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Background

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Population projections should not be mistaken for predictions. As Covid-19 has highlighted, no one has a crystal ball, but we can model how the population of Central Hawke's Bay District is likely to change based on historical trends and by making clear, transparent assumptions. The scenario approach we have taken allows for modelling how the future may look based on different underlying assumptions – when there is a degree of uncertainty about those assumptions.

Factors such as fertility rates and life expectancy tend to change slowly and are therefore relatively predictable. By looking at the current makeup of a population we can anticipate how births, deaths, and the age distribution of the population is likely to change in the future with a fair degree of confidence.

The biggest unknown for a district like Central Hawke's Bay is migration. People moving into and out of a district move a population off its "natural" course – which in the absence of migration would be driven entirely by births and deaths.

Migrants tend to be younger – in their working years – and have a higher proportion of families with children. Because of this fact, a net loss from migration can hollow out parts of a district's age profile and lead to a higher proportion of older residents. Conversely, a net migration gain can balance out the effects of an aging population, slowing the current aging trend brought about by historically low birth rates and longer life expectancies.

We have modelled three scenarios (low, medium, and high) based primarily on varying migration levels. Births and deaths are also varied across our scenarios but within a narrow bound, primarily because younger migrants have more children. But migration itself remains the key "lever" for our projections.

We have considered historical migration levels, which saw a net loss from migration between 1996 and 2013 turn into a healthy gain of around 200 people per year between 2013 and 2019. We explore the drivers of this turnaround and what it suggests for a post Covid-19 world.

Our low and medium scenarios anticipate lower migration in the near-term because of Covid-19. While Central Hawke's Bay District is well placed to ride out the crisis due to an agriculture-heavy economy, public health restrictions and behavioural factors could see fewer people moving into the district in the next couple of years. Central Hawke's Bay has a large commuter population, including to the nearby Napier-Hastings. Job opportunities for commuters will be fewer and farther between as the national economy deals with the economic fallout of Covid-19.

Our medium scenario is a middle-ground view of how things will unfold for Central Hawke's Bay District. In comparison, our High and Low scenarios are geared towards modelling "what ifs" that will result in higher and lower levels of migration to the district.

For the medium scenario, we have built in a recovery in migration from mid-2022, but migration remains below recent levels initially, then edges higher in the outer years. The result is a population that ages but less rapidly, having more families with children moving to the district and keeping up average household size. Under this scenario we project an increase of 2,300 people by 2031 – with further growth in the outer years.

In our low scenario migration returns to similar levels to pre-2013, with only a small net gain or a net loss from year to year. Under this scenario the population grows only slowly and peaks around the year 2030, by which time the aging population sees deaths begin to outnumber births. In the absence of significant migration, the population falls to below 2019 levels during the 2040's. However, the older population would lead to smaller households, so the total number of households in the district falls at a slower rate than the population after 2031.

Our high scenario asks "what if" migration recovered to levels above recent history post Covid-19, and we discuss reasons why higher migration might occur. We factor in no depression in migration surrounding Covid-19, with an average of 270 people per year entering the district (net of those moving out) through to 2031. These levels of migration are broadly consistent with recent experience post-2013 and would be based on an expectation that the factors that have been driving the district's appeal to migrants will still be there when the dust settles after Covid-19. Returning New Zealanders help boost migration in the short-term.

The result is much stronger population growth under our high scenario which feeds back through more births and a population that ages less rapidly.

When looking below the district level, Ōtāne continues to pick up proportionally more of the district's population growth, relative to its size. Under our medium and high scenarios, migrants are going to want to live in places that are accessible to Napier-Hastings (for out-of-district commuters) and the semi-rural feel of Ōtāne may appeal. However, unconstrained growth in a town like Ōtāne may change the character and not be popular with existing residents. The council has a key role here in either allowing or restricting development.

This point also applies to the coastal Porangahau, and likewise Takapau to the south-west on state highway two. Both these towns have seen noteworthy increases in population relative to their size over the last few years.

The larger towns of Waipukurau and Waipawa will continue to grow under our medium and high scenarios. Waipawa has been constrained in recent years by availability of land suitable for development and services. There is potential for Waipawa to pick up a higher proportion of growth than we are projecting if these constraints are addressed.

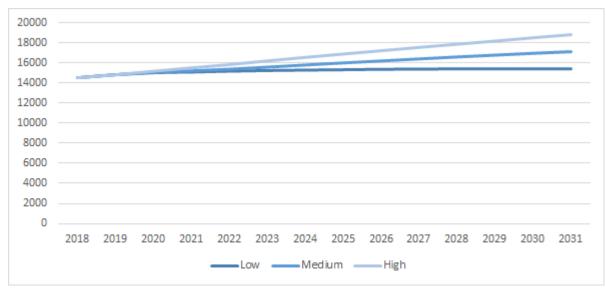


Figure 1: Projected Central Hawke's Bay District population by scenario to 2031

Background drivers and assumptions

Central Hawke's Bay, as with all districts in New Zealand, is intimately linked to the wider economic and social context that New Zealand operates in. In an increasingly connected and mobile world (recent Covid-19 events notwithstanding), New Zealand's regions are attractive to people that want the "best of both worlds", balancing lifestyle considerations with employment or business opportunities.

There are two main towns in Central Hawke's Bay – Waipukurau and Waipawa – with several smaller townships scattered throughout the district. Of these smaller towns, Ōtāne has proved a popular area for development, being located conveniently on state highway 2 north of Waipawa. The rest of the District is predominantly agricultural, and there is an overlap between agriculture (e.g. farm stays/Airbnb) and tourism.

Proximity to Napier-Hastings provides a wider range of employment opportunities for commuters and semi-remote workers, as well as flight connections through Hawke's Bay Airport.

Megatrends: high-level drivers of demographic change

Megatrends are transformative trends that operate at the national or international scale. These trends impact on the way people live, work, and operate within society. Consideration of these factors is therefore critical when dealing with medium and long-term planning timeframes.

The following key trends have been identified as having an influence on the current and future demographic makeup of Central Hawke's Bay District.

Urban-rural flight

Traditionally people have grouped together in cities to chase job and business opportunities not available in more rural areas. But there are increasingly factors that can draw some people out of the cities into the regions. These factors include:

- The ability to work from home part or full time for some employees
- Technological progress making physical distance less of an issue in some industries
- A change in preferences where rural living is viewed favourably by some people

This trend is likely to grow as technological factors and social acceptance allow more workers across a growing number of industries (not just core IT workers) to live away from their employer and/or clients.

Over the last few years, surveys have found a global trend towards more acceptance of remote working by big employers. There has also been a growing proportion of the workforce reporting that they are able to work from home at least some of the time (Owl Labs, 2019). In New Zealand about a third of employees report having worked from home, and about half have flexible work arrangements (Statistics New Zealand, 2018), which makes us look somewhat behind places like North America – suggesting there is further room for change.

Employers that hold out are likely to miss out on the best talent, as 80% of US workers reported they would change jobs if it meant they were able to work from home (IWG, 2019). The Covid-19

situation is also forcing many workers to work from home, some for the first time, which is likely to lead to a lasting increased acceptance of the practice (Brook, 2020).

Only a small proportion of urban workers need to move to the regions to have a significant impact on regional economies. This trend will not just lead to more people living in the regions, but a change in the makeup of the regional population. Those moving from New Zealand's major cities to the regions tend to be well educated with above-average incomes. They are younger on average and demand a different range of services to existing residents.

Technological change and automation in the labour market

Much has been written recently about automation and the effects on the labour market. This trend is particularly relevant in the agricultural sector for Central Hawke's Bay District.

There are divergent views among economists as to the extent of the change that is coming. But we have already observed a steady trend towards larger farming operations. Jobs that were done by gangs of people just decades ago (such as haymaking) have increasingly become a single person operating large machinery (and able to process large amount of hay or silage in a single day).

The technology that is being developed for autonomous vehicles has further implications for agriculture and will continue to drive down demand for unskilled and even skilled labour in the future - as has already been occurring.

More relevant for Central Hawke's Bay District is pip and stone fruit, which still requires a lot of labour at certain times of the year. However there does not seem to be any obvious barriers to further innovation in this sector, which could make the industry less labour-intensive.

Perhaps the most striking symptom of the changing face of rural New Zealand is the large number of rural schools that have closed in recent years around the country.

Meanwhile there is pressure on councils to open land for lifestyle developments, which tend to be closer to town and demand a different range of services than the rural workers of previous generations. Small rural holdings that would be unviable on their own often draw an income from tourists through "cellar-door" sales coupled with other services such as dining and accommodation. Anecdotal evidence suggests some of these operations are marginally profitable but survive thanks to dedicated owners who value the lifestyle as much as the income – often with one partner working off the property.

These small holdings also tend to be located closer to main townships or tourist trails, often clustering together for mutual advantage.

More Government involvement

Governments in the developed world, including New Zealand, have been progressively increasing their reach into private industry. This trend is currently most evident in the agricultural sector, where concerns about climate change have been driving a myriad of regulatory responses. These trends put further pressure on smaller farming operations, some of which may become unviable in the long term.

The current Covid-19 crisis has put upward pressure on the size of government and historical experience suggests this lift will outlast the crisis (The Economist, 2020).

Demographic trends

It is well documented that New Zealand's population is aging, and we are not alone in this trend. MBIE estimates by 2036 that 1 in 4.5 new Zealanders will be aged 65 plus - a 77% increase from 2016. This is not a trend that is expected to reverse after the "baby boomers" retire. Rather it is driven by a relentless improvement in longevity, and lower birth rates. Therefore, the increase in the median population age and proportion of over 65's is a structural shift.

New Zealand's workforce is becoming increasingly multicultural, a trend that is expected to continue. While this is most pronounced in the cities, regional areas also seeing the effects. International immigrants tend to be entrepreneurial and bring new services to their local communities such as ethnic restaurants and specialty retail offerings. Covid-19 may slow this trend in the near-term, but increasing multiculturalism is still expected to persist over the longer-term.

Climate Change and the Environment

The predicted impact of climate change, and accompanying policy responses, are increasingly important for long-term planning. Climate change is expected to lead to hotter, drier summers and more adverse events such as wind and hail (Ministry for the Environment, 2020). Additionally, environmental regulations, particularly regarding the effects of Agriculture, have become increasingly restrictive over the last few years and are only likely to get more restrictive.

For Central Hawke's Bay District, climate change and regulation have the potential to constrain GDP in the agricultural sector. A significant amount of work has been done on water security in Central Hawke's Bay, and examining the economic outcomes of not addressing these issues (see Hawke's Bay Regional Council, 2020).

