Research Note: Current New Zealand Population Projections (June, 2021)

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Abstract

Key information from current population projections developed by Statistics NZ, especially those based on 2018 or since, are provided, with brief commentary on the results and their interpretation.

Keywords: Aotearoa New Zealand, Population projections; births, deaths, migration, age-structures, ethnicities, regions, small areas, labour force participation, households, families.

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¹ The responsibility for this summary lies solely with the author.
Introduction: the array of projections

A basic planning tool is the periodically updated projections provided by Statistics New Zealand (SNZ). As SNZ insists, their projections are not predictions and are based on assumptions which are vulnerable to both gradual and episodic change. Unfortunately, many users seem to far too readily take SNZ projections (most particularly the median) as a firm prediction into the future and even providing a target for forward planning. On the other hand, some components of population change are likely to pertain over the long-term so that the fates of recently born New Zealanders on average are predictable some 80 years out. At the time of writing SNZ is working through updating its projections based on 2018 census information and this research note will, in turn, be updated when more projections become available: see Table 1 and in general https://www.stats.govt.nz/topics/population-estimates-and-projections. It is hoped that this pulling together of much of the relevant information will be useful to readers.

Table 1: Timetable for release of (to-be-updated) Projections

| Projection Series                      | Time                                      | Current Base | Current End Point |
|----------------------------------------|-------------------------------------------|--------------|-------------------|
| Statistical Area 2 population          | progressively through second, third, and fourth quarters 2021 | 2013         | 2043              |
| National labour force                  | June 2021                                 | 2017         | 2088              |
| Subnational ethnic population          | August 2021                               | 2013         | 2038              |
| National family and household          | December 2021                             | 2013         | 2038              |
| Subnational family and household       | first quarter 2022                        | 2013         | 2038              |

The backbone of the projections is provided by year by year ‘cohort aging’ in which a baseline population is progressively projected out year-by-year using assumptions about likely age-gender-specific birth-rates, death-rates and migration-rates. For each projection there is a distribution of likelihood of any projection unfolding: so 5%, 25%, 50% median, 75% and 95% levels are provided - for local discussion of Probabilistic approaches to projections see Bryant 2005 and Wilson 2005.

As well as providing the basic age-sex projections and resulting cohort characteristics, supplementary projections are provided for:

* household/family composition,
* implied labour-force, and
* ethnic composition together with
* projections for regions, territorial authority areas and small areas (SA2 in the recently redeveloped spatial architecture: these are being progressively rolled out).

Projections differ in their time-depth, reflecting likely confidence in projections of particular characteristics. Successive projections tend not to change but there may be complications in working across projections with different bases and assumptions. In addition to projections,
SNZ produces some estimates to keep information up-to-date in between censuses, but these are not attended to in this research note.

The projections summarised here are an indication of overall trends, and certainly not exact forecasts. They are updated every 2–3 years to maintain their relevance and usefulness. The assumptions made about future fertility, mortality, and migration patterns of the population which are developed from assessments of short-term and long-term demographic trends. The projections do not take into account non-demographic factors (e.g. international, environmental, economic, political or social factors) war, catastrophes, major government and business decisions). Alongside the population projections, there are a variety of other projections or scenarios, many of which cover factors which will impinge on population, which tackle some of these non-demographic factors: for example, Long-term environment and technology projections (NIWA, 2016) and short term economic projections (Treasury).

To more readily summarise the available information, for the most part only the median versions (usually with ‘medium’ assumptions) are used. A few more detailed projections are provided in the appendices. Many characteristics might be covered but this research note is confined to the more important – which in some cases required further calculations to be developed. The presentations in this research note are all ‘headline’ data for projected ‘census years’ only and for broad categories in order to provide the broader picture, more detailed information with finer distinctions is often available. SNZ also provides more illustrative presentations: particularly the interactive population pyramid (https://www.stats.govt.nz/tools/interactive-population-pyramid-for-new-zealand).

Factors affecting Demographic Processes and assumptions

There is already some discussion around the current projections – especially in the media. For broader discussions see Spoonley 2020; Callister & Didham 2014, Pool 2017).

Projections are not only based on information on population trends but wider (New Zealand and World-wide) scholarly knowledge on these processes, but assessing the adequacy of these stocks of knowledge is too wide a topic to be covered in this research note. In addition, there is a methodological literature on projections.

