

# Guidance for councils preparing housing and business development capacity assessments

## Updated technical advice on using Stats NZ population projections

### Background

Under the National Policy Statement on Urban Development, local authorities are required to prepare housing and business development capacity assessments (HBAs). These inform council decisions on how and where housing growth will occur.

### Purpose of this guidance

The [National Policy Statement on Urban Development Capacity Guide on Evidence and Monitoring](#) has instructions for assessing housing demand in the context of HBAs. This is not a substitute for that guide but provides additional, detailed, and up-to-date information on specific data sources. This guidance expands on section 2.1.1 'Using Statistics NZ or alternative sources of population and household projections' of the original guide. For general guidance on conducting demand assessments, please refer to the original guide.

### Population projections

The freely available population projections from Stats NZ can help determine the number of dwellings needed, while the family and household population projections can help identify household typologies by providing insights into household make-up. However, it is important to note that these projections do not provide information on household incomes or whether households will be able to afford the housing they require.

### Types of projections available

These projections are all available at the time of publication. Councils may use their own population projections instead, but would need to also provide the methodology for them within (or as an appendix to) their HBA.

## National population projections

National population projections (NPPs) show the future population of Aotearoa New Zealand based on assumptions about migration and natural population increase. NPPs indicate uncertainty over time. For example, there's a 95 per cent chance that the projections will exceed the fifth percentile and a 5 per cent chance they'll surpass the 95th percentile.

The latest NPPs use the provisional estimated resident population as of 30 June 2022 as the starting point for projections covering 2023–2073. Key findings include that:

- Aotearoa New Zealand will likely have slower long-term population growth, with a projected 25 per cent chance of no growth by the 2050s and a potential decline by the 2060s
- there is a narrowing gap between births and deaths, with rising deaths due to ageing. There is a 75 per cent chance of natural increase being below 20,000 by the mid-2030s and a 25 per cent chance of deaths exceeding births by 2044
- Aotearoa New Zealand has an ageing population, with median age rising from 37 in 2022 to 40 in the early 2030s and a 75 per cent chance of surpassing 45 by 2073. Children under 15 are expected to be less than one-fifth of the population by 2073 and the number of people over 65 is projected to double by 2063.

## NPP assumptions

- Fertility: Total fertility rates are assumed at 1.7 births per woman, declining to 1.65 by 2042. There are high and low scenarios of 2.3 and 1, respectively.
- Migration: Assumptions are based on experts' input. Net migration is projected to reach 25,000 by 2026. Scenarios for no migration and high migration are also considered.
- Life expectancy: There is an expected increase in life expectancy from 80.8 to 87 for males and from 84.1 to 89.7 for females. A very low death-rate projection is also considered throughout.

## Sub-national population projections

Sub-national population projections (SNPPs) provide age and sex-specific projections for different regions and territorial authorities. The projections are based on the provisional estimated resident population at 30 June 2018 and cover the period from 2018 to 2048 in five-yearly intervals. SNPPs include low, medium, and high projections for each region and territorial authority.

It's important to note that projection uncertainty increases for smaller geographic areas and areas experiencing rapid population changes. This is because sub-national projections rely on national projections, and inaccuracies at the national level can impact and potentially amplify inaccuracies at the sub-national level<sup>1</sup>

## Ethnic population projections

Ethnic population projections (EPPs) project the ethnic make-up of each area of Aotearoa New Zealand. These projections use the provisional estimated resident population at 30 June 2018 as the starting point and cover the period from 2018 to 2043. They offer projections for different age and sex groups at national and sub-national levels.

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<sup>1</sup> Stats NZ, 2016

Ethnic population trends are expected to follow similar patterns to the national projections. Over time, the growth rate of ethnic populations will slow, populations will age, and there will be a larger proportion of people aged 65 and above. These trends are particularly pronounced in the European population, which has an older age structure. As a result, other ethnicities will make up more of the overall population and Aotearoa New Zealand will become more ethnically diverse. Projected net migration loss in the European population will further contribute to this trend.

Different factors will affect different ethnic populations. The growth of Māori and Pacific populations will primarily be driven by natural increase, while net migration will be the main driver of growth in Asian populations.

## Family and household population projections

Family and household population projections (FHPPs) provide insights into population living arrangements, age, and sex. These projections use the provisional estimated resident population at 30 June 2018 as the starting point and cover the period from 2018 to 2043, with data available at national and sub-national levels, including statistical area 2.<sup>2</sup>

## Frequency of updates

The population projections are updated following the Census according to the following schedule.

- Firstly, the national population projections (NPPs) are prepared. These projections use the estimated resident population as their base due to their larger sample size and reduced potential for errors. All other projections use the population estimates from the previous Census as their base.
- Secondly, the sub-national population projections (SNPP), ethnic population projections (EPP), and family and household population projections (FHPP) are prepared, in that order. These projections are informed by the NPP and must be consistent with it. For example, the sum of projected sub-national populations cannot exceed the total projected national population in any given year (except for in the EPP, as individuals can identify with multiple ethnicities).

Once the first round of projections is complete, they are updated. The first round of each type of projections are called the 'base' and the second round are named 'updated'.

The NPP is updated using the latest estimated residential population (ERP) as the new base. For instance, the NPP 2020 (base) becomes the NPP (2022) base.

The SNPP and EPP are also updated using the population from the last Census as the base. Therefore, the SNPP 2018 (base) becomes the SNPP 2018 (base) update. The FHPP is currently not updated.