While the impact of climate change on the agricultural sector could be significant without mitigation, the effects on the District's population are more complex. New industries are likely to emerge and technology will make access to markets easier and enable people to live remote from their clients of customers (see Technological change and automation in the labour market, page 7). The scenario approach taken to these projections allows us to model different futures for Central Hawke's Bay District based on a range of interacting factors.

Ethnic identity and culture in Central Hawke's Bay District

Central Hawke's Bay District has a higher proportion of people who identify as European, compared to New Zealand. At the time of the 2018 Census, 83% of the population identified as European, compared to 70% for New Zealand and 75% for Hawke's Bay region. Urban areas tend to be more ethnically diverse than the regions, and so this difference is not surprising. For example, only 54% of Auckland residents identified as European in 2018.

Table 1 shows identification with broad ethnic groups from the 2018 census for Central Hawke's Bay District, with Hawke's Bay region and New Zealand for comparison. Note that people can identify with more than one ethnic group, so percentages don't add to one hundred.

Ethnic group	Central Hawke's Bay District	Hawke's Bay Region	New Zealand
Asian	2.5%	5.0%	15.1%
European	83.1%	75.0%	70.2%
Maori	23.7%	27.0%	16.5%
Middle Eastern/Latin American/African	0.3%	0.6%	1.5%
Other ethnicity	1.1%	1.1%	1.2%
Pacific Peoples	2.9%	5.6%	8.1%

Table 1: Share of population by ethnic group (2018 census, usually resident population)

A significantly higher proportion of Central Hawke's Bay District's residents identify as Māori (24%) compared to New Zealand (17%). For Hawkes Bay region, the percentage identifying as Māori is even higher – at 27%.

Hawke's Bay is the traditional heartland of the Ngāti Kahungunu Iwi – currently headquartered in Hastings and the third largest Iwi by population. The region has a long and rich Māori heritage, and Ngāti Kahungunu is active in areas such as social services, environmental and natural resource management, education, and commercial activities.

Table 2 shows how these figures have changed since the censuses in 2006 and 2013. The European ethnic group has not changed by as much as these numbers suggest. The lower figure for European in 2006 was due to a campaign to get people to put "New Zealander" down on their census form – which accounts for the larger "other" category in 2006. The percentage of residents identifying as Māori has lifted marginally between each census.

Ethnic group	2006	2013	2018
Asian	0.8%	1.4%	2.5%
European	74.5%	84.1%	83.1%
Maori	21.3%	22.2%	23.7%
Middle Eastern/Latin American/African	0.2%	0.3%	0.3%
Other ethnicity	12.7%	2.0%	1.1%
Pacific Peoples	2.0%	2.3%	2.9%

Table 2: Share of population by ethnic group in Central Hawke's Bay District (census years)

The percentage of people identifying as Asian in Central Hawke's Bay District has steadily increased since 2006 off a small base. New Zealand's proximity to Asia and strong economic growth in the Chinese economy in recent years have seen increasing numbers of people coming from Asia to work and study. In 2018, more than a quarter (28%) of Auckland's population identified as Asian – a big jump from 19% in 2006. Immigrants often end up influencing friends and family to visit or move to New Zealand – and some sponsor family members under special visa categories.

Most Asian immigrants have settled in the main centres as demonstrated by the Auckland numbers, close to friends and family of their own culture. But a small proportion have moved out to the regions. This trend is likely to continue and see the share of Central Hawke's Bay District's population identifying as Asian edge upwards in the future.

The Pacific Peoples ethnic group has been slowly growing and was still slightly larger than the Asian group in 2018. New Zealand has a special relationship with the pacific islands, including visa quotas

for Kiribati, Tuvalu, Tonga, and Fiji. Given this relationship and the existing Pacifica population in the district, we are likely to see further growth in Pacific Peoples in Central Hawke's Bay in the future. However, growth is likely to remain more muted than the Asian ethnic group.

Figure 2 shows how the percentage of Central Hawke's Bay District's population born overseas has risen since 2006 but remains well below New Zealand and slightly below Hawke's Bay Region.

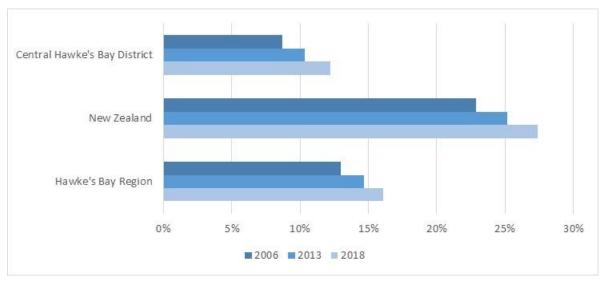


Figure 2: Percentage born overseas (census years)

Current situation

How Has the Outlook for Central Hawke's Bay District Changed?

Population growth in Central Hawke's Bay District over the last two years has exceeded expectations. The following table compares recent population estimates with Statistics New Zealand population projections published in 2017.

	F	Estimated*		2017 projections (Stats NZ)			
Area	Ľ.			201	.8	202	3
	2013	2018	2019	Medium	High	Medium	High
Central Hawke's Bay district	13,250	14,550	14,850	13,850	14,150	13,900	14,500
Otane ¹	540	669	710	580	590	580	600
Waipawa	2,060	2,150	2,180	2,090	2,140	2,090	2,190
Waipukurau ²	4,050	4,520	4,580	4,130	4,220	4,140	4,340

Table 3: A strong showing: actual vs projected population growth in Central Hawke's Bay District

*estimate as at June, provisional from 2018; 1: SA1 aggregation; 2: New SA2 Areas include west of the airport

By 2018, Central Hawke's Bay District and all three centres shown had already surpassed the high growth scenario for 2023. The key reason for this divergence was a sudden increase in migration that was not factored into these projections.

Migration will naturally then form a big part of the picture for our projections. We will discuss the factors that will influence migration, and model three diverse levels of migration and the effects of those on the population of Central Hawke's Bay District.

The economy of Central Hawke's Bay District

The Ministry of Business, Innovation, and Employment (MBIE) produces estimates of real (inflationadjusted) GDP, which are useful for comparing the relative performance of regional economics. GDP is a measure of value-added, and a proxy for economic activity within a region.

Figure 3 shows real GDP growth in Central Hawke's Bay District, compared to New Zealand as a whole. Central Hawke's Bay District was particularly hard hit during 2006-2008 by a widespread drought and weak agricultural exports. But when New Zealand was struggling with the Global Financial Crisis, agriculture-heavy Central Hawke's Bay was in the initial stages of a recovery. However economic growth in Central Hawke's Bay District has fluctuated since.

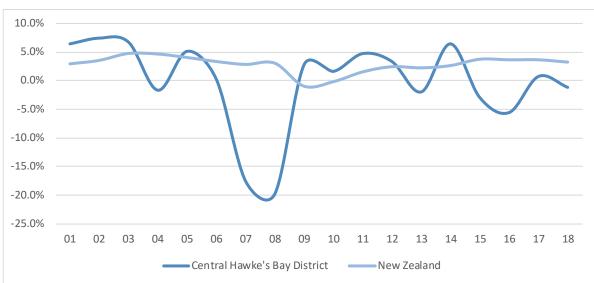


Figure 3: MBIE real GDP estimates – annual growth rate

The importance of agriculture to the Central Hawke's Bay economy – over 30% of GDP in 2017 compared to 4.2% for New Zealand – makes it particularly vulnerable to adverse growing conditions and conditions in export markets. But conversely, agriculture will make Central Hawke's Bay District more resilient to the Covid-19 crisis as the world and the country still need to eat.

The Hawkes Bay regional economy is less reliant on agriculture, with agriculture making up only 9% of the region's GDP in 2017. Hawke's Bay region has a larger service sector with "Professional, Scientific and Technical Services" making up 4.7% of GDP in 2017 against 2.5% for Central Hawke's Bay District. This is but one example of nearby industry diversity suggests suggesting that residents within Central Hawke's Bay District who are commuting to places like Napier and Hastings have a wider range of employment opportunities.

GDP is only part of the picture for Central Hawke's Bay District's economy, as it measures where production is occurring. Commuters who earn their income outside the district will contribute to Central Hawke's Bay District in many ways, socially, culturally, and financially. There can be a delay in people moving to the district and bringing income and spending power, and a lift in core economic

indicators. While MBIE GDP estimates currently only go up to 2018, we have seen positive signs in employment indicators in the latest years – as discussed in the employment section following.

The propensity of commuters to spend money they earn outside Central Hawke's Bay within the District depends to a large degree on what retail offerings and other services are available close to their place of residence. Once an area has a critical mass of commuters it can lead to more local employment and business opportunities, such as retail, entertainment, and dine-out options. These commuters also need to send their children to school and visit the doctor occasionally. We examine commuting more closely in the following section.

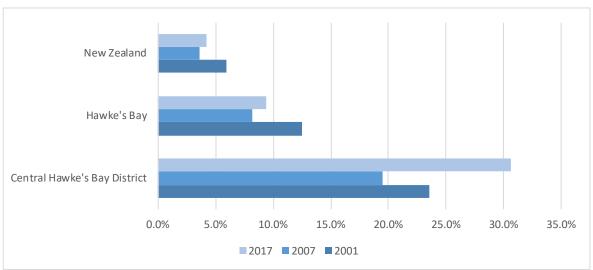


Figure 4: Agriculture as a percentage of total (nominal) GDP

What industries do people work in?

Central Hawke's Bay District has a unique mix of agriculture and service industries. Nearby Napier and Hastings offer a wider range of non-agricultural industries.

Table 4: ANZSIC 1-digit industries by employee count in 2019

Industry (4-digit)	Central Hawke's Bay District		Napier-Hastings		Hawke's	
					Region	
Meat and Meat Product Manufacturing	1,150	18.9%	1,470	2.0%	3,200	3.9%
Sheep, Beef Cattle and Grain Farming	750	12.3%	665	0.9%	2,100	2.6%
Fruit and Tree Nut Growing	640	10.5%	5,330	7.3%	6,000	7.3%
Agriculture and Fishing Support Services	360	5.9%	3,160	4.4%	3,600	4.4%
School Education	270	4.4%	3,450	4.8%	4,000	4.9%
Supermarket and Grocery Stores	190	3.1%	1,740	2.4%	2,050	2.5%
Dairy Cattle Farming	160	2.6%	120	0.2%	310	0.4%
Road Freight Transport	120	2.0%	1,000	1.4%	1,150	1.4%
Residential Care Services	110	1.8%	2,160	3.0%	2,300	2.8%
Other Food Product Manufacturing	110	1.8%	165	0.2%	270	0.3%
All others	2,240	36.7%	53,340	73.5%	57,020	69.5%
Total Industry	6,100		72,600		82,000	

Source: Statistics New Zealand Business Demography

But despite agricultural industries feature highly when we look at where people worked in 2019, there has not been a significant increase in employment in agriculture over the last ten years. We will consider this point next.