To drive home the point that population projections are affected by other factors it is useful to list some of these. The points are adapted from SNZ material. Future fertility trends are uncertain and depend on:

- changes in population composition and different trends in subpopulations (including ethnic groups);
- trends in ideal family size and the strength of individual desires for children;
- trends in the patterns of education and work, including the timing, duration, and proportion of time dedicated to those activities;
- changing macro-level conditions (for example, government policies, childcare facilities, and housing) that influence the cost of child-raising;
- changing nature and stability of partnerships, including rates of partnership formation (including re-partnering) and dissolution; and
changing biomedical conditions (for example, female fecundity, new methods for assisted conception).

The long-term median period total fertility rate (TFR) is assumed to be 1.65 births per woman.

Although mortality reductions are expected to continue in the future, the extent of change in the trends remains uncertain and depends on factors such as:

- changes in population composition and different trends in subpopulations (including ethnic groups);
- changes in biomedical technology, regenerative medicine, and preventative methods including monitoring, treatment, and early intervention;
- changes in health care systems including effectiveness of public health;
- changes in behaviour and lifestyle (for example, smoking, exercise, and diet);
- changes in infectious diseases and resistance to antibiotics; and
- environmental change, disasters, and wars.

It is assumed that age-specific death rates continue to gradually decrease and that the life expectancy at birth for males and females will increase from 80.8 to 86.1 and 84.4 to 89.0 years in 2060.

Future migration trends are particularly uncertain, albeit partially controllable through changing policy settings. Exiting is not controllable and returning NZ citizens have the right to return. They depend on various factors in both source and destination countries:

- changes in immigration policy (in New Zealand and other countries);
- changes in the main motives for migration (for example, work, family reunification, education, asylum, and retirement);
- changes in migration pressure in source countries (for example, population growth and economic growth);
- changes in the attractiveness of New Zealand as a place to live (for example, work opportunities, economic conditions, wages relative to costs and other countries, and settlement and integration practices);
- costs of migration, including cost of travel and existence of networks and pathways that facilitate migration; and
- environmental change, disasters, pandemics, and wars.

The median net migration assumption is 25,000 p.a., but other assumptions are also available in the set of scenarios. (Note that the median assumption is not an assumed trajectory, but the median of the migration simulations which vary every year around that median.)

In addition, population projections are affected by trends and patterns in interethnic-rates, labour force participation, household/family formation/de-formulation, migration motivations and consequences and other factors.
Projected Trends

The base population in 2020 is just over 5 million. In the short-term (see Table 2) the projections indicate that New Zealand’s population has a 95 percent probability of increasing to 5.3 – 6.2 million in 2033. In the long-term the projections indicate that population growth will slow as New Zealand’s population ages and the gap between the numbers of births and deaths narrows and that there is a 90 percent probability of being between 5.34–7.13 million in 2048 and 5.27–8.48 million in 2073.

Table 2: Population projections (000s)

| Year | .05 Prob | .25 Prob | .50 Prob. | .75 Prob. | .95 Prob. | V Hi Fertility | V Lo Fertility | No Migratn | Cyclical Migration | V Hi Migratn |
|------|----------|----------|-----------|-----------|-----------|---------------|---------------|------------|-------------------|-------------|
| 2020 | 5063     | 5080     | 5094      | 5107      | 5125      | 5094          | 5094          | 5094       | 5094              | 5094        |
| 2023 | 5114     | 5176     | 5222      | 5266      | 5332      | 5235          | 5223          | 5166       | 5222              | 5279        |
| 2028 | 5161     | 5340     | 5460      | 5581      | 5771      | 5532          | 5470          | 5268       | 5545              | 5653        |
| 2033 | 5203     | 5485     | 5679      | 5864      | 6159      | 5844          | 5706          | 5335       | 5687              | 6019        |
| 2038 | 5262     | 5645     | 5876      | 6131      | 6530      | 6155          | 5929          | 5370       | 5968              | 6374        |
| 2043 | 5315     | 5773     | 6056      | 6378      | 6849      | 6458          | 6144          | 5377       | 6070              | 6718        |
| 2048 | 5344     | 5867     | 6216      | 6594      | 7134      | 6749          | 6346          | 5358       | 6312              | 7047        |
| 2053 | 5367     | 5937     | 6353      | 6777      | 7376      | 7032          | 6532          | 5312       | 6370              | 7359        |
| 2058 | 5347     | 6001     | 6474      | 6949      | 7661      | 7325          | 6705          | 5246       | 6573              | 7660        |
| 2063 | 5326     | 6036     | 6587      | 7119      | 7970      | 7645          | 6873          | 5166       | 6607              | 7958        |
| 2068 | 5310     | 6084     | 6699      | 7313      | 8211      | 7991          | 7041          | 5078       | 6800              | 8258        |
| 2073 | 5268     | 6128     | 6806      | 7494      | 8475      | 8352          | 7212          | 4981       | 6826              | 8554        |

