CITY INTELLIGENCE

GLA 2020-based Population Projections

Expert Panel Consultation

September 2021

Introduction

Each year, the GLA produces demographic projections to support planning, policy, local service delivery, and more by users across London. To meet the wide range of different requirements of its users, the GLA produces dozens of different projection variants and scenarios, using alternative input data, assumptions, and methods. To facilitate the design, production, quality assurance, reporting, and dissemination of so many different outputs, the GLA uses a specialist suite of demographic models that have been developed over the course of many years.

The current social and economic context provide significant challenges to anyone engaged in modelling and projecting. The pandemic, the threat of recession, and the changing nature of UK trade and migration policy in light of Brexit, all make projecting based on past trends more difficult. This is set in a context where intelligence about London's population and communities is central to recovery planning and policy formulation.

An expert panel of demographers and modelling specialists were consulted in the development of the 2019-based variant population projections (released November 2020). The panel process ensured a more robust and transparent set of variant projections which responded to the unique challenges of projecting during under conditions of high uncertainty.

The panel were once again consulted in the development of the 2020-based variant projections. Panel members were presented with a set of revised migration assumptions and were asked to provide written comment on specific aspects of the variant configurations. In addition, members were invited to provide general comment on the projections approach and model setup.

There was overall support for the continuation of the variant projections approach and the underlying modelling assumptions. However, a number of recommendations were made by the panel which are laid out below. In most cases these recommendations were incorporated into the 2020-based projection with alteration to the model inputs and assumptions where appropriate. In cases where recommendations were not implemented an explanation as to why is laid out below.

The Panel

The panel Membership of the panel was designed to cover the range of different areas of research and interest relevant to demographic projection modelling. The panel's areas of interest cover the specific components of population change (e.g. fertility, domestic migration, international migration), but also on more general concerns (modelling, uncertainty, economics).

The panel are:

- Prof. Ann Berrington (University of Southampton)
- Prof. Tony Champion (University of Newcastle)
- Prof. Ian Gordon (London School of Economics)
- Dr Jason Hilton (University of Southampton)
- John Hollis (independent demographic consultant)
- Madeleine Sumption (Centre on Migration, Policy and Society (COMPAS), University of Oxford)

We would like to acknowledge the important contribution the Panel made to the development of the 2020-based projections and to thank them for their time and expertise in engaging with the consultation.

Outline proposal on which the panel provided feedback

The follow section outlines the information provided to the Panel as part of the consultation process in August 2021. The projection assumptions and model configuration detailed here were subsequently adjusted for the running of the 2020-based projections following feedback from the panel. Full details of the final assumptions used in the 2020-based projections can be found in the methodology and configuration documentation on the London Datastore.

General

Our approach to the 2020-based projections is largely unchanged from that used in the 2019-based round. Future fertility and mortality rates are projected using the 2018-based NPP principal trajectory. Migration rates are split into three periods: a covid-affected period (2021-2022), a long-term period from 2028, and the transition period between these two.

For both migration components we have developed three long-term variants: High, Low, and Central. The combination of these gives nine projection variants. We propose that two of these will form the central range, two more will form a wider plausible range, and the remaining five will be published as supporting data. This was the approach taken from 2019-based projections.

International migration flows

Short-term international migration assumptions

In the short-term migration assumptions incorporate the impacts of COVID-19 on migration both internally within the UK and internationally. These assumptions have been adjusted since the 2019-based projections to make use of additional intelligence on the wider impacts of the pandemic since those projections were run.

It is now assumed that international migration out migration was less impacted during these years than was previously assumed. The effect on net international migration is to increase net outmigration in the 2020-based projections compared to the 2019-based projections.

Long-term international migration assumptions

Our Long-term assumptions on international migration have remained the same. This reflects our confidence in the range of long-term assumptions which were developed with the expert panel for the 2019-based projections. For London these are:

	Low	Central	High
International In	174,000	204,000	224,000
International Out	124,000	109,000	99,000
International Net	50,000	95,000	125,000

Domestic migration rates

Domestic migration is calculated in the model by applying a set of origin-destination rates to resident population.

Short-term domestic migration assumptions

A change in approach to domestic migration is proposed for the 2020-based projections. In the 2019-based projection domestic migration flows were reduced uniformly across the country between all areas by the same amount: 70 percent. Evidence is now available from a variety of sources which suggests that for London, the impact on domestic in-migration has been more significant than the impact on domestic out-migration. As a result, we are proposing to apply different rates of reduction based on whether a flow is: to London, from London, or is entirely outside London.

Transactions between authorities outside London remain at 70 percent as in the 2019-based projections. Migration to London is reduced to 20 percent in 2021 and 50 percent in 2022. Migration from London is reduced to 60 percent in 2021 and 50 percent in 2022.

For the 2020-based average rates are calculated for the period 2016-2020. In this case the flows observed in the data in 2020 were not heavily impacted by the pandemic and so it seems appropriate to use them in the 5-year average.

Table: Proportion of 2016-2020 rates (applies to London)

Projection year	Component	2019-based	2020-based
2021	Domestic In	70%	20%
	Domestic Out	70%	60%
2022	Domestic In	70%	50%
	Domestic Out	70%	50%

Long-term domestic migration assumptions

The approach to long-term domestic migration has changed less. In fact, the only change is to update the averages for the central and high migration cases to include the 2020 data.