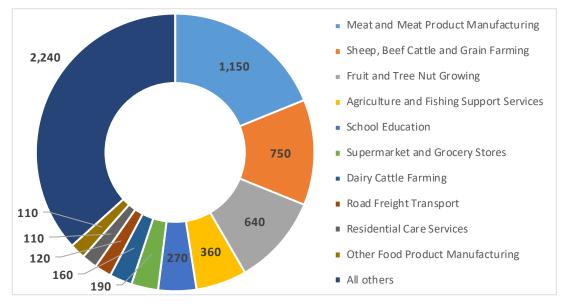


Figure 5: Employee count by ANZSIC 1-digit industry in Central Hawke's Bay District, 2019

Job creation in Central Hawke's Bay District and surrounding areas

A key consideration for planning is which industries are creating jobs and which are static or declining in terms of employee count. The following table shows job creation by top-level ANZSIC industry in Central Hawke's Bay District as well as nearby Napier-Hastings and Hawke's Bay Region as a whole.

Business demography statistics show a total of 800 jobs were added in Central Hawke's Bay by all industries (in net terms) in the three years to 2019. In contrast Napier-Hastings added 5,900 employees, suggesting opportunities for commuters have increased in recent years as well as employment opportunities within Central Hawke's Bay District.

Agriculture, while still vitally important to the economy (see Figure 4) was not the largest creator of jobs over the last three years. This is not a unique or surprising situation for Central Hawke's Bay. Agriculture across New Zealand's regions has experienced good growth in output over the last few decades. However, it has become less labour-intensive and so employment levels have not grown in line with output. Automation has also constrained employment levels in food processing. At the same time, logistical, wholesale and retail trade has increasingly become concentrated in larger population centres, at the expense of these sectors in small provincial towns.

IndustryName	Central Hawke's Bay	Napier- Hastings	Hawke's Bay Region
Manufacturing	490	600	900
Agriculture, Forestry and Fishing	150	700	500
Construction	50	1,150	1,200
Professional, Scientific and Technical Services	40	550	650
Public Administration and Safety	30	700	700
Administrative and Support Services	25	250	300
Financial and Insurance Services	20	10	-
Electricity, Gas, Water and Waste Services	20	115	130
Retail Trade	10	400	400
Other Services	10	120	100
Accommodation and Food Services	-	600	550
Wholesale Trade	-	290	300
Arts and Recreation Services	-	(50)	(100)
Rental, Hiring and Real Estate Services	-	140	150
Mining	(5)	(21)	(25)
Information Media and Telecommunications	(7)	(140)	(150)
Health Care and Social Assistance	(10)	100	200
Education and Training	(20)	200	100
Transport, Postal and Warehousing	(20)	400	350
Total Industry	800	5,900	6,400

Figure 6: Employee count change by ANZSIC 1-digit industry, 2016-2019 (Business Demography)

The 800 jobs added over the last three years only tell part of the story for Central Hawke's Bay District. Prior to 2016, employment in the district was significantly weaker, with a contraction of 900 jobs between in the three years to 2016 – even as Napier-Hastings added 3,000 jobs. The significant uptick in migration we saw in Central Hawke's Bay District after 2013 is likely due to a combination of the healthy Napier-Hasting job market (we discuss commuting in more detail soon) and the recent turnaround in employment within the district itself.

Another way a strong Napier-Hastings economy can benefit Central Hawke's Bay District is when nearby households with disposable income spend some of it on goods and services produced in Central Hawke's Bay District. Most key areas in wider Hawke's Bay are within an hour's drive of each other, making day trips from Napier-Hasting into Central Hawke's Bay District quite accessible. There is significant opportunity for Central Hawke's Bay district to tap into this market by providing things to do and see.

Housing affordability

Housing in the regions tends to be more affordable than the main centres, even when differences in income are considered. Using median household income data from the 2018 Census and the Household Economic Survey, along with CoreLogic sales data provided by the Ministry of Housing and Urban Development (HUD), we can clearly see differences in affordability.

The following graph shows the cost of a house relative to income for Central Hawke's Bay District alongside Napier-Hastings, along with Auckland as a comparator. A higher multiple means housing in the region is less affordable.

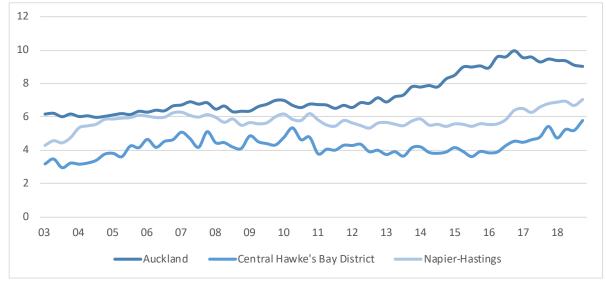


Figure 7: Housing (un)affordability: Median house sales price/Median household income, 2003-2018

In the December quarter 2018, a median house sold in Central Hawke's Bay District was sold for 5.8 times the median household income in the district. This data shows that houses being bought and sold in Central Hawke's Bay District have been significantly more affordable than Auckland – where a median house went for 9.0 times the median household income. Houses were also more affordable than Napier-Hastings, where the multiple was 7.0 times.

Table 5: K	ey housing	market	indicators
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Area	Affordability	Median Sales Price	Median HH Income
Auckland	9.0	852,250	94,200
Central Hawke's Bay District	5.8	352,500	60,700
Napier-Hastings	7.0	475,000	67,700

Many workers commute to Napier and Hastings (more on commuting in the following section) and cheaper housing is a key consideration for commuters. The comparison with Auckland also lends support to the anecdotal reports of cashed-up Auckland homeowners moving to regions like Central Hawke's Bay District.

Even if Central Hawke's Bay District does not attract homeowners directly from Auckland or other cities, there can still be a "halo effect" from people moving out of Napier-Hastings (where migrants into the area may first settle).

Social housing pressures

The Ministry of Social Development reported in December 2019 that there were 42 applicants on the housing register. There were 1030 applicants in the rest of Hawke's Bay Region. The Housing Register represents applicants who have been through the assessment process and deemed eligible,

Source: Housing and Urban Development (HUD), Statistics NZ

and who are waiting to be matched to a property. MSD reported in 2018 that there were only 34 social housing tenancies in the District.

Prior to 2017, the number of applicants waiting for a house in Central Hawke's Bay District had not broken single digits since the series started in 2014. This big lift off a small base suggests that recent house price growth has put pressure on social housing in Central Hawke's Bay District.

Tenure of Households

Figure 8 shows the percentage of house buyers by classification. While the proportion of first home buyers has fallen slightly since 2018 as prices have continued to climb, there is a lot of noise in the series. It appears that home ownership remains withing reach of many in the district.

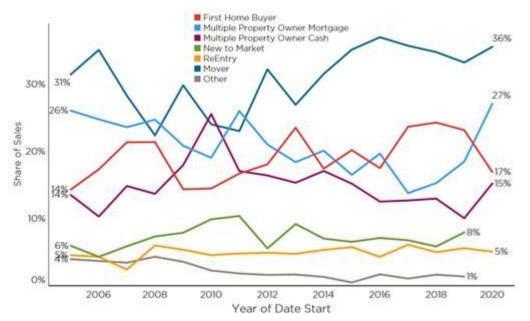


Figure 8: House buyer classification in Central Hawke's Bay District (CoreLogic)

The proportion of people who do not own their dwelling (including in a family trust) has fallen slightly between the 2006 and 2018 censuses in Central Hawke's Bay District. In the near-term the effects of Covid-19 are expected to see real house prices slip across the country which will improve the affordability of home ownership. Nevertheless, this trend may be balanced by income uncertainty which will limit the extent to which first home buyers can take advantage of lower prices. The net effect is that dwelling ownership is assumed to remain constant over our planning horizon.

Central Hawke's Bay District has a higher proportion of homeowners in 2018 than New Zealand as a whole. In New Zealand, 35% of people in 2018 did not own their usual residence, while in Hawke's

Bay Region this figure was 33.5%. Higher levels of home ownership support the idea that housing is a factor for people deciding to move to the region.

Table 6: Tenure of households in Central Hawke's Bay District

	2006	2013	2018
Dwelling owned or partly owned	51%	50%	55%
Dwelling not owned and not held in a family trust	31%	30%	28%
Dwelling held in family trust	18%	21%	18%

Commuting patterns in Central Hawke's Bay District

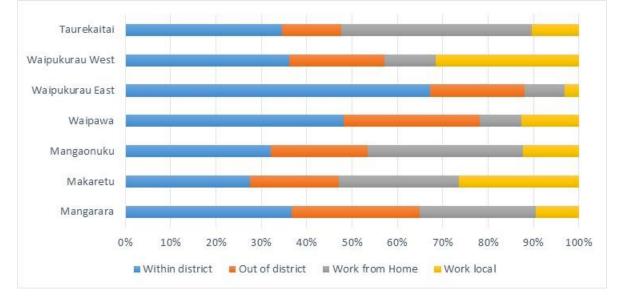


Figure 9: Propensity to commute: Percentage of workers by SA2 area, 2018

Understanding commuting behaviour is a key part of forecasting population growth and where new growth may be concentrated. Table 7 takes data from the 2018 census, using the new Statistical Area 2 definitions (see appendix Geographic boundaries on page 41).

We can see that, as one might expect, areas more isolated from main urban centers have a significantly higher proportion of remote/home-based workers. On census day, 42% of workers in the rural Taurekaitai area (to the South-East) worked at home on census day, followed by 34% in Mangaonuku – also a rural area. This compares with 9.2% in Waipawa and 8.8% in Waipukurau East. While agricultural operations with live-in owners and staff clearly influence these figures, lifestyle properties also tend to be popular with professionals who have the option to work remotely.

Twenty two percent (more than 1 in 5) of commuters in Central Hawke's Bay commute out of the district, with commuters in Waipawa most likely to do so (30%), followed by Mangarara (which includes Ōtāne) at 28%. Proximity to Napier-Hastings and lack of local options for employment is associated with higher rates of out-of-district commuting.

