



Memorandum

To: Madeleine Wright

Cc: Myland

From: Adam Thompson

Date: 17 June 2025

Re: Response to EPA Questions re Proposed Delmore Residential Development

This memo provides a response to the economic questions raised in Minute 3 of the Expert Panel, dated 26 May 2025. I address each question as follows.

Item 14: How are the house prices determined /derived? How realistic are there? Will they be fixed at 2025/26 rates or affected by inflation?

The house prices are estimated based on a regression of the sale price and size of new stand-alone dwellings sold within the study area (Hibiscus Coast) over the last 2 years, with a 10% reduction adjustment to account for the peripheral location of the development¹. Data is sourced from Corelogic.

This methodology has been tested against the pricing achieved in the nearby Ara Hills development (also including a 10% reduction adjustment to account for the peripheral location). This resulted in the estimated price for the average stand-alone dwelling in Ara Hills of \$1,203,000, approximately 3% below the actual average of \$1,240,000. This confirms that the regression analysis is considered to be “realistic”, i.e. +/-3% including the 10% reduction adjustment.

Item 15: Should this assessment include population projections for the development? For the wider area?

The household/dwelling metric has been relied upon as this directly relates to dwelling yield, infrastructure capacity, and regional growth distribution (i.e. demand in the Auckland Plan, FDS and NPS-UD typically refers to households/dwellings). However, it may be helpful to have population growth also, for context. The below table outlines the overall contribution towards the growth of the Hibiscus Coast, accounting for approximately 13% of population growth over the life of the project.

¹ Proposed Delmore Residential Development, Hibiscus Coast, Auckland, Economic assessment, UE, 13.02.25



Figure 1: Population Growth for Hibiscus Coast and Proposed Development

Area	Annual Dwelling Demand *	Annual Population Demand **	10-Year (2025-2035)	20-Year (2025-2045)	30-Year (2025-2055)
Hibiscus Coast	800	2,200	22,000	44,000	66,000
Delmore	115	315	3,150	3,440	3,440
Total	915	2,515	25,150	47,440	69,440
Delmore % of Growth	13%	13%	13%	7%	5%

Source: Watercare, UE

* Based on Watercare's indication of the average number of new water connections annually.

** Estimated using an average population per dwelling of 2.75.

Item 16: Has the extent of greenfields development required been correctly identified? The report seems to use FUZ and greenfield land interchangeably. The definition in the AUP is Greenfield Land is identified for future urban development that has not been previously developed. Presumably that is not intended to only apply to FUZ and includes land that is live zoned but that has not been previously developed? e.g. Milldale is not fully consented yet so, while live zoned, would this not also contribute to greenfield development? Furthermore, most of that which has been consented and developed within Milldale has occurred since 2016. Should this information therefore contribute to the capacity modelling?

The Auckland Unitary Plan defines greenfield land as “Land identified for future urban development that has not been previously developed”. Whether this applies to FUZ land in the PAUP or FUZ land in the AUP Operative in Part (November 2016) is unclear.

For the purposes of my assessment, I have taken the interpretation that greenfield refers to FUZ land in the AUP Operative in Part (November 2016). This would exclude Milldale.

If the definition of greenfield land applies to FUZ land in the PAUP, this would include Milldale (which changed from FUZ under the PAUP to live-zoned under the AUP Operative in Part (November 2016). This appears to be the Auckland Council (AC) interpretation.

I do not consider either definition of greenfield above would include undeveloped residential live-zone land that was not proposed as FUZ at during the PAUP review process, and I am not aware that such a definition has been used by Auckland Council. I note the definition of greenfield specifically applies to ‘future urban’ and it is therefore a question of timing, i.e. future urban under the PAUP or future urban under the AUP Operative in Part (November 2016).

I have updated Figure 15 (page 17) from my report to consider the implications of both potential interpretations of greenfield (UE and AC). This shows that if Milldale is included within the definition of greenfield, the shortage of greenfield dwellings would reduce from 5,800 to 4,400. Therefore, under both possible definitions there is a significant shortage of greenfield dwellings, built over the 2016-2024 period, in the Hibiscus Coast.



Figure 2: Definition of Greenfield Land and Implications for Supply in Hibiscus Coast (2016-2024)

Area	Greenfield Dwelling Demand*	Dwelling Completions /Sold*	Shortfall/ Surplus
Auckland Region	25,280	8,840	-16,440
Hibiscus Coast - Greenfield Definition UE	6,000	200	-5,800
Hibiscus Coast - Greenfield Definition AC	6,000	1,600	-4,400

Source: Auckland Council, Statistics NZ, Corelogic, UE

*To date (2016-2024)

Item 17: Figure 12 is odd as most FUZ is zoned prior to land use consents being lodged and dwellings constructed. Please provide comment on the Greenfield figures in particular – was this live zoned land or FUZ or a combination of both?

