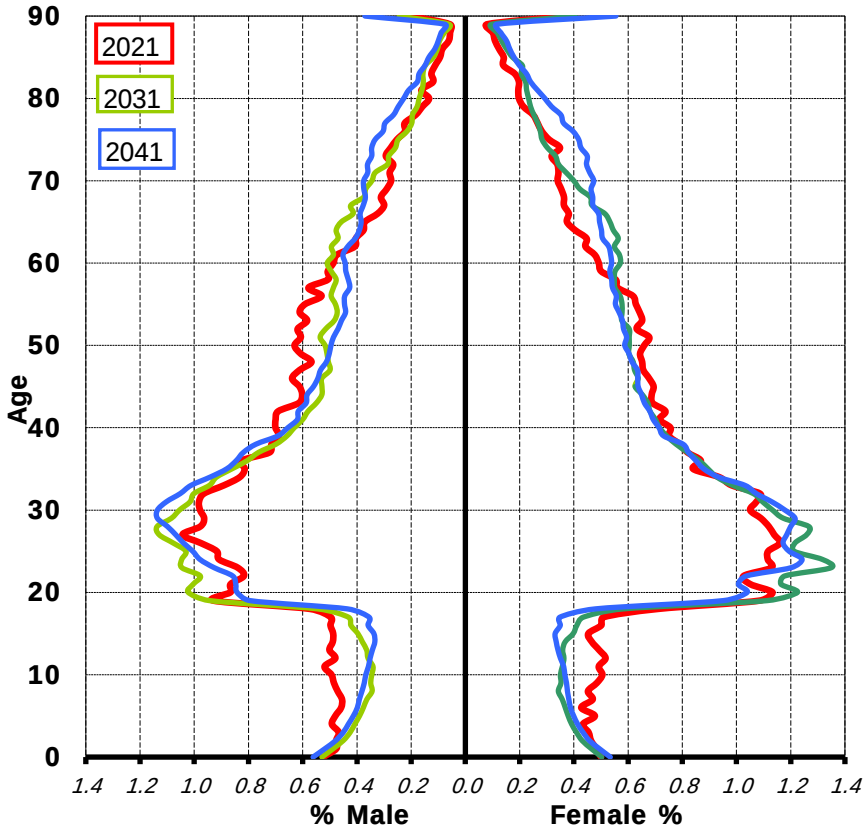
In Camden, at mid- 2021, there are more female usual residents than males in the ratio of 1.112 females to each male. The ratio increases slightly over the course of the projection: reaching 1.136 by 2041.

Age

Although Camden maintains a relatively young age structure due to the sizable student population, inevitably there are changes that take place over time. Mean age at mid-2021 is 37.6 years for Camden (compared to 36.5 years in Greater London and 41.2 years in England & Wales). Mean age in Camden increases over the projection period: to 38.7 years in 2031 and 39.6 in 2041.

The ageing progression is depicted in the graph below, displaying the population proportionally as a 'population pyramid' style chart (age/sex) covering all ages. The proportional chart clearly shows the ageing population over time (moving from red to green to blue), with an expansion of the population aged 60+ over time, but a shrinking of the child population and of the older working aged 40-60. The student bulge 18-21 years is still evident.

Fig.6 Age and Sex Structure Changes 2021, 2031 and 2041



Source: GLA 2021-based Interim Projections Scenario 3, © GLA 2023.

Dependency ratio

The dependency ratio is used as a measure of the stress placed on the working-age population to provide taxes to support those who are not working-age. For the moment, the working-age population is still taken to be those age 16-64 (i.e. ignoring adult students and ongoing changes to retirement age). The dependency ratio changes over time: currently (mid-2023) it stands at 35.5%, remains unchanged to mid-2031, but rises to 40.4% by mid- 2041.

Households

GLA no longer publishes household projections due to concerns of the robustness of the data. ONS trend-based population and household projections, upon which household formation rates are based, are not likely to be published by ONS before autumn 2024.

Ward Projections

Ward projections constrained to the 2021-based Interim Projections Scenario 3 are available by age and sex for all projection years 2011-2041. (see Links below).

Potential risks

The *GLA 2021-based Interim Projections Scenario 3* are **currently the best prediction of the future population of Camden**. Recent events like Brexit and COVID-19 are taken into account as far as the data allows, but future events cannot conclusively be calculated. So, please remember that **they are only projections and should be treated accordingly**. The projections are updated annually and will next be refreshed in 2023 using the latest data available at that time.

Implications

- The new 2021 baseline and predictions of future growth have changed, both overall growth and by age group. Overall volume of the population is 30% lower than predicted in last year's GLA projections, so in effect presents a reset. If people who were away during COVID-19 have returned or are starting to return, we hope that they are picked up quickly in the revised ONS migration estimates and will be included in future GLA projections.

- Previous decade estimates have been recalculated by GLA in order to produce the projections but the official reconciliation of the estimates 2012 to 2020 will be published in September – at this point it may be necessary to revisit any statistics or KPIs that are population based as they will have a very different complexion based on the revised trajectory.

Links

GLA 2021-based Interim Projections Scenario 3 (Excel)

Further information

Details and analysis for Camden is available via the Open Data Camden Population page.
Any further questions or advice email population@camden.gov.uk.

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> Projected population for LB Camden
> *Source: GLA 2021-based Interim Projections Scenario 3, © GLA 2023.*

Convention over accuracy dictates that **published data must always be rounded to the nearest 100 persons**. You can use single year of age and unit data in calculations, but for presentation purposes, it is preferred that age groups are used and that **all** estimates **must** be rounded.