	Commute out Worl		Work	Work		Commute
SA2 Area	Within	Out of	from	local	Total	
	district	district	Home	IUCal		in
Mangarara	483	372	336	126	1,317	573
Makaretu	375	267	363	360	1,365	1407
Mangaonuku	180	120	192	69	561	330
Waipawa	501	312	96	132	1,041	492
Waipukurau East	573	177	75	27	852	180
Waipukurau West	441	255	138	384	1,218	1440
Taurekaitai	357	135	432	108	1,032	633
Central Hawke's Bay*	-	1,635	1,629	4,119	7,383	6063

Table 7: Commuter flows from Central Hawke's Bay District

Of the out-of-district commuters from Central Hawke's Bay District, Napier-Hastings is the most popular destination. There has been a significant increase in out-of-district commuting since the 2013 census, from 17% to 22% of commuters. There has also been a small rise in the percentage of home-based workers (from 20% to 22%). This change occurred against a backdrop of higher levels of migration during this period.

Table 8: Employed Central Hawke's Bay District population by workplace address (2018)

Workplace address	Commuters
Central Hawke's Bay District	5,748
Hawke's Bay Region not further defined	909
Hastings District	504
Napier City	120
Tararua District	42
Auckland	9
Palmerston North City	6
Wellington City	6
New Zealand	7,383

Table 8 shows that very few Central Hawke's Bay District residents commuted to Palmerston North in 2018 – note these low counts are randomly rounded to base 3 to protect confidentiality. The Saddle road upgrade, due for completion in 2027 could make this option more viable. However, the driving time is still long for a self-drive commute (currently 1 hour 20 minutes even from Takapau). Housing affordability is slightly better in Palmerston North and so there isn't the same incentive to make the commute.

Demographic projections

Squillions have prepared population and household growth projections for Central Hawke's Bay District covering the Long-Term Plan 2021-2031 period, as well as 5-yearly out to 2051. The projections consider the historical growth and current trajectory, factoring in the wider economic and social trends discussed in previous sections. The projections are demand-focused, modelling where growth is likely to occur in the absence of constraints on, for example, the supply of land or services.

The 2018 census gives us an anchor point for our projections, and Statistics New Zealand has published population estimates for Central Hawke's Bay District in 2019. Building consent information and recent trends have been used to estimate household numbers in 2019.

For the year to June 2020, building consent data and recent trends suggest growth was tracking ahead of 2019. However, Covid-19 has increased the level of uncertainty in the near-term, as discussed in the background section.

Interpreting scenarios

Changes in assumptions can lead to big differences in projected outcomes, especially in the outer years of the forecast horizon. There are three key "levers" for the population forecasts:

- Births: Birth rates have been trending downwards as the population ages and people choose to have fewer children. While birth rates tend to change slowly and are therefore relatively predictable over the short-term, slight changes can compound over the longer-term. There has been a trend towards smaller families in New Zealand as in much of the western world with Statistics New Zealand reporting a record low of 1.81 births per woman in 2017 compared to a peak of 4.31 in 1961.
- Deaths: The aging population will see the number of deaths (relative to the population) trend upwards. However, people are living longer which softens the increase. For the last hundred years the rise in life expectancy has been remarkably consistent and predictable. Projecting current trends forward implies that people in Central Hawke's Bay District will live an average of 5 years longer by 2051 than at present.
- Migration: The effects of migration can dwarf a natural increase or decrease in the population. Migration levels are therefore the biggest difference between our three scenarios. Over the long-term, even relatively small shifts in migration can cause vastly different growth paths as they compound over time and feedback in more births.

Anticipating migration

When we discuss migration in the context of Central Hawke's Bay District, we are referring to both international migrants, and people moving into the district from other parts of New Zealand.

Following the Global Financial Crisis, the population of Central Hawke's Bay District remained static until 2013, thanks to negative net migration. Between 2013 and 2019 an estimated 200 people per year moved to the district. We attribute this turnaround in migration to several factors:

- Signs of a lift in employment and economic growth in the Central Hawke's Bay District economy (see page 11)
- Technological change and its effects on remote working and commuting patterns (see page 7).
- A preference shift in the general population a "back to basics" ideal making life in the regions more attractive to some people.
- A sustained lift in real house prices in the cities making regional housing markets more attractive particularly to cashed-up buyers from Auckland or other main centres.

Varying levels of migration across our three scenarios does not just affect the total number of people living in the district. We also need to consider how various levels of migration change the makeup of the population.

More births and fewer deaths will, all else equal, lead to a younger population. But changes in migration also have an effect due to migrants tending to be in their working years, often with children. For this reason, the proportion of over 65's (for example) varies quite considerably across our scenarios, with the high scenario assuming both more births and more (relatively younger) migrants.

In support of this assertion (migrants being younger on average), the following table, taken from the 2018 Census, shows how over 65s in Central Hawke's Bay District were much less likely to have moved residence in the five years to 2018. More than half (64%) of over 65s in Central Hawke's Bay District resided at the same residence 5 years earlier. This percentage was significantly lower for other age groups, at only 24% for those aged 15-20 years.

Age group	Same residence	Elsewhere in New Zealand	Overseas	Not born /homeless
All ages	42.8%	46.7%	2.7%	7.8%
Under 15 years	25.1%	36.6%	2.8%	35.4%
15-29 years	23.6%	72.3%	4.1%	0.0%
30-64 years	47.3%	49.4%	3.2%	0.1%
65 years and over	64.4%	34.9%	0.5%	0.1%

Table 9: Age group by usual residence 5 years ago in Central Hawke's Bay District, 2018 census

We can see in Table 8 that international migrants during this period were most likely to be aged between 15 and 29 years, with only half a percent aged over 65. The propensity to move to a new house (both within and into the district) drops rapidly as we move up the age groups.

We also know from the 2018 census that 42% of Central Hawke's Bay District residents in 2018 resided outside the district five years earlier. This 42% includes those moving into the district for the first time and those returning.

Although most migration into Central Hawke's Bay District is from other parts of New Zealand, international migration levels still drive this migration indirectly. For example, international migrants help prop up housing markets in the main centres and thus drive "halo effects" in the regional housing markets.

In the short term (next 1-2 years) the level of migration to Central Hawke's Bay District is especially hard to predict due to the ongoing global pandemic. Our high scenario assumes returning New Zealanders and a rebound in activity lead to a post lockdown "bounce" in people moving to the district (see What about Covid-19?, page 4). Our medium and low scenarios take a more moderate view due to the downside risks (such as moving back to higher alert levels) and the significant economic shock that has occurred.

Forecasting households

The aging population and smaller family sizes are expected to put downward pressure on the average household size over the next 30 years.

However, the current economic uncertainty leads to a slight increase in the average household size towards 2025/26 under our medium and high scenarios. After the Global Financial Crisis, the average household size rose over the following years (Kiernan, 2017). The Covid-19 crisis is expected to affect people's income and financial security in a similar way.

The lift in household size over the next few years in our medium and high scenarios is only of a small magnitude due to growing demographic pressures from an older population. These same pressures see the average size ease over the outer years in our medium scenario.

Projection vs prediction

A projection is not a prediction of the future, but a model of how things will unfold using different sets of assumptions. Central Hawke's Bay District Council may react to scenarios by undertaking investment and policies that encourage or discourage migration, moving between scenarios. The district may also move from a high growth to low growth track (or vice versa) due to sudden, unexpected changes in migration patterns. It is therefore a mistake to say a scenario is "right" or "wrong" as things unfold, rather each scenario should serve as a baseline for planning when considering other "what if" questions that may change the outcomes.

By the outer years of the planning horizon the district is expected to rely on migrants to maintain and grow its population. Falling birth rates and an aging population are expected to see the natural increase in Central Hawke's Bay District's population turn negative sometime between 2030 (low scenario) and 2040 (high scenario). Our three migration scenarios therefore present three very different views of the future, as in the low growth scenario weak to negative migration results in an overall decline in the population.

Short-term outlook and subdivision activity

Specific considerations affecting the outlook for the next 1-2 years include covid-19 (discussed under the next heading - What about Covid-19?) and the level of delayed building activity. Building activity that would have occurred in the absence of a lockdown may cause a stronger rebound if New Zealand is able to maintain its current path and not return to a lockdown situation.

One of the ways we have assessed the level of delayed or "pent-up" demand for residential building, and how quickly building activity may rebound, is to review recent resource consent applications, where there are still subdivided lots that haven't been taken up – i.e. building consents have not been yet issued. Our estimates of available lots are based on resource consents where the number of building consents issued is below the number of lots created (allowing for existing dwellings where identified).

We have identified that there are up to 161 lots in the main towns where resource consents have been submitted (new developments and subdivisions of existing lots) but a building consent has not yet been issued. This count includes some cases where resource consent is still being processed and/or titles have not yet been issued.

Ōtāne has an estimated 15 outstanding lots within the town boundary. Of these, 8 are in the Tiffin Park subdivision, with the balance being made up of cases where one or two lots have been subdivided from existing sections. Over the last few years, building consents in Ōtāne tend to follow shortly after titles are issued, suggesting sections that come on the market in Ōtāne usually get snapped up quickly.

Waipawa has 42 outstanding lots. As with Ōtāne, many are small infill subdivisions, but there is often a longer lag between titles and building consents. Some lots with titles issued as far back as 2016 have not yet seen building consent applications. Waipukurau has 104 lots outstanding, with 36 being in the Belgrove Drive subdivision – a 37 lot subdivision that received resource consent in 2019 but only 1 building consent has been received to date.

Development potential does not translate automatically into population growth. Even if the land is developed, services established, and ready for building, the market can turn. But despite the current uncertain climate, we see factors that could continue to drive demand.

Post-lockdown we are seeing many New Zealander's returning home, which provides a mechanism for take up of these lots and other development in the near-term (more on that trend soon). However, downside risks remain due to the significant economic shock from Covid, and the risk of further restrictions if there is another outbreak.

Our high scenario assumes strong take-up of these outstanding lots, as well as potential for further development. Our medium and low scenarios take a more moderate view of the next 1-2 years given the significant economic challenges that remain.

Table 10: Undeveloped	subdivided	lots	identified
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	Total	Titles issued
Ōtāne	15	11
Waipawa	42	26
Waipukurau	104	19

With just over half of the growth occurring in the main towns, Table 10 shows that there are enough sections in the subdivision pipeline to accommodate at least the next two years of household growth even under our high scenario.

What about Covid-19?