As mentioned above the projections are provided on a probability basis, but together with some alternative scenarios. For some discussion of the alternative scenarios see SNZ [https://www.stats.govt.nz/information-releases/national-population-projections-2020base2073#additional]. The scenarios are built up by developing various mixes of low, medium, high (very low, very high) etc. for each of fertility, mortality and migration. To obtain some grasp of the interrelationships between the summative probability projections and the 5 key scenarios Table 3 arrays each from that with smallest projected size in 2073 to that with highest. This comparison suggests that the ‘no migration’ scenario is highly unlikely as is the very high migration scenario whereas the ‘cyclic migration’ scenario most closely fits with the median projection.

Table 3: 2073 Projections ordered by size of projected 2073 Population (000s)

| No Migration | .05 Prob | .25 Prob | .50 Prob. | Cyclical Migrtn | V Lo Fertility | .75 Prob. | V Hi Fertility | .95 Prob. | V Hi Migrtn |
|--------------|----------|----------|-----------|----------------|---------------|-----------|---------------|-----------|-------------|
| 4,981        | 5,268    | 6,128    | 6,806     | 6,826         | 7,212         | 7,494     | 8,352         | 8,475     | 8,554       |

Tables 4 and 5 document likely aging in the future. Population increase is likely to slow and the age distribution to gradually age so that – for example, the median age will increase
from 37 at present to 47 by 2073. Increasing numbers and proportions of the population at the older ages. the population aged 65+ (0.79 million in 2020) has a 90 percent probability of increasing to 1.36–1.51 million (21-26%) in 2048 and to 1.61–2.22 million (23-34%) by 2073. the population aged 85+ (88,000 in 2020) has a 90 percent probability of increasing to 266,000–318,000 in 2048 and to 348,000–513,000 in 2073.

Inevitably the aged dependency ratio will increase (see table 5) although this is likely slightly offset by a slightly decreasing child dependency ratio. There is also a likely change in gender ratios with proportion of males steadily (but slowly increasing) so earlier concerns about a ‘man drought’ (August, 2015; Bedford et al., 2010) may be allayed.

The contribution of (external) migration changes very markedly as the natural increase rate slows: from about half the component of growth through to providing all the net growth by 2048 and even higher after.

Table 4: Cohort Characteristics

| Year | Annual population growth (%).25 Prob | Annual population growth (%).50 Prob | Annual population growth (%).75 Prob | Migration Contribution to Change | Population aged 0–14 years (%) | Population aged 15–39 years (%) | Population aged 40–64 years (%) | Population aged 65+ years (%) | [Population aged 85+ years (%)] | Median Age (Yrs) |
|------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------|-----------------|
| 2021 | .5                                   | .7                                   | .9                                   | -                               | 19.                           | 34.                           | 31.                           | 16.                           | 2.               | 37.4            |
| 2023 | .6                                   | 1.                                   | 1.3                                 | .51                             | 18.                           | 34.                           | 31.                           | 17.                           | 2.               | 38.3            |
| 2028 | .4                                   | .9                                   | 1.3                                 | .54                             | 17.                           | 34.                           | 30.                           | 19.                           | 2.               | 39.5            |
| 2033 | .4                                   | .7                                   | 1.2                                 | .60                             | 16.                           | 32.                           | 31.                           | 21.                           | 3.               | 41.0            |
| 2038 | .3                                   | .7                                   | 1.1                                 | .66                             | 16.                           | 31.                           | 31.                           | 22.                           | 3.               | 42.2            |
| 2043 | .2                                   | .6                                   | 1.                                   | .72                             | 15.                           | 31.                           | 31.                           | 23.                           | 4.               | 43.1            |
| 2048 | .1                                   | .5                                   | .9                                   | .83                             | 15.                           | 30.                           | 32.                           | 23.                           | 5.               | 43.6            |
| 2053 | .0                                   | .4                                   | .8                                   | .97                             | 15.                           | 29.                           | 32.                           | 24.                           | 5.               | 44.4            |
| 2058 | -.1                                  | .4                                   | .7                                   | 1.08                            | 15.                           | 28.                           | 31.                           | 25.                           | 5.               | 45.3            |
| 2063 | -.1                                  | .3                                   | .7                                   | 1.12                            | 14.                           | 28.                           | 31.                           | 27.                           | 5.               | 46.1            |
| 2068 | -.1                                  | .3                                   | .8                                   | 1.13                            | 14.                           | 28.                           | 31.                           | 27.                           | 6.               | 46.7            |
| 2073 | -.1                                  | .3                                   | .7                                   | 1.21                            | 14.                           | 27.                           | 30.                           | 28.                           | 6.               | 47.1            |
Table 5: Further Cohort Characteristics