Table: 2020-based projections long-term domestic migration assumptions, UK

	Low	Central	High
2019-based projections	5-year average 2008-2012	10-year average 2010-2019	5-year average 2015-2019

2020-based projections	5-year average 2008-2012	10-year average 2011-2020	5-year average 2016-2020

Mortality

Covid mortality

Deaths from COVID-19 are explicitly included in the years to mid-2020 and mid-2021. They are included as an exogenous input to the model calculated from ONS reporting on covid mortality. For years 2022 and beyond deaths from COVID-19 are not handled separately and are assumed to be included in the deaths calculated inside the model by applying mortality rates.

Table: Deaths from COVID-19

	UK	London
Year to Mid-2020	55,094	8,421
Year to Mid-2021	92,669	10,158
Total	147,763	18,579

Source: Adapted from ONS data

Mortality rates

The mortality rates used in the 2020-based projections will be the same as those used in the 2019-based projections. Mortality rates in the first projection year will be calculated by trending forward the rates from the years 2015-2019. We will not use the mortality rates for 2020 in this calculation to avoid incorporating the impacts of COVID-19 mortality into the projected rates.

Rates for the period 2022 onwards are calculated by applying the rate of change from the 2018-based NPP principal mortality assumptions.

Fertility

Fertility rates in the first projection year will be calculated by trending forward the rates from the years 2016-2020. For fertility we be using the observed rates for 2020 in this calculation as the births data for the year to mid-2020 appear to be largely unaffected by pandemic.

Rates for the period 2021 onwards are calculated by applying the rate of change from the 2018-based NPP principal fertility assumptions.

Panel recommendations

The following recommendations from the panel consultation were accepted and implemented.

Recommendation 1:
In light of evidence in Home Office visa issuances data, the gross international flows for 2021 should be adjusted. The adjustment to international in migration should be accompanied by the same adjustment to out migration so that net migration remains unaffected.

Recommendation 2:
Gross international flows for 2022 should be adjusted to better reflect the existing relationship between in and out international migration. The net figure should remain unchanged.

Recommendation 3:
The transition period should be reduced in length. The proposed period of 5 years (2023-2027) should be replaced by a 2-year transition period (2023-2024). This recommendation was implemented after further internal consultation with colleagues in GLA Economics who confirmed that such a transition period was consistent with current economic and labour market recovery assumptions.

Recommendation 4:
Gross international flows in the high and low international migration scenarios should be adjusted to be more reflective of past observed relationships. Specifically, the in-migration to out-migration ratio (approximately 2:1) and the proportion of UK in-migration directed to London (approximately 33%). Net migration levels in London remain unaffected.

Recommendation 5:
The documentation accompanying the projection should be clear on the rationale and reasoning for the projections approach. Specifically, the use of separate migration assumptions in 2021 and 2022 and the use of a transition period to move from those levels to the long-term migration assumptions.

The following recommendations from the panel consultation were not implemented.

Recommendation 6:
Use a 25-year average in setting the central migration assumptions.

Response:
The series of detailed annual migration flow data published by ONS and used in the modelling, does not extend to years prior to 2002. While longer periods of past data are generally preferable as a basis for long-term projections, the key migration patterns captured by a 10-year average are in this case similar to those that would result from using an average of the longest period (19 years) for which data is readily available in a consistent format.

- Net domestic migration from London for the period 2002-2020 (19 years) is 77,600 compared to 79,200 for the 10-year period 2011-2020.
- Net international migration from London for the period 2002-2020 (19 years) is 93,900 compared to 95,800 for the 10-year period 2011-2020.

In addition, there are a number of significant inconsistencies[1] between the methodologies used to estimate migration flows for the periods before and after 2011 which makes the use of data from the latter period alone less complex, and the results more easily interpreted.

Recommendation 7:
Rather than the production of variant projections a single central projection with confidence intervals is clearer for users.

Response:
We believe the variant approach provides users with a useful range of projections for different purposes and allows users to see the range of plausible future population trajectories. The production of a single central projection would give undue weight to the assumptions in that projection and would not reflect the uncertainty inherent in the projection process, particularly at this time.

Recommendation 8:
Analysis of the Labour Force Survey could suggest a significant decrease in non-UK-born workers in the year to mid-2020. This does not appear to be reflected in the 2020 Mid-Year Estimate. As a result, the first year of the projections should account for this by reducing the population by 80-100k.

Response:
The assumptions in the modelling for 2021 include significant outflow of both international and domestic migrants. The domestic outflow from London to the rest of the UK will include substantial numbers of those who initially came to London as international migrants. While this cannot be explicitly split out in the data a large domestic outflow would account for a decrease in foreign-born workers in the UK. The total net outflow from London in 2021 is projected to be 158,000 with the working-age population declining by 107,000 overall. We believe that these migration assumptions and their implications while not directly in reference to the LFS data are consistent with the conclusion drawn from that data.

[1] Including: ONS's use of an 'unattributable population change' component in the earlier period; the introduction of revised methods for distributing international migrants from 2006 onward; and changes to the data and methodology used to model internal migration.

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