The present situation surrounding Covid-19 has created a high degree of uncertainty for planners. We have factored in lower migration over the next couple of years in our medium and low scenarios. Our high scenario assumes a best-case Covid-19 response, and that returning New Zealanders and a rebound in building activity see population growth continue to track in line with recent historical trends.

From 2022 onwards, people continue to move into Central Hawke's Bay District as we have seen since 2013 and have modelled this at different rates for our scenarios with consideration to historical levels.

Housing market downturns tend to affect regional markets more in relative terms. While the unfavourable economic climate is expected to suppress construction activity in the near term, history suggests that the differential in affordability between Central Hawke's Bay District and the main centres will survive the crisis.

Central Hawke's Bay District is well-placed to weather the downturn due to its reliance on agriculture, but the effects of a weaker job market (particularly in Napier-Hastings) will be felt.

Due to this heightened uncertainty, we recommend checking in at least annually with these projections to see how things are evolving. Should the effects of Covid-19 be more pronounced than expected, the district may track closer to the low scenario, at least initially.

One factor that has emerged post-lockdown is the number of returning New Zealanders. It is estimated by Statistics New Zealand that as many as 1 million New Zealanders lived abroad in 2012 – though it is hard to be certain on the true number (Statistics New Zealand, 2012). This estimate considers both country of birth and those with dual citizenship – i.e. those that have the right to return under the current rules.

Statistics New Zealand provisionally estimated that net migration (permanent and long-term arrivals less departures) for New Zealander citizens was 11,100 for the year to April. This figure was -6,450 for the year to 2019 and has been negative on an annual basis since the series began in 2002 – representing a big turnaround. Total net migration (all nationalities) was also up from 49,640 (2019) to 76,550 in the year to April 2020.

While foreign nationals tend to settle in Auckland or other main centres, returning New Zealanders often have family or social connections that draw them to the regions.

Medium scenario: business as usual

This is our central scenario, characterized by steady migration levels and an ageing population. We used historical trends and assumptions about the future to produce a set of projections assuming no major policy interventions (at central or local government level).

Key assumptions (medium scenario)

- The population steadily ages, although this is tempered somewhat by incoming migrants (national and international) which have a higher proportion of families and working-age people.
- Birth rates fall as the population ages, but this is also limited by new migrant families which are younger on average than the resident population of Central Hawke's Bay District.
- The number of people dying each year relative to the population rises slowly out to 2051, but this rise is limited by longer life spans and a steady flow of younger migrants.
- Net migration (which has averaged about +200 people per year since 2013) drops in the short-term but averages approximately 140 people per year between 2020 and 2031.

We have allowed for a drop-off in migration in the near term due to uncertainty around the Covid-19 crisis, which will encourage people to stay put. This drop mostly shows up in the year to June 2021. It is difficult to predict the net effect, as fewer people moving to New Zealand will be offset by returning New Zealanders. It is also possible that the regions will be perceived "safer" than the cities when this is over. Those that have family in regional New Zealand may choose to move there.

Highlights (medium scenario)

- Central Hawke's Bay District adds 2,300 people by 2031, and a total of 4,600 people by 2051.
- The average growth rate in the population between 2019 and 2031 is 1.2%pa, which is lower than the average between the 2013 and 2018 censuses (2.1%pa).
- The proportion of the population aged over 65 rises from 20% in 2019 to 27% in 2031 and continues to rise to 32% by 2051.
- The number of households is projected to grow to 6,340 by 2031, an increase of 920 from the 2018 census, and reach 7,480 by 2051.
- The average household size rises slightly to 2.8 in 2026 then eases back to 2.7 again and remains there until 2031.

Population projections

We have discussed the fact that migration can lead to a younger age profile for the population than would have otherwise eventuated. However, demographic pressures (see Demographic trends, page 8) still see an aging population under our medium scenario – just at a slower rate than what would occur in a low or negative migration scenario.

The following table shows the projected population for Central Hawke's Bay District, total and broad age group, under the medium scenario.

Year	Total	0-14 years	15-39	40-64	65 years
I Cal	TUtal	0-14 years	years	years	and over
2018	14,550	3,000	3,550	5,050	2,900
2019	14,850	3,100	3,700	5,050	3,000
2020	15,110	3,160	3,710	5,110	3,140
2021	15,240	3,190	3,690	5,100	3,260
2022	15,400	3,210	3,700	5,100	3,390
2023	15,610	3,250	3,720	5,100	3,540
2024	15,820	3,280	3,760	5,090	3,690
2025	16,030	3,310	3,790	5,080	3,850
2026	16,230	3,330	3,830	5,060	4,010
2027	16,430	3,350	3,870	5,050	4,170
2028	16,620	3,370	3,900	5,040	4,310
2029	16,800	3,380	3,920	5,050	4,450
2030	16,980	3,390	3,940	5,070	4,570
2031	17,140	3,400	3,940	5,110	4,680
2036	17,820	3,400	3,930	5,290	5,200
2041	18,330	3,390	4,020	5,310	5,610
2046	18,780	3,440	4,160	5,330	5,850
2051	19,430	3,510	4,260	5,450	6,210

Table 11: Central Hawke's Bay District projected population (medium scenario)

Despite the economic shock and restrictions on movement from Covid-19, the Central Hawke's Bay District population is still likely to sit above 15,000 in June 2020 – because most of this growth would have already occurred before restrictions on movement hit.

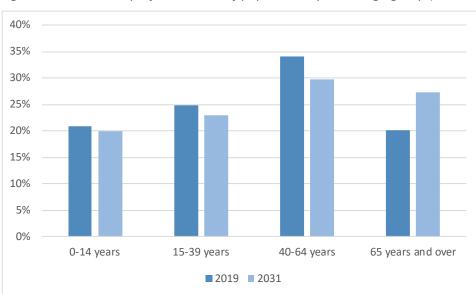


Figure 10: Actual and projected share of population by broad age group (medium scenario)

Household projections

Table 10 shows projected household numbers in Central Hawke's Bay District under the medium scenario. We have incorporated an easing in the average household size from 2026 due to the aging population. However, this trend is slowed by the effects of a younger age profile for migrants.

The 2018 Census revealed an average household size of 2.6 people, which shows household size has stayed higher than was previously projected (consistent with higher migration levels between 2013 and 2018). Our estimate of household numbers in 2019 (from building consents and recent trends) suggest the household size lifted further in 2019.

The statistics New Zealand projections published prior to the 2018 census had assumed a household size of 2.4 in 2018 (their medium scenario) – significantly lower than what eventuated.

Year	Total	Average
Tear	households	household size
2018*	5,418	2.6
2019E	5,570	2.7
2020	5,700	2.7
2021	5,730	2.7
2022	5,770	2.7
2023	5,830	2.7
2024	5,880	2.7
2025	5,890	2.7
2026	5,900	2.8
2027	6,020	2.7
2028	6,130	2.7
2029	6,220	2.7
2030	6,290	2.7
2031	6,340	2.7
2036	6,640	2.7
2041	6,950	2.6
2046	7,150	2.6
2051	7,480	2.6
811		dun - tri

Table 12: Central Hawke's Bay District projected households (medium scenario)

*Uses census household count and UR population

Housing market implications

Assuming the proportion of home ownership remains constant (as discussed in Tenure of Households, Page 16), the breakdown for tenure of usual residence under our medium scenario would be as follows:

Table 13: Probable breakdown by tenure: Central Hawke's Bay District (medium scenario)

Tenure	2018	2031	2051
Owned (inc. trust)	3,903	4,560	5,390
Not owned	1,515	1,780	2,090

High scenario: Let us move to Central Hawke's Bay

While we cannot ignore the effect Covid-19 is likely to have on Central Hawke's Bay District in the next 1-2 years, migration could recover quicker than anticipated. As discussed in the section What about Covid-19? (page 22) there could also be a boost to migration from returning New Zealanders if they have connections in the area.

The key difference between our high and central scenarios is higher levels of migration driven by people moving out of the main centres and returning from abroad. We know from the 2018 census that most people moving into Central Hawke's Bay District over the 5 years to 2018 moved from other areas of New Zealand. Only 2.7% of the population had resided overseas in 2003, from a total of 42% who had resided outside of the district.

We have also allowed for slightly higher birth rates and lower death rates, compounded by the fact that more migration will lead to a slightly younger population (and thus more births and fewer deaths even at similar fertility rates).

Key assumptions (high scenario)

- The population still ages, as with our medium scenario, however this trend is further limited by higher levels of migration.
- Birth rates fall as the population ages, with deaths overtaking births by the late 2030s. But the injection of younger migrants into the mix keep birth rates higher throughout our time horizon, compared to our medium and low scenarios.
- Net migration remains high despite the uncertain economic situation, averaging around 270 people per year between 2022 and 2031 –above recent historical levels.

Stronger levels of migration under our high scenario also feeds back into slightly higher birth rates and lower death rates (relative to the population size).

Highlights (high scenario)

- Central Hawke's Bay District adds 3,900 people by 2031, and a total of 9,100 people by 2051.
- The average growth rate in the population between 2019 and 2031 is 2.0%pa, which is comparable to the average between the 2013 and 2018 censuses (2.1%pa).
- The proportion of the population aged over 65 rises from 20% in 2019 to 26% in 2031. By 2051 over 65s make up 29% of the Central Hawke's Bay District population.
- The number of households is projected to reach 6,870 by 2031.
- From a base of 2.6 in 2018 (and an estimated 2.7 in 2019) the average household size rises slightly to 2.8 in the mid-2020s before easing back to 2.7 again.

Under our high scenario Central Hawke's Bay District adds 450 households over the next five years – an average of 90 per year. This may seem optimistic (even for a high scenario), but the number of new residential consents for the year to May was 88 – up 55% on the previous year – even with the level four restriction from March 23rd. Under our high scenario the level of building activity would need to continue to rise from pre-lockdown levels to accommodate this growth.

Population projections

The following table shows in detail how the population changes under our high scenario.