| Year | 0-14 dependency ratio | 65+ dependency ratio | Total dependency ratio | Male period life expectancy at birth | Female period life expectancy | % Male 0-14 | % Male 15-39 | % Male 40-64 | % Male 65+ |
|------|-----------------------|----------------------|------------------------|------------------------------------|-------------------------------|-------------|-------------|-------------|-----------|
| 2020 | 29                    | 24                   | 53                     | 80.8                               | 84.4                          | 49.66       | 51.35       | 50.74       | 44.25     | 46.81      |
| 2023 | 28                    | 26                   | 54                     | 81.1                               | 84.5                          | 49.67       | 51.37       | 50.79       | 44.71     | 46.74      |
| 2028 | 27                    | 30                   | 56                     | 81.8                               | 84.7                          | 49.66       | 51.40       | 50.94       | 44.48     | 46.53      |
| 2033 | 26                    | 33                   | 58                     | 82.6                               | 85.4                          | 49.65       | 51.35       | 51.01       | 47.27     | 46.34      |
| 2038 | 25                    | 36                   | 61                     | 83.3                               | 86.0                          | 49.65       | 51.36       | 50.98       | 49.23     | 46.18      |
| 2043 | 25                    | 37                   | 62                     | 84.0                               | 86.7                          | 49.68       | 51.36       | 51.06       | 50.97     | 46.09      |
| 2048 | 25                    | 38                   | 62                     | 84.6                               | 87.2                          | 49.73       | 51.36       | 51.10       | 53.00     | 46.23      |
| 2053 | 25                    | 39                   | 64                     | 85.3                               | 87.8                          | 49.80       | 51.36       | 51.12       | 55.62     | 46.49      |
| 2058 | 25                    | 43                   | 67                     | 85.9                               | 88.3                          | 49.88       | 51.36       | 51.11       | 55.90     | 46.99      |
| 2063 | 24                    | 45                   | 69                     | 86.4                               | 88.8                          | 49.97       | 51.36       | 51.11       | 55.66     | 47.47      |
| 2068 | 24                    | 47                   | 71                     | 87.0                               | 89.3                          | 50.04       | 51.37       | 51.12       | 55.92     | 47.73      |
| 2073 | 24                    | 49                   | 73                     | 87.5                               | 89.7                          | 50.09       | 51.36       | 51.13       | 55.95     | 47.94      |

There are considerable likely future changes in the spatial distribution of NZ population (See tables 6, 13 and 14: median projections and for discussion Cameron, 2017; Jackson & Brabyn, 2017). The projections suggest that relative growth in the north and in major urban regions is likely to continue. SNZ Interactive maps provides a more visual display of this spatial information.
Table 6: Regions

| Region            | 2018  | 2048  | Change 2018-2048 (%) | Share 2018 (% NZ) | Share 2048 (% NZ) |
|-------------------|-------|-------|----------------------|-------------------|-------------------|
| Northland region  | 185,800 | 231,200 | 24.43               | 3.79              | 3.72              |
| Auckland region   | 1,654,800 | 2,302,900 | 39.16               | 33.77             | 37.05             |
| Waikato region    | 475,600 | 615,100 | 29.33               | 9.70              | 9.90              |
| Bay of Plenty region | 320,800 | 404,300 | 26.03               | 6.55              | 6.50              |
| Gisborne region   | 49,500  | 55,200  | 11.52               | 1.01              | .89               |
| Hawke's Bay region | 172,400 | 202,100 | 17.23               | 3.52              | 3.25              |
| Taranaki region   | 121,200 | 138,300 | 14.11               | 2.47              | 2.22              |
| Manawatu-Whanganui region | 247,500 | 276,700 | 11.80               | 5.05              | 4.45              |
| Wellington region | 525,900 | 612,200 | 16.41               | 10.73             | 9.85              |
| Tasman region     | 54,000  | 64,000  | 18.52               | 1.10              | 1.03              |
| Nelson region     | 52,700  | 58,300  | 10.63               | 1.08              | .94               |
| Marlborough region | 48,700  | 52,700  | 8.21                | .99               | .85               |
| West Coast region | 32,400  | 30,600  | 5.56                | .66               | .49               |
| Canterbury region | 622,800 | 780,500 | 25.32               | 12.71             | 12.56             |
| Otago region      | 235,000 | 282,600 | 20.26               | 4.80              | 4.55              |
| Southland region  | 100,500 | 108,300 | 7.76                | 2.05              | 1.74              |
| North Island      | 3,753,700 | 4,837,900 | 28.88              | 76.60             | 77.83             |
| South Island      | 1,146,200 | 1,377,000 | 20.14              | 23.39             | 22.15             |
| New Zealand       | 4,900,600 | 6,215,800 | 26.84              | 100.00            | 100.00            |