Figure 12 shows the quantity of dwellings built on FUZ land as identified in the PAUP (i.e. the Auckland Council interpretation of what “greenfield” means). This broadly aligns with the Auckland Council monitoring report which found a similar percentage of dwellings have occurred in the FUZ zone (13%)². If only FUZ in the AUP Operative in Part (November 2016) is assessed, a much lower percentage of dwellings are recorded (less than 1%). Overall this shows that the proportion of dwellings that have been built in greenfield locations, has been significantly lower than sought in the Auckland Plan (24% in the first decade and 32% on average across all three decades³) under both potential interpretations of the term “greenfield”.

This in my opinion indicates that fewer greenfield houses are being built than planned and required to provide affordable dwellings. This is confirmed by Mr Stewart in the Auckland Council comments, where he agrees greenfield dwellings are cheaper than infill dwellings, and as less greenfield dwellings are being built than required, consequently people are leaving Auckland, reducing the rate of population growth:

“...internal migration data showing more residents are leaving Auckland than arriving and conclude that housing affordability may be a contributing factor to the outward flows. We agree that housing affordability issues may be a cause of net internal migration away from Auckland”

“We acknowledge that it is plausible that the same house and land package in a greenfield location would be brought to market a lower price than if it were in an infill location”, and “We agree that the proposed development could contribute to more affordable housing outcomes by creating more development opportunities, enabling supply to be more responsive to demand”.

Mr James Stewart, Response to Delmore Proposal on behalf of the Auckland Council Chief Economic Unit, dated 16 May 2025.

² Source: Page 21, <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/auckland-plan/about-the-auckland-plan/Documents/ap-ds-monitoring-report.pdf>

³ Source: Auckland Plan 2050, Page 218, Figures 44-46.



Item 18: Presume the staging of live zoning FUZ that Auckland Council anticipates been taken into account in Auckland Council's Auckland Plan 2050 and the recently released FDS, has it also informed this assessment?

The assessment relies on the Auckland Plan, which provides a distribution of growth between infill and greenfield (Page 218, Figures 44-46) and states: "Around 62 per cent of development over the next 30 years is anticipated to be within the existing urban area. The remaining development is anticipated to occur in future urban areas (32 per cent) and in rural areas (6 per cent)" (page 217).

The assessment also relies on the FDS. Of most relevance, the FDS does not provide estimates of demand for each area of Future Urban Area ("FUA") land, nor does it provide a recommended optimal spatial distribution of demand across each area of FUA land relative to infill locations. It instead allocates demand to FUA locations solely on the basis of infrastructure capacity, and FUA land is planned to be live-zoned immediately following the completion of infrastructure upgrades. **An apparent principle the FDS relies upon therefore, relating to the spatial distribution of growth, is that it is most efficient for growth to occur where there is infrastructure capacity.** This principle is economically efficient as it fully utilises existing capacity which reduces overall cost. An important implication is that any location with un-utilised infrastructure capacity should be enabled for growth now, subject to there being no other adverse effects, whether it is infill or greenfield. This would ensure infrastructure is utilised as efficiently as possible, as identified in the FDS:

"...the Future Development Strategy is an opportunity to build an integrated strategic approach for resilient urban, future urban, rural and business environments, that protect and restore the natural environment and make best use of infrastructure and scarce funding" (page 6)

My assessment adopts a similar approach, and accounts for the economic benefits of using infrastructure efficiently (one of the most significant economic benefits overall in most instances given the high cost of infrastructure). This is quantified in more detail in my memo response to the Auckland Council comments, dated 16 June 2025.

Item 19.1: Report states that "middle-lower income NZ-born Aucklanders are relocating to regions due to a shortage of affordable homes", where is the specific data to back up that assumption?

The statement "middle-lower income NZ-born Aucklanders are relocating to regions due to a shortage of affordable homes" is based on:

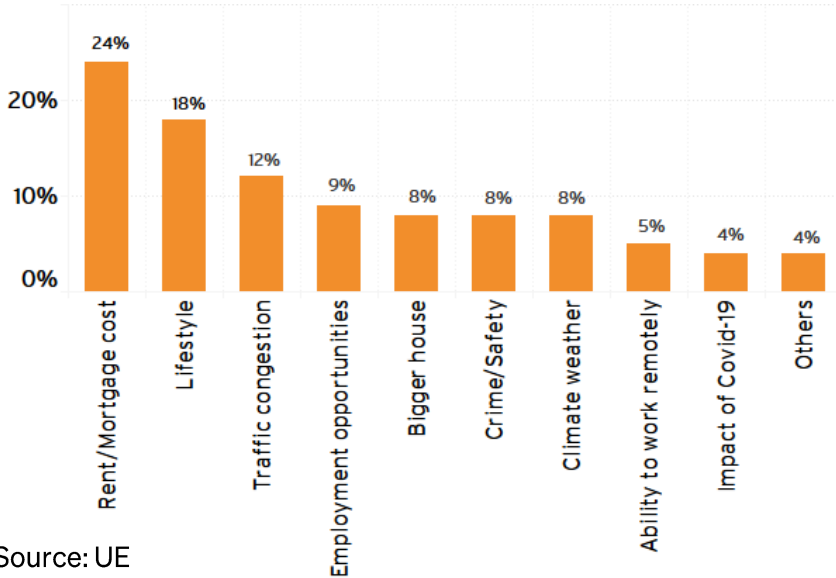
- the findings from a survey of Auckland residents commissioned by UE in 2022,
- an analysis of Statistics NZ population growth data, and
- the conclusions reached in the Auckland Council HBA 2023.