Year	Total	0-14 years	15-39 years	40-64 years	65 years and over
2018	14,550	3,000	3,550	5,050	2,900
2019	14,850	3,100	3,700	5,050	3,000
2020	15,190	3,178	3,740	5,144	3,128
2021	15,520	3,243	3,789	5,214	3,274
2022	15,840	3,308	3,836	5,277	3,410
2023	16,200	3,376	3,905	5,349	3,569
2024	16,550	3,440	3,980	5,405	3,735
2025	16,880	3,492	4,052	5,447	3,899
2026	17,200	3,542	4,112	5,486	4,061
2027	17,530	3,594	4,184	5,528	4,215
2028	17,840	3,643	4,254	5,577	4,376
2029	18,150	3,685	4,306	5,629	4,520
2030	18,470	3,729	4,360	5,705	4,666
2031	18,770	3,780	4,412	5,788	4,789
2036	20,130	3,928	4,580	6,198	5,424
2041	21,320	4,065	4,837	6,443	5,975
2046	22,470	4,265	5,138	6,691	6,387
2051	23,980	4,506	5,429	7,083	6,962

Table 14: Central Hawke's Bay District projected population (high scenario)

Given the population of Central Hawke's Bay District was static to falling between 1996 and 2013, the numbers in Table 12 may seem exceptionally optimistic. However, migration of around 200 people per year since 2013 has shown what is possible.

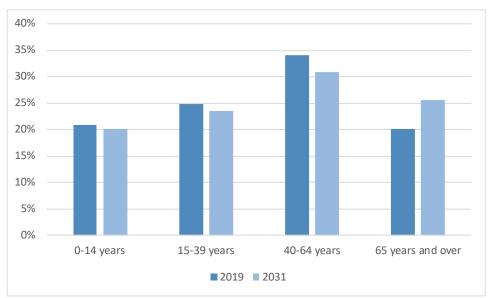


Figure 11: Actual and projected share of population by broad age group (high scenario)

Even when factoring in higher migration, the age distribution of the Central Hawke's Bay District population looks notably different by 2031 as presented in Figure 11. However, the jump in the

proportion of over 65s is of a much smaller magnitude under the high-migration model compared to the most recent Statistics New Zealand projections.

Household projections

Table 13 shows how household numbers are projected to change under the high scenario. The household size would follow a similar track to our medium scenario – with a slight lift in the near term due to the factors discussed under Forecasting households (Page 20). This increase in household size will see the total number of households in Central Hawke's Bay District grow at a slower rate than the population.

There is downward pressure on the household size beyond 2025 due to the aging population. However, this is partly offset by the younger age profile of migrants.

Year	Total households	Average household size
2018*	5,418	2.6
2019E	5,570	2.7
2020	5,650	2.7
2021	5,730	2.7
2022	5,820	2.7
2023	5,920	2.7
2024	6,020	2.8
2025	6,130	2.8
2026	6,260	2.8
2027	6,380	2.7
2028	6,490	2.7
2029	6,610	2.7
2030	6,720	2.7
2031	6,870	2.7
2036	7,370	2.7
2041	7,890	2.7
2046	8,410	2.7
2051	9,070	2.6

Table 15: Central Hawke's Bay District projected households (high scenario)

Housing market implications

Assuming the proportion of home ownership remains constant (as discussed in Tenure of Households, Page 16), the breakdown for tenure of usual residence under our high scenario would be as follows:

Table 16: Probable breakdown by tenure: Central Hawke's Bay District (high scenario)

Tenure	2018	2031	2051
Owned (inc. trust)	3,903	4,950	6,530
Not owned	1,515	1,920	2,540

Low scenario: Weak to negative net migration

Our low scenario models what would happen to Central Hawke's Bay District in the absence of significant levels of migration.

At time of writing, the most recent Statistics New Zealand projections assume a net loss of migration over the next 20 years. We have not made a net migration loss our central scenario due to the factors disused in the background section of this report. History suggests that some of the factors that have driven stronger migration post-2013 will persist even after the Covid-19 crisis. However, it is useful to model what would occur should fewer people move to Central Hawke's Bay District, and/or more people move away.

Weak migration could eventuate for a variety of reasons, such as a weakening Napier-Hastings job market, restricted international migration levels, or a weaker housing market in the cities. Low levels of migration can still see significant churn in a population as people move away and people take their place. The population will therefore not age in the same way as if it were complete cut off.

Between 1996 and 2013, the population of Central Hawke's Bay District fell slightly from 13,350 to 13,250. The natural increase in the population during this time was positive, but more people left the district than moved in. If we saw similar levels of migration in the coming years, the population of Central Hawke's Bay District is projected to peak by the late 2030s and subsequently begin to fall as the population ages and births outnumber deaths.

The low scenario, in the absence of significant migration, is therefore a very different future for Central Hawke's Bay District when compared to our medium or high scenarios.

Key assumptions (low scenario):

- The population ages rapidly in the absence of offsetting effects of younger migrants.
- The natural increase in the population turns negative around 2030, as the number of births falls below deaths.
- The number of people moving into Central Hawke's Bay District is largely cancelled out by people leaving the district. Net migration is weak to slightly negative across our time horizon.
- A greater proportion of retires and fewer migrant families sees the average household size remain lower than our other scenarios, persisting around 2.7 before slipping slightly post-2031.

Despite this being a downside scenario, it is not hard to imagine a return to pre-2013 migration levels in the current environment and thus useful to model the implications for the Central Hawke's Bay District population. A long, slow economic recovery after Covid-19 could turn off the tap of migrants from the cities.

Highlights (low scenario):

- The population of Central Hawke's Bay District grows only very slowly over the next ten years, adding just 600 people by 2031.
- Beyond 2031 the rate of natural increase turns negative, and in the absence of significant migration gains the population falls to 13,430 by 2051 a loss of 1,400 people from 2019.

- The average growth rate in the population between 2019 and 2031 is just 0.3%pa, which is comparable to the growth rate prior to 2013 but significantly down on post-2013 growth rates (2.1%pa average).
- The proportion of the population aged over 65 jumps from 20% to 29% by 2031 and 34% by 2051.
- The number of households is still projected to increase slightly over our forecast horizon. A smaller household size (due to more retirees and empty-nesters) helps push the total number of households up to 5,760 by 2031, before slipping back to 5,340 by 2051.

Population projections

Table 15 shows the full age breakdown and total population under our low scenario. With migration at low levels throughout the time horizon the population grows through to about 2029 only gradually. Beyond that Central Hawke's Bay District is largely at the mercy of demographic pressures, and the population slips in subsequent years.

Year	Total	0-14 years	15-39	40-64	65 years
			years	years	and over
2018	14,550	3,000	3,550	5,050	2,900
2019	14,850	3,100	3,700	5,050	3,000
2020	15,030	3,130	3,690	5,060	3,140
2021	15,100	3,130	3,670	5,030	3,270
2022	15,180	3,130	3,660	4,990	3,400
2023	15,240	3,110	3,650	4,940	3,540
2024	15,280	3,090	3,650	4,870	3,670
2025	15,320	3,060	3,650	4,810	3,810
2026	15,360	3,030	3,650	4,750	3,940
2027	15,380	2,990	3,640	4,690	4,060
2028	15,400	2,960	3,630	4,630	4,180
2029	15,410	2,930	3,600	4,590	4,280
2030	15,410	2,910	3,560	4,570	4,370
2031	15,400	2,890	3,510	4,550	4,450
2036	15,200	2,720	3,240	4,520	4,720
2041	14,800	2,490	3,100	4,380	4,830
2046	14,280	2,360	2,980	4,150	4,790
2051	13,430	2,180	2,770	3,860	4,620

Table 17: Central Hawke's Bay District projected population (low scenario)

Figure 12 shows how the age profile of Central Hawke's Bay District is expected to change by 2031 without the offsetting effects of a net migration gain.

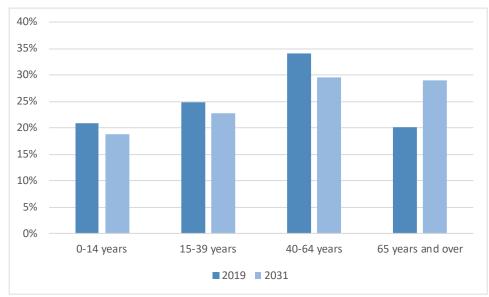


Figure 12: Actual and projected share of population by broad age group (low scenario)

Household projections

A population that is older on average could prop up the total number of households in the district even as population growth slows and begins to turn negative. This is quite intuitive, as one would expect an older population to lead to a higher number of "empty nesters" and single-person households.

Our low scenario also factors in slightly lower birth rates, predominantly due to the age profile of the population under this scenario but at the margin people could choose to have less children – accelerating the current trend and keeping household sizes lower all else equal.

In the absence of positive migration inflows, the total number of households is still expected to fall slightly from the mid 2030's. But the number of households falls at a slower rate than the population.

Year	Total	Average
Teal	households	household size
2018*	5,418	2.6
2019E	5,570	2.7
2020	5,670	2.7
2021	5,680	2.7
2022	5,710	2.7
2023	5,730	2.7
2024	5,740	2.7
2025	5,760	2.7
2026	5,770	2.7
2027	5,780	2.7
2028	5,770	2.7
2029	5,760	2.7
2030	5,750	2.7
2031	5,760	2.7
2036	5,780	2.6
2041	5,730	2.6
2046	5,590	2.6
2051	5,340	2.5

Table 18: Central Hawke's Bay District projected households (low scenario)

*Uses census household count and UR population

Housing market implications

Assuming the proportion of home ownership remains constant (as discussed in Tenure of Households, Page 16), the breakdown for tenure of usual residence under our high scenario would be as follows:

Table 19: Probable breakdown by tenure: Central Hawke's Bay District (low scenario)

Tenure	2018	2031	2051
Owned (inc. trust)	3,903	4,150	3,840
Not owned	1,515	1,610	1,500

How will growth be distributed within Central Hawke's Bay District?

These projections have been produced at a district-wide level, but we have also modelled how population growth might be distributed within key areas of interest in the district under each scenario. This section drills down to five towns, Waipukarau, Waipawa, Ōtāne, Pōrangahau, and Takapau. An estimated 56% of Central Hawke's Bay District's residents lived in these three towns in 2019. This percentage has edged slightly higher, from 55.3% in 2013, as growth in the district has favoured these towns.

These projections are based on unconstrained demand – assuming land is available for development where people want to live.

We assume that Commuters continue to locate in areas that are accessible to Napier-Hastings, leading to more growth occurring in Ōtāne (for example) in the high and medium scenario.

In the medium and high scenario urban areas would benefit from jobs growth and businesses locating together for mutual advantage. Some people want to live close to where they work. At the same time, migration into the district is likely to create steady demand for lifestyle properties outside the town boundaries.

In the low scenario, an older age profile reduces demand for rural properties, so the townships are projected to fair slightly better than the rural areas in terms of the number of households.