Ethnic share projections (see table 7) are complicated by the inclusion of those with mixed ethnicities in each of their ethnicities. The ethnic projections suggest a likely increased mixing (from 113 at present through to 125 in 2043) and the gradual decline of the share of ‘Europeans’. (SNZ does not provide projections for ‘others’.) A few more details are provided in Tables 11 & 12. For a broader discussion see Cameron and Poot (2019).

Table 7: Ethnic Shares: all ages

| Year    | European | Maori | Pacifica | Asian | MELAA | Total |
|---------|----------|-------|----------|-------|-------|-------|
| 2018 (base) | 70       | 17    | 16       | 8     | 2     | 113   |
| 2023    | 69       | 17    | 18       | 9     | 2     | 115   |
| 2028    | 68       | 18    | 20       | 9     | 2     | 117   |
| 2033    | 67       | 19    | 22       | 10    | 2     | 120   |
| 2038    | 65       | 20    | 24       | 10    | 3     | 122   |
| 2043    | 64       | 21    | 26       | 11    | 3     | 125   |

Labour force projections (Table 8) refer to the likely need for jobs, although it is up to economic conditions to provide the supply of jobs. The projection suggests considerable
further growth in numbers, but assumes slightly falling labour force participation rates (the proportion of people aged 15+ years in the paid workforce. On the other hand years of working life (the average number of years a person would spend in the labour force if they experienced the labour force participation rates at each age 15–79 years) are likely to increase for both men and women.

Table 8: Labour force Projections

| Year   | Labour force (000s) | LFPR (male) | LFPR (female) | Working Life (Male) | Working Life (Female) |
|--------|---------------------|-------------|----------------|---------------------|-----------------------|
| 2017 (base) | 2635               | 74          | 63             | 47                 | 40                    |
| 2018   | 2690               | 74          | 63             | 47                 | 40                    |
| 2023   | 2863               | 74          | 63             | 48                 | 41                    |
| 2028   | 2981               | 73          | 62             | 48                 | 42                    |
| 2033   | 3077               | 73          | 61             | 48                 | 42                    |
| 2038   | 3165               | 72          | 60             | 49                 | 42                    |
| 2043   | 3256               | 72          | 60             | 49                 | 43                    |
| 2048   | 3340               | 72          | 60             | 49                 | 43                    |
| 2053   | 3400               | 71          | 59             | 49                 | 43                    |
| 2058   | 3426               | 71          | 58             | 49                 | 43                    |
| 2063   | 3436               | 69          | 58             | 49                 | 43                    |
| 2068   | 3453               | 68          | 57             | 49                 | 43                    |

Given that many items and assets are provided or consumed on a family/household basis these projections (See tables 9 & 10) are important although difficult to estimate. Both families and households are likely to increase. It is suggested that couple without children will increase while two-parent families will decrease and one-parent families very slightly decline as proportions. While proportions of one-person households are likely to increase both families and other multi-person households are likely to decrease.

Table 9 Family and Household Projections
In sum, providing population projections is a highly important yet considerably fraught enterprise. SNZ gradually produce an appropriate set of projections and while avoiding too close a link to having them treated as predictions also suggests some likelihoods of particular characteristics pertaining. While the characteristics of future NZ society will likely share many characteristics of contemporary society but will also move firmly in particular directions. However, the suggested changes may not eventuate.
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## Appendices