The results are addressed in more detail as follows.

The 2022 survey of Auckland residents found that 55% were considering relocating out of Auckland, with the main reasons being the cost of mortgage/rent, lifestyle and traffic congestion. This is commonplace in cities that have high house prices, and many locations, such as Sydney and San Francisco, which have similar high housing prices to Auckland, are seeing lower rates of population growth or a declining population.



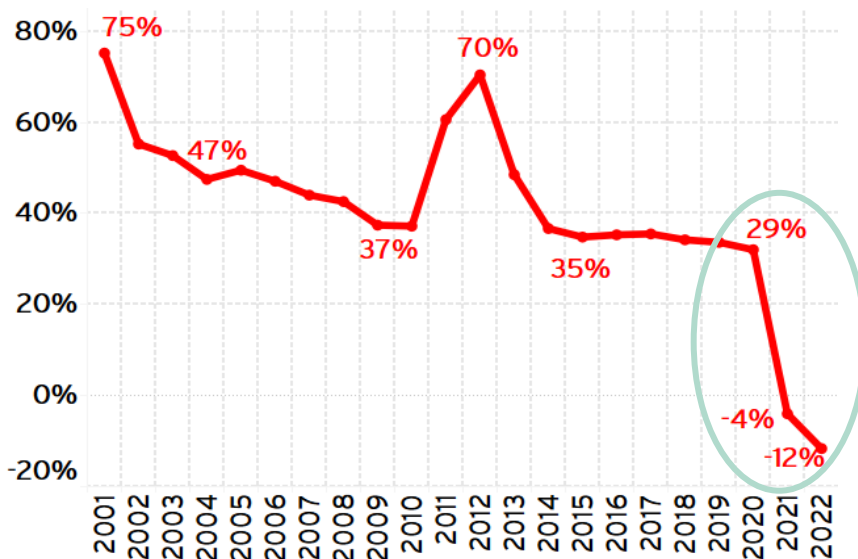
Figure 3: Main Reasons for People to Consider Relocating from Auckland



Source: UE

An analysis of Auckland's share of national population growth indicates a decline from 75% in 2001 to 29% in 2020, with the only exception being a brief period following the Christchurch earthquake, during which time Auckland attracted population leaving Christchurch. Over the year ending 2021 Auckland's share of national population growth was -4% and over the year ending 2022 Auckland's share of national population growth was -12% (i.e Auckland's population declined for these two years during Covid). This downward trend, in my view, can be largely attributed to the steady increase in house prices over this period of time, which increased by 30-40% over the 2020-2022 period

Figure 4: Auckland Share of the National Population Growth 2000-2022



Source: Statistics NZ



As outlined in Section 12 of my Fast-track Economic Assessment, the 2023 Auckland HBA concluded that Auckland has sufficient capacity to meet demand in terms of the quantity of houses that can be built, however, that there is insufficient development capacity to meet demand in terms of the price of houses that can be built (predominantly in the sub-\$900,000 price range⁴). In particular, that there is the insufficient capacity of lower priced or affordable houses (around or below \$800,000), and that this issue is permanent and will not change over time. This, in my view, is further confirmation that the price of housing in Auckland is a key driver of the recent population growth at the edge of Auckland, where housing is typically more affordable, and the overall exodus from Auckland to more affordable regions across the country.

“The housing sufficiency analysis for the 2023 assessment suggests that affordability will deteriorate further in the future if recent trends in household incomes and housing prices continue. Figure 68 illustrates the match (or mismatch) between supply and demand across the distribution of dwelling values in 2022, and projected for 2025, 2032, and 2052. Bars below the zero line represent a shortfall in dwelling units in that dwelling value band, while bars above the line represent excess supply. It is important to note that even in 2022 there is a significant segment of low-income households that cannot afford market provided housing, and the shortage of housing in this market segment is projected to grow from 2022 to 2052.” (HBA, page 114).

“If the supply of affordable housing (housing priced at \$770,000 or less) grows at a rate lower than 4.5 per cent, the mathematical model fails to find a finite solution, that is, the housing unaffordability situation of Auckland becomes permanent.” (HBA, page 81).

More generally, Mr Stewart agrees greenfield dwellings are cheaper than infill dwellings, and consequently people are leaving Auckland, reducing the rate of population growth:

“...internal migration data showing more residents are leaving Auckland than arriving and conclude that housing affordability may be a contributing factor to the outward flows. We agree that housing affordability issues may be a cause of net internal migration away from Auckland”

“We acknowledge that it is plausible that the same house and land package in a greenfield location would be brought to market a lower price than if it were in an infill location”, and “We agree that the proposed development could contribute to more affordable housing outcomes by creating more development opportunities, enabling supply to be more responsive to demand”.

Mr James Stewart, Response to Delmore Proposal on behalf of the Auckland Council Chief Economic Unit, dated 16 May 2025.

⁴ Auckland HBA, Page 114