The effect of commuting

Based on historic trends, the more migration Central Hawke's Bay District experiences over the new few years, the greater proportion of commuting out of the district we would see. This includes remote workers or part time commuters, whose jobs might be based in Napier-Hastings or even further afield.

Because the propensity to commute out of district increases under our higher-migration scenario, we have factored this in in terms of where people may choose to locate.

Where might people choose to locate in Central Hawke's Bay District?

Table 18 shows how the population growth is distributed between our areas of focus if allowed to progress unrestricted.

As we have previously noted, these sub-district projections assume an accommodating environment for development. In the medium and high scenarios, towns are likely to need to make provisions for both new greenfield developments, and infill housing to accommodate population growth.

Our central and high growth scenarios project the share of the district's population living in these three towns increase slightly. However, a significant amount of growth also occurs outside the town boundaries.

Most districts in New Zealand have seen high demand for rural-residential and lifestyle developments in recent years. The economic downturn from Covid-19 is likely to suppress demand for lifestyle properties over the next couple of years or more. Longer term, the most desirable areas are likely to be those most accessible to where people work, including around Ōtāne and the main route north (see Commuting patterns in Central Hawke's Bay District, page 17). Pōrangahau, though remote, has the added attraction of being coastal.

Area	2019	Senerio	2031	2051	Change 2019- Change 2019-		
Area	2019	Selleno	2031	2051	2031	2051	
Waipawa	2,180	Low	2,220	2,090	40	(90)	
		Medium	2,360	2,520	180	340	
		High	2,507	2 <i>,</i> 852	327	672	
	4,580	Low	4,760	4,190	180	(390)	
Waipukurau		Medium	5,340	6,030	760	1,450	
		High	5,890	7,540	1,310	2,960	
	710	Low	770	700	60	(10)	
Ōtāne1		Medium	950	1,170	240	460	
		High	1,151	1,756	441	1,046	
	210	Low	230	180	20	(30)	
Põrangahau1		Medium	300	420	90	210	
		High	377	731	167	521	
		Low	650	530	30	(90)	
Takapau1	620	Medium	750	890	130	270	
		High	846	1,137	226	517	
Central Hawke's Bay	3ay 14,850	Low	15,400	13,430	550	(1,420)	
		Medium	17,140	19,430	2,290	4,580	
		High	18,770	23,980	3,920	9,130	

Table 20: Population growth scenarios for key urban areas

1: 2019 population for small areas estimated from 2018 census and partial indicators

Table 19 shows projected households (in occupied private dwellings) under each scenario. While we expect the average household size to lift in the near term (see previous section), the aging population will put downward pressure on the household size in the outer years. Urban areas are likely to see a small additional gain in households in the outer years (all else equal) with retirees locating themselves closer to services.

Under our low scenario the number of households in Central Hawke's Bay District is propped up by lower household size with more retirees and empty nesters.

Area	Census	Senerio) 2031	2051	Change	Change	Average hh size		
Area	2018	Selleno			2019-	2019-	2018	2031	2051
		Low	870	880	27	37		2.5	2.4
Waipawa	843	Medium	920	1,020	77	177	2.5	2.6	2.5
		High	968	1,136	107	277		2.6	2.5
		Low	1,860	1,740	105	(15)		2.6	2.4
Waipukurau	1,755	Medium	2,060	2,420	305	665	2.5	2.6	2.5
		High	2,253	2,983	455	1,185		2.6	2.5
		Low	280	270	34	24		2.8	2.6
Ōtāne	246	Medium	340	430	94	184	2.7	2.8	2.7
		High	408	639	154	384		2.8	2.8
		Low	90	70	12	(8)		2.6	2.4
Pōrangahau	78	Medium	110	170	32	92	2.5	2.6	2.5
		High	143	284	62	202		2.7	2.6
		Low	230	200	14	(16)		2.8	2.7
Takapau	216	Medium	260	320	44	104	2.8	2.9	2.8
		High	296	406	74	184		2.9	2.8
		Low	5,760	5,340	342	(78)		2.7	2.5
Central Hawke's Bay	5,418	Medium	6,340	7,480	922	2,062	2.6	2.7	2.6
		High	<mark>6,</mark> 870	9,070	1,322	3,522		2.7	2.6

Table 21: Household projections for households in occupied private dwellings

Ōtāne

Ōtāne picked up 10% of the growth in Central Hawke's Bay District between 2013 and 2019 – despite making up less than 5% of the district's population in 2019. We see a higher propensity to commute out of the district in Ōtāne (see Figure 9) with Ōtāne located conveniently on the main route north.

There is a feeling within the district that Ōtāne is becoming more of a commuter town and the numbers appear to back this view up. This trend is reported to be causing some level of tension among the residents.

If it could expand to meet demand, we believe that Ōtāne could see significant further growth over the next 20 years and beyond. Our medium scenario sees Ōtāne picking up a healthy share of the overall increase in the Central Hawke's Bay District population (in line with recent trends), with the population expanding by 34% by 2031.

Under our high scenario, Ōtāne could expand by more than 60% by 2031 and more than double by 2051 as more migration to the district leads to more commuters looking for a convent place to locate.

The levels of growth possible under our medium and high scenario would undoubtedly change the feel of the township, even changing the characteristics that make Ōtāne attractive to some residents. The pros and cons of allowing this level of development Ōtāne will need to be considered carefully.

Waipawa

Waipawa has picked up a proportionally lower share of growth over the last few years, with 7.5% of growth in Central Hawke's Bay District between 2013 and 2019 occurring here. Waipawa made up 15% of the district's population in 2019.

Waipawa's geographical features have presented challenges for development, with land to the east being low-lying and subject to natural hazards, which might explain the constrained population growth.

In our central scenario we have Waipawa picking up 180 people by 2031, a total gain of 8%.

We have modelled our projections on historical trends, but there is scope for Waipawa to pick up a larger share of future growth if investment is made in services like stormwater management. Infill housing is another way Waipawa could boost its share of future population growth.

Waipukurau

Waipukurau has a smaller percentage of out-of-district commuters, being located further south than Ōtāne and Waipawa. But being the largest town in Central Hawke's Bay District – with 31% of the district's population in 2019 – there are more opportunities for people living and working in or near the town.

Waipukurau picked up the largest share of growth between 2013 and 2019 (36%), growing by 12% in total over this period. This trend is projected to continue as growth creates its own opportunities, with more retail and businesses that serve the district's (largely agricultural) industries choosing to locate together for convenience.

Our medium scenario has Waipukurau growing by 17% by 2031, adding 760 people.

As with our other townships, planning decisions will have a big impact on future development. Concern around fertile soils may constrain greenfield developments, but there appears to be significant scope for infill housing in Waipukurau which could help soak up some of the demand the district is expected to experience.

Takapau

Takapau hasn't seen quite the growth that Ōtāne has over the last few years, and has a troubled history since the 1980's. However, over the last few years things have picked up. Between 2013 and 2019, Takapau added an estimated 95 residents.

The town does not have the same appeal to commuters as Ōtāne, however it is still within an hour of Hastings by car on a good day and less than an hour and a half to Palmerston North.

Takapau may not be as attractive to commuters but it does offer lower-cost housing – an option for first home buyers who already live in the district and may feel they are being priced out of the market. Housing affordability in Central Hawke's Bay District has deteriorated somewhat over the last few years (see Housing affordability, page 14). Although house prices in the district remain attractive for the geographically mobile (compared to Auckland or Napier-Hastings), some residents of Central Hawke's Bay District may find prices have risen beyond their budget in the main urban areas.

This trend will be interrupted by the wide-spread effects on house prices from Covid-19. But in the longer-term, some residents will consider Takapau when looking to get on the property ladder.

Takapau fairs poorly under our low scenario, losing a similar amount of people to the much larger Waipawa by 2051. This outlook is based on its location and the fact it is likely to under-perform in a weaker property market. Takapau has two major employers - the Silver Fern Farms meat-processing plant and Kintail Honey. A closure or downsizing of ether of these operations would be a big blow to the town.

Pōrangahau

Pōrangahau's proximity to the coast makes it an attractive option for both residents and migrants to Central Hawke's Bay District. It is an hour and a quarter by car to Hastings, and less than 40 minutes to Waipukurau.

As discussed in the section on megatrends (see Urban-rural flight, page 6), technological change and increasing acceptance of "working from home" is likely to see the option available to more employees in the future. An employee that has the option to work at home even just one or two days a week is going to see a long commute as less of a barrier.

Pōrangahau added an estimated 60 residents between 2013 and 2019, a sizable increase relative to its population. We see potential for Pōrangahau to continue to grow, and our medium scenario has a further 90 residents added by 2031 – with a potential doubling of the township's population to 420 people by 2051.

As with Ōtāne, this level of growth may not be considered appropriate by the community. While Pōrangahau is likely to be a popular option for those looking outside the main towns, the level of development permitted in practice is a matter for careful consideration.

Rural areas

Based on historical trends, Table 20 shows the change in population that is likely to occur under each growth scenario.

The definition of each area, with a map, is outlined in the appendix, Geographic boundaries on page 41. They are based on Statistics New Zealand's revised Statistical Area 2 standard (SA2) and divide Central Hawke's Bay District (imperfectly) into North West, North East, South West, and South East – centred on Waipukurau. Table 20 uses this designation as well as the official SA2 area names. Note that the urban areas covered above are excluded where they fall inside a SA2 area.

Areas closer to the coast and northern areas have seen larger increases in population over the last few years. Between 2013 and 2019, Mangarara and Taurekaitai to the east both added an estimated 200 people, while Makaretu to the south west only added 45.

Area	2019	Senerio	2031	2051	Change 2019- Change 2019-		
Alea	2013	Selleno	2031	2031	2031	2051	
Rural North West (Mangaonuku)	1,020	Low	1,080	890	60	(130)	
		Medium	1,240	1,520	220	500	
		High	1,325	1,806	305	786	
Rural North East (Mangarara)	1,810	Low	1,880	1,590	70	(220)	
		Medium	2,110	2,340	300	530	
		High	2,313	2,923	503	1,113	
Rural South West		Low	1,950	1,680	30	(240)	
(Makaretu)	1,920	Medium	1,990	2,170	70	250	
		High	2,069	2,334	149	414	
Rural South East (Taurekaitai)	1,790	Low	1,850	1,570	60	(220)	
		Medium	2,090	2,360	300	570	
		High	2,283	2,902	493	1,112	

Table 22: Population projections for rural Central Hawke's Bay District

Commercial and Industrial Floorspace Growth

A report commissioned by Central Hawke's Bay District Council in 2017 (Bevin, 2017), examined the factors that drove demand for commercial and industrial floorspace in the district. Bevin also provided an outlook for how floorspace was likely to grow over the following years, with a focus on building consents. This chapter has been included as a review of that report, examining how things have evolved in the intervening three years, and the factors that may influence the outlook for commercial and industrial floorspace going forward.