### Table 11: Ethnic Shares by Broad age-groups (%)

| Year        | European | Maori | Pacifica | Asian | MELAA | Total |
|-------------|----------|-------|----------|-------|-------|-------|
| 0–14 years  |          |       |          |       |       |       |
| 2018 (base) | 67       | 27    | 16       | 14    | 2     | 126   |
| 2023        | 66       | 28    | 20       | 15    | 3     | 132   |
| 2028        | 65       | 29    | 24       | 16    | 3     | 137   |
| 2033        | 64       | 30    | 26       | 17    | 3     | 140   |
| 2038        | 65       | 31    | 26       | 17    | 4     | 143   |
| 2043        | 64       | 32    | 27       | 18    | 4     | 145   |
| 15–39 years |          |       |          |       |       |       |
| 2018 (base) | 62       | 18    | 22       | 10    | 2     | 114   |
| 2023        | 63       | 20    | 23       | 10    | 2     | 118   |
| 2028        | 63       | 22    | 24       | 12    | 2     | 123   |
| 2033        | 62       | 23    | 26       | 12    | 3     | 126   |
| 2038        | 61       | 24    | 29       | 13    | 3     | 130   |
| 2043        | 60       | 25    | 31       | 14    | 4     | 134   |
| 40–64 years |          |       |          |       |       |       |
| 2018 (base) | 74       | 13    | 13       | 6     | 1     | 107   |
| 2023        | 70       | 14    | 16       | 6     | 2     | 108   |
| 2028        | 67       | 14    | 20       | 7     | 2     | 110   |
| 2033        | 64       | 15    | 23       | 7     | 3     | 112   |
| 2038        | 62       | 16    | 26       | 7     | 3     | 114   |
| 2043        | 61       | 17    | 28       | 8     | 3     | 117   |
| 65+ years   |          |       |          |       |       |       |
| 2018 (base) | 86       | 7     | 7        | 3     | 0     | 103   |
| 2023        | 83       | 8     | 9        | 3     | 1     | 104   |
| 2028        | 81       | 9     | 10       | 4     | 1     | 105   |
| 2033        | 79       | 10    | 12       | 4     | 1     | 106   |
| 2038        | 77       | 10    | 13       | 5     | 1     | 106   |
| 2043        | 75       | 11    | 15       | 5     | 1     | 107   |
Table 12: More Specific Ethnic Shares

| Year       | Samoan | Pacific (Non-Samoan) | Chinese | Indian | Other Asian |
|------------|--------|----------------------|---------|--------|-------------|
| 2018 (base)| 4      | 12                   | 6       | 5      | -3          |
| 2023       | 4      | 14                   | 6       | 6      | -3          |
| 2028       | 4      | 16                   | 7       | 7      | -5          |
| 2033       | 5      | 17                   | 7       | 8      | -5          |
| 2038       | 5      | 19                   | 8       | 8      | -6          |
| 2043       | 5      | 21                   | 8       | 9      | -6          |
| 0–14 years | .      | .                    | .       | .      | .           |
| 2018 (base)| 7      | 9                    | 5       | 5      | 4           |
| 2023       | 7      | 13                   | 7       | 7      | 1           |
| 2028       | 8      | 16                   | 7       | 9      | 0           |
| 2033       | 9      | 17                   | 7       | 10     | 0           |
| 2038       | 9      | 17                   | 7       | 10     | 0           |
| 2043       | 10     | 17                   | 7       | 10     | 1           |
| 15–39 years| .      | .                    | .       | .      | .           |
| 2018 (base)| 5      | 17                   | 7       | 8      | -5          |
| 2023       | 5      | 18                   | 7       | 8      | -5          |
| 2028       | 6      | 18                   | 7       | 9      | -4          |
| 2033       | 6      | 20                   | 8       | 9      | -5          |
| 2038       | 6      | 23                   | 9       | 10     | -6          |
| 2043       | 7      | 24                   | 9       | 12     | -7          |
| 40–64 years| .      | .                    | .       | .      | .           |
| 2018 (base)| 3      | 10                   | 5       | 4      | -3          |
| 2023       | 3      | 13                   | 6       | 5      | -5          |
| 2028       | 3      | 17                   | 7       | 6      | -6          |
| 2033       | 3      | 20                   | 7       | 8      | -8          |
| 2038       | 4      | 22                   | 8       | 9      | -10         |
| 2043       | 4      | 24                   | 9       | 10     | -11         |
| 65+ years  | .      | .                    | .       | .      | .           |
| 2018 (base)| 1      | 6                    | 4       | 2      | -3          |
| 2023       | 2      | 7                    | 5       | 3      | -5          |
| 2028       | 2      | 8                    | 5       | 3      | -4          |
| 2033       | 2      | 10                   | 6       | 3      | -5          |
| 2038       | 2      | 11                   | 6       | 4      | -5          |
| 2043       | 2      | 13                   | 7       | 4      | -6          |
Table 13: Districts