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<sup>2</sup> Statistical area 2 (or SA2) aims to "reflect communities that interact together socially and economically. In populated areas, SA2s generally contain similar sized populations. SA2s in city council areas generally have a population of 2,000–4,000 residents while SA2s in district council areas generally have a population of 1,000–3,000 residents. In rural areas, many SA2s have fewer than 1,000 residents because they are in conservation areas or contain sparse populations that cover a large area." ([Stats NZ](#))

# Using the projections

Stats NZ notes that:

- population projections provide indications, not predictions, and should not be used to forecast trends. They focus solely on demographic trends and do not account for major policy changes, global events (like the COVID-19 pandemic), or economic shifts
- projections are based on different assumptions about migration and natural increase. Short-term projections are normally more accurate, while long-term projections have greater uncertainty. However, recent net migration has been much higher than expected.<sup>3</sup> So, while the projections likely provide a suitable indication of population changes over the long term, they will underestimate population over the short-term. Over the short term, this issue will have a greater impact on the accuracy of:
  - Asian population projections because Asian population growth is more dependent on immigration than the growth of other ethnicities
  - large city (especially Auckland) population projections, as the population of Aotearoa New Zealand's large centres is more heavily dependent on immigration than our smaller population centres.

Keeping in mind the below compatibility guidelines, we would normally advise using the most recent projections as these contain the most up-to-date data and assumptions. However, as recent – updated or second round – projections wildly underestimate net migration in the short-term, the base or first round projections will be more accurate over the short term, especially for projecting the Asian population and population of people in Aotearoa New Zealand's large urban centres. For example, to improve the accuracy of short-term assessments we advise using the:

- NPP: 2020 (base) – 2073, or a projection with a higher net migration scenario from the more recent NPP: 2022-base projections.
- SNPP: 2018 (base) – 2048, National EPP 2018 (base) – 2043, sub-national EPP: 2018 (base) – 2043, rather than the updated version of these assessments.

The EPP provides sub-national breakdowns, but exploration of family and household projections for different ethnicities is not possible at national or sub-national levels.

## Using different projections together

Generally, different types of projections can only be used together if they are from the same round. Please note that:

- the NPP 2022 (base) is consistent with the SNPP 2018 (base) update, but not with the first round of SNPPs
- due to a lack of updates, compare the FHPPs with the NPP 2020 (base) for short-term projections.

Projection datasets present different possible projections. At the time of release the median projection (50th percentile) indicates an estimated 50 per cent chance that the value will be lower and a 50 per cent chance that the value will be higher than this percentile. Other percentiles indicate

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<sup>3</sup> Largely because we have never needed to project immigration in a highly globalised world following a global pandemic the scale of COVID-19, so we have no historical experience to draw on.

the distribution of values. For example, the 25th percentile indicates an estimated 25 per cent chance that the actual value will be lower and a 75 per cent chance that the actual will be higher.

The medium (50th percentile) projection of a particular projection type can be used together with the medium projection of other types.

- The median (50th percentile) NPP is consistent with the medium SNPP, EPPs, and FHPP.
- When using the FHPPs together with other projections, use the medium B projection, as this accounts for changing living arrangements based on Census family coding data from 2001 to 2018.
- High or low NPPs are not consistent with high or low sub-national, ethnic or family and household population projections due to different underlying assumptions.

Table 1 below shows the projections available as at November 2023, and their compatibility with other projections. It is consistent with the rules above. For ease of access we have included links to all the projections.

**Table 1: Compatibility of different population projections**

Projection	Alignment with national population projection releases
<b>National population projections (NPP) to 2073</b> <ul style="list-style-type: none"> <li>• <a href="#">First NPP post-2018 Census, released 8 December 2020.</a></li> <li>• <a href="#">Updated NPP, released 27 July 2022.</a></li> </ul>	
<b>Sub-national population projections (SNPP) to 2048</b> <ul style="list-style-type: none"> <li>• <a href="#">First SNPP post-2018 Census, released 31 March 2021.</a></li> <li>• <a href="#">Updated SNPP, released 12 December 2022</a> (based on boundaries as at January 2022).</li> </ul>	The NPP 2022 (base) 50th percentile (released 27 July 2022) is consistent with the SNPP medium projection 2018 (base) updated version (released 12 December 2022).
<b>Ethnic population projections (EPP) to 2043</b> <ul style="list-style-type: none"> <li>• <a href="#">First national EPP post-2018 Census, released 28 May 2021.</a></li> <li>• <a href="#">First sub-national EPP, released 29 March 2022.</a></li> <li>• <a href="#">Updated national EPP, released 29 September 2022.</a></li> <li>• <a href="#">Updated sub-national EPP, released 5 October 2023.</a></li> </ul>	The <b>updated</b> medium ethnic and sub-national EPPs are consistent with other 2018-base <b>updated</b> medium projections. All of these are consistent with the median projection (50th percentile) of the national population projections: 2022(base)–2073 (released July 2022). The medium ethnic and sub-national ethnic population projections are also consistent provided you are comparing versions from the same round.
<b>Family and household population projections (FHPP)</b> <ul style="list-style-type: none"> <li>• <a href="#">First national and sub-national FHPP post-2018 Census, released 15 December 2021.</a></li> <li>• First SA2 FHPP, released 16 December 2022.</li> <li>• A second update of any FHPPs is unlikely to be released.</li> </ul>	The NPP 2020 (base) 50th percentile (released 8 December 2020) is consistent with the FHPP medium B projection 2018 (base) (released 15 December 2021).