Historical trends in non-residential consents

Statistics New Zealand publishes non-residential consents by territorial authority, including the total floorspace consented. Non-residential consents are divided into multiple subgroups, we examine two categories:

Commercial consents – covering the following series:

- Hostels, boarding houses, and prisons
- Hotels, motels, and other short-term accommodation
- Hospitals, nursing homes, and other health buildings
- Education buildings
- Social, cultural, and religious buildings
- Shops, restaurants, and bars
- Office, administration, and public transport buildings

Industrial consents, which cover:

- Storage buildings
- Factories and industrial buildings

Statistics New Zealand also publishes a series on farm buildings, which along with the series listed above comprise the total non-residential building series.

Table 21 shows the consented floorspace (m2) by building type for the last 20 years. Even when looking at the data on an annual basis (the sum of the 12 months to March in this case), there is considerable variation in the series. Non-residential building projects tend to be large and irregular, so this variation is to be expected.

Since 2011 the total value of commercial and industrial floorspace consented has remained well below pre-2011 averages. This fall is consistent with other indicators of economic activity in Central Hawke's Bay District post Global Financial Crisis (see The economy of Central Hawke's Bay District, page 11).

Year	Tota	Total		Commercial	Industrial	Farm Buildings	
- Cui	SQM		+ Industrial	connercia	maastrar		
2001	9,667		1,215	508	707	8,452	
2002	11,053	14%	4,107	2,258	1,849	6,946	
2003	11,987	8%	5,446	3,812	1,634	6,541	
2004	9,644	-20%	1,626	1,237	389	8,018	
2005	15,930	65%	3,404	1,926	1,478	12,526	
2006	13,546	-15%	1,472	1,262	210	12,074	
2007	13,257	-2%	4,274	1,221	3,053	<mark>8,98</mark> 3	
2008	8,022	-39%	1,001	638	363	7,021	
2009	9,871	23%	119	119	0	9,752	
2010	9,033	-8%	3,878	2,854	1,024	5,155	
2011	9,001	0%	5,471	3,215	2,256	3,530	
2012	6,395	-29%	168	136	32	6,227	
2013	4,690	-27%	1,034	476	558	3,656	
2014	4,271	-9%	731	73	658	3,540	
2015	6,577	54%	484	180	304	6,093	
2016	6,855	4%	787	0	787	6,068	
2017	5,029	-27%	793	196	597	4,236	
2018	5,129	2%	935	152	783	4,194	
2019	6,277	22%	1,431	420	1,011	4,846	
2020	4,380	-30%	1,564	1,066	498	2,816	

Table 23: Consented floorspace by building type in Central Hawke's Bay District (year to March)

Over the last two years there has been an increase in the total commercial and industrial floorspace consented. The uptick in migration since 2013 (see page 19) and, more recently, lift in job creation (page 13) appear to have shored-up demand for floorspace.

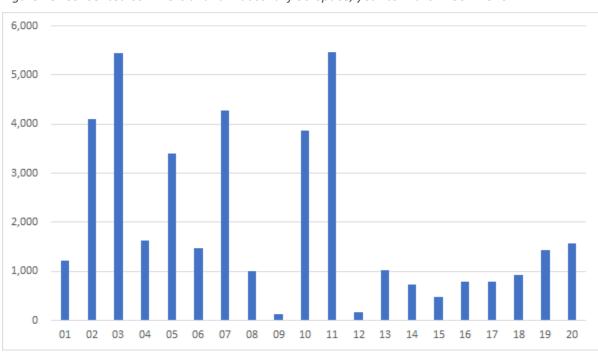


Figure 13: Consented commercial and industrial floorspace, year to March 2001-2020

Outlook for commercial and industrial floorspace

In the absence of Covid-19, we would have expected the amount of commercial and industrial floorspace consented to continue to edge upwards in line with recent positive economic indicators. This outlook would have been broadly consistent with the Bevin (2017) forecast.

See "What about Covid-19?" on page 22 for further background on the effects of the crisis on the outlook for Central Hawke's Bay District.

The average commercial and industrial floorspace consented over the last three years was just over 1,300 square meters annually. Bevin (2017) forecasted "additional commercial/industrial floorspace demand in the Central Hawkes Bay district in the range 10,000m2-30,000m2 over the 2018-2028 period, with a midpoint level of 20,000m²". Given the disruption from Covid-19, this forecast now looks optimistic.

In the near term, the significant hit to economic activity from the crisis is likely to leave some buildings vacant. It will take time for demand for new commercial and industrial buildings to pick up even as economic activity recovers.

While industries that service the agricultural sector will be insulated against the effects of Covid-19, ongoing drought conditions will flow through into these related industries.

Shops, restaurants, and bars (a component of commercial building) are directly impacted by the first-round effects of Covid-19 (the lockdown) and the reduced demand that is expected to follow.

Considering the factors discussed, and the level of building seen over the last three years, we suggest the lower end of Bevin's forecast is now the most realistic. This would mean an average of less than 1,000 square meters consented annually for commercial and industrial consents, lower over the next 2-3 years and picking up towards 2028.

Farm consents are likely to hold up better over the next 2-3 years than commercial and industrial consents, as was the case following the Global Financial Crisis.

A rebound in building activity in Central Hawke's Bay District is likely, as we exit lockdown, due to pent-up demand and the effects of central government stimulus. But, on average, the level of floorspace consented is likely to remain low by historical standards over the next few years.

Appendices

Data sources

All historical data is sourced from Statistics New Zealand unless otherwise stated.

Historical population estimates are for June years, causing a slight misalignment with census population counts, as censuses are typically conducted in March.

Data was also sourced from the Ministry of Business, Innovation and Employment (MBIE), Housing and Urban Development (HUD), CoreLogic, and Central Hawke's Bay District council in the preparation of this report.

Geographic boundaries

Historical information on population, employment, dwellings etc., are produced to the Statistics New Zealand geographical boundaries. See

http://archive.stats.govt.nz/browse_for_stats/Maps_and_geography.aspx.

Central Hawke's Bay District is a territorial authority (TA) in the definition. Prior to 2018 most key statistics below the TA level were produced for area units, which roughly aligned to "suburbs" or small urban areas.

Urban areas

When urban areas are referenced, we are referring to the "built-up" area within the town boundary. Historical information is for SA2 (where available) which tends to align well with current rural-urban boundaries. Forecasts for urban areas may include high-density growth that occurs outside the current town boundary, but exclude nearby self-servicing rural and rural-residential. Boundaries tend to be adjusted over time to align with growth in urban areas.

Previous boundary adjustments mean small discrepancies for historical statistics may exist from numbers previously published by Statistics NZ. All numbers in this report are for the current (2019) boundaries, including pre-2019 figures.

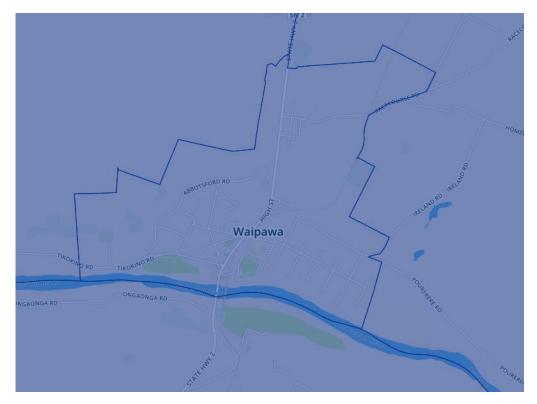
Ōtāne

Ōtāne township is made up of four SA1 areas: 7016719, 7016720, 7016721, and 7016722.



Waipawa

The following map shows the boundary or Waipawa for statistical purposes, made up of a single SA2 area (SA2 215700 – Waipawa).



Waipukurau

Waipukurau is made up of two SA2 areas – 215800 Waipukurau West and 216000 Waipukurau East.



Pōrangahau

Pōrangahau includes Pōrangahau Beach and the small nearby township. The two SA1 areas shown (7016777 and 7016780) excluded a small area of nearby rural/lifestyle properties areas that were included in the Pōrangahau area unit with the pre-2018 boundaries.



Takapau

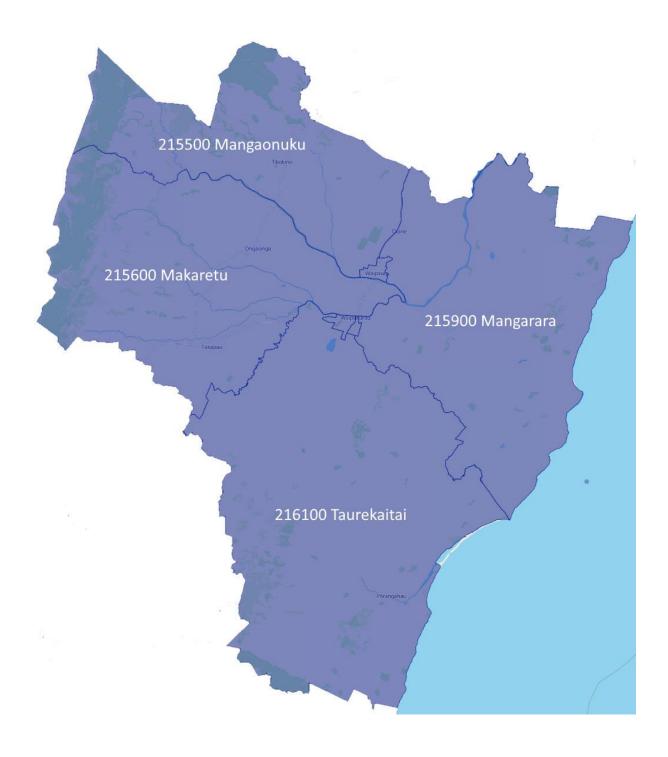
Takapau township includes the following SA1 areas: 7016705, 7016706, 7016708, and 7016709.



Rural areas

The following map shows the SA2 areas that break up Central Hawke's Bay District, with the rural SA2 areas labelled. The three rural areas we use are:

- North-western rural areas: 215500 Mangaonuku
- South-western rural areas: 215600 Makaretu, less Takapau township
- Coastal/eastern rural areas: 215900 Mangarara and 216100 Taurekaitai, less Ōtāne and Pōrangahau townships



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