| City/District                  | 2018 | 2048 | Proportion Change 2018-48 | Share 2018 | Share 2048 |
|--------------------------------|------|------|---------------------------|------------|------------|
| Far North district             | 67,900 | 81,700 | 20.32                     | 1.39       | 1.31       |
| Whangārei district            | 94,100 | 119,300 | 26.78                     | 1.92       | 1.92       |
| Kaipara district              | 23,700 | 30,300 | 27.85                     | .48        | .49        |
| Auckland                      | 1,654,800 | 2,302,900 | 39.16                     | 33.77      | 37.05      |
| Thames-Coromandel district    | 30,700 | 32,800 | 6.84                      | .63        | .53        |
| Hauraki district              | 20,700 | 21,800 | 5.31                      | .42        | .35        |
| Waikato district              | 78,200 | 117,700 | 50.51                     | 1.60       | 1.89       |
| Matamata-Piako district       | 35,300 | 39,600 | 12.18                     | .72        | .64        |
| Hamilton city                 | 168,600 | 236,600 | 40.33                     | 3.44       | 3.81       |
| Waipa district                | 55,000 | 70,700 | 28.55                     | 1.12       | 1.14       |
| Ōtorohanga district           | 10,500 | 12,000 | 14.29                     | .21        | .19        |
| South Waikato district        | 24,800 | 27,100 | 9.27                      | .51        | .44        |
| Waitomo district              | 9,630  | 9,070  | -5.82                     | .20        | .15        |
| Taupō district                | 38,600 | 43,800 | 13.47                     | .79        | .70        |
| Western Bay of Plenty district| 53,300 | 68,000 | 27.58                     | 1.09       | 1.09       |
| Tauranga city                 | 142,100 | 199,100 | 40.11                     | 2.90       | 3.20       |
| Rotorua district              | 74,800 | 84,800 | 13.37                     | 1.53       | 1.36       |
| Whakatāne district            | 37,100 | 38,900 | 4.85                      | .76        | .63        |
| Kawerau district              | 7,460  | 7,720  | 3.49                      | .15        | .12        |
| Ōpōtiki district              | 9,670  | 9,910  | 2.48                      | .20        | .16        |
| Gisborne district             | 49,500 | 55,200 | 11.52                     | 1.01       | .89        |
| Wairoa district               | 8,720  | 9,010  | 3.33                      | .18        | .14        |
| Hastings district             | 84,700 | 103,800 | 22.55                     | 1.73       | 1.67       |
| Napier city                   | 64,200 | 72,100 | 12.31                     | 1.31       | 1.16       |
| Central Hawke’s Bay district  | 14,650 | 17,050 | 16.38                     | .30        | .27        |
| New Plymouth district         | 83,300 | 98,600 | 18.37                     | 1.70       | 1.59       |
| Stratford district            | 9,710  | 10,400 | 7.11                      | .20        | .17        |
| South Taranaki district       | 28,300 | 29,400 | 3.89                      | .58        | .47        |
| Ruapehu district              | 12,750 | 11,850 | -7.06                     | .26        | .19        |
| Whanganui district            | 46,800 | 51,400 | 9.83                      | .95        | .83        |
| Rangitikei district           | 15,450 | 17,050 | 10.36                     | .32        | .27        |
| Manawatū district             | 31,100 | 34,800 | 11.90                     | .63        | .56        |
| Palmerston North city         | 88,300 | 102,100 | 15.63                     | 1.80       | 1.64       |
| Tararua district              | 18,450 | 19,250 | 4.34                      | .38        | .31        |
| Horowhenua district           | 34,500 | 40,100 | 16.23                     | .70        | .65        |
| Kapiti Coast district         | 55,200 | 63,100 | 14.31                     | 1.13       | 1.02       |
| Porirua city                  | 58,900 | 71,500 | 21.39                     | 1.20       | 1.15       |
| Location                     | Population | Territorial Area | Crime Rate | Male Crime Rate | Female Crime Rate |
|------------------------------|------------|------------------|------------|-----------------|-------------------|
| Upper Hutt city              | 45,400     | 54000            | 18.94      | .93             | .87               |
| Lower Hutt city              | 108,600    | 122300           | 12.62      | 2.22            | 1.97              |
| Wellington city              | 211,200    | 248500           | 17.66      | 4.31            | 4.00              |
| Masterton district           | 26,400     | 29700            | 12.50      | .54             | .48               |
| Carterton district           | 9,510      | 10800            | 13.56      | .19             | .17               |
| South Wairarapa district     | 10,900     | 12300            | 12.84      | .22             | .20               |
| Tasman district              | 54,000     | 64000            | 18.52      | 1.10            | 1.03              |
| Nelson city                  | 52,700     | 58300            | 10.63      | 1.08            | .94               |
| Marlborough district         | 48,700     | 52700            | 8.21       | .99             | .85               |
| Kaikoura district            | 4,060      | 4470             | 10.10      | .08             | .07               |
| Buller district              | 9,850      | 8720             | -11.47     | .20             | .14               |
| Grey district                | 13,750     | 13450            | -2.18      | .28             | .22               |
| Westland district            | 8,830      | 8440             | -4.42      | .18             | .14               |
| Hurunui district             | 12,950     | 14900            | 15.06      | .26             | .24               |
| Waimakariri district         | 61,300     | 83000            | 35.40      | 1.25            | 1.34              |
| Christchurch city            | 383,800    | 463500           | 20.77      | 7.83            | 7.46              |
| Selwyn district              | 63,300     | 106500           | 68.25      | 1.29            | 1.71              |
| Ashburton district           | 34,600     | 41900            | 21.10      | .71             | .67               |
| Timaru district              | 47,600     | 49300            | 3.57       | .97             | .79               |
| Mackenzie district           | 5,100      | 6580             | 29.02      | .10             | .11               |
| Waimate district             | 8,120      | 8410             | 3.57       | .17             | .14               |
| Chatham Islands territory    | 690        | 860              | 24.64      | .01             | .01               |
| Waitaki district             | 22,900     | 24800            | 8.30       | .47             | .40               |
| Central Otago district       | 22,200     | 31600            | 42.34      | .45             | .51               |
| Queenstown-Lakes district    | 42,500     | 67900            | 59.76      | .87             | 1.09              |
| Dunedin city                 | 131,200    | 141600           | 7.93       | 2.68            | 2.28              |
| Clutha district              | 18,050     | 18700            | 3.60       | .37             | .30               |
| Southland district           | 31,900     | 34600            | 8.46       | .65             | .56               |
| Gore district                | 12,800     | 12500            | -2.34      | .26             | .20               |
| Invercargill city            | 55,900     | 61200            | 9.48       | 1.14            | .98               |
### Table 14: Auckland Local Boards

| Local Board Area                      | 2018  | 2048  | Proportionate Change | Share 2018 | Share 2048 |
|---------------------------------------|-------|-------|----------------------|------------|------------|
| Rodney local board area               | 69,100| 135800| 96.53                | 4.18       | 5.90       |
| Hibiscus and Bays local board         | 108,500| 132400| 22.03                | 6.56       | 5.75       |
| Upper Harbour local board             | 66,800| 124900| 86.98                | 4.04       | 5.42       |
| Kaipātiki local board area            | 92,900| 104700| 12.70                | 5.61       | 4.55       |
| Devonport-Takapuna local board       | 60,500| 77600  | 28.26                | 3.66       | 3.37       |
| Henderson-Massey local board         | 124,600| 172900| 38.76                | 7.53       | 7.51       |
| Waitākere Ranges local board         | 54,200| 61100  | 12.73                | 3.28       | 2.65       |
| Great Barrier local board            | 960   | 1200   | 25.00                | .06        | .05        |
| Waiheke local board area              | 9,360 | 11200  | 19.66                | .57        | .49        |
| Waitematā local board area            | 88,500| 137400| 55.25                | 5.35       | 5.97       |
| Whau local board area                 | 84,100| 115900| 37.81                | 5.08       | 5.03       |
| Albert-Eden local board area          | 103,700| 130600| 25.94                | 6.27       | 5.67       |
| Puketāpapa local board               | 60,900| 84600  | 38.92                | 3.68       | 3.67       |
| Ōrākei local board area               | 87,700| 114500| 30.56                | 5.30       | 4.97       |
| Maungakiekie-Tamaki local            | 80,500| 123000| 52.80                | 4.86       | 5.34       |
| Howick local board area               | 149,400| 190900| 27.78                | 9.03       | 8.29       |
| Māngere-Ōtāhuhu local                | 82,700| 105900| 28.05                | 5.00       | 4.60       |
| Ōtara-Papatoetoe local                | 90,500| 108600| 20.00                | 5.47       | 4.72       |
| Manurewa local board area             | 100,900| 127600| 26.46                | 6.10       | 5.54       |
| Papakura local board area             | 61,100| 95000  | 55.48                | 3.69       | 4.13       |
| Franklin local board area             | 77,700| 146900| 89.06                | 4.70       | 6.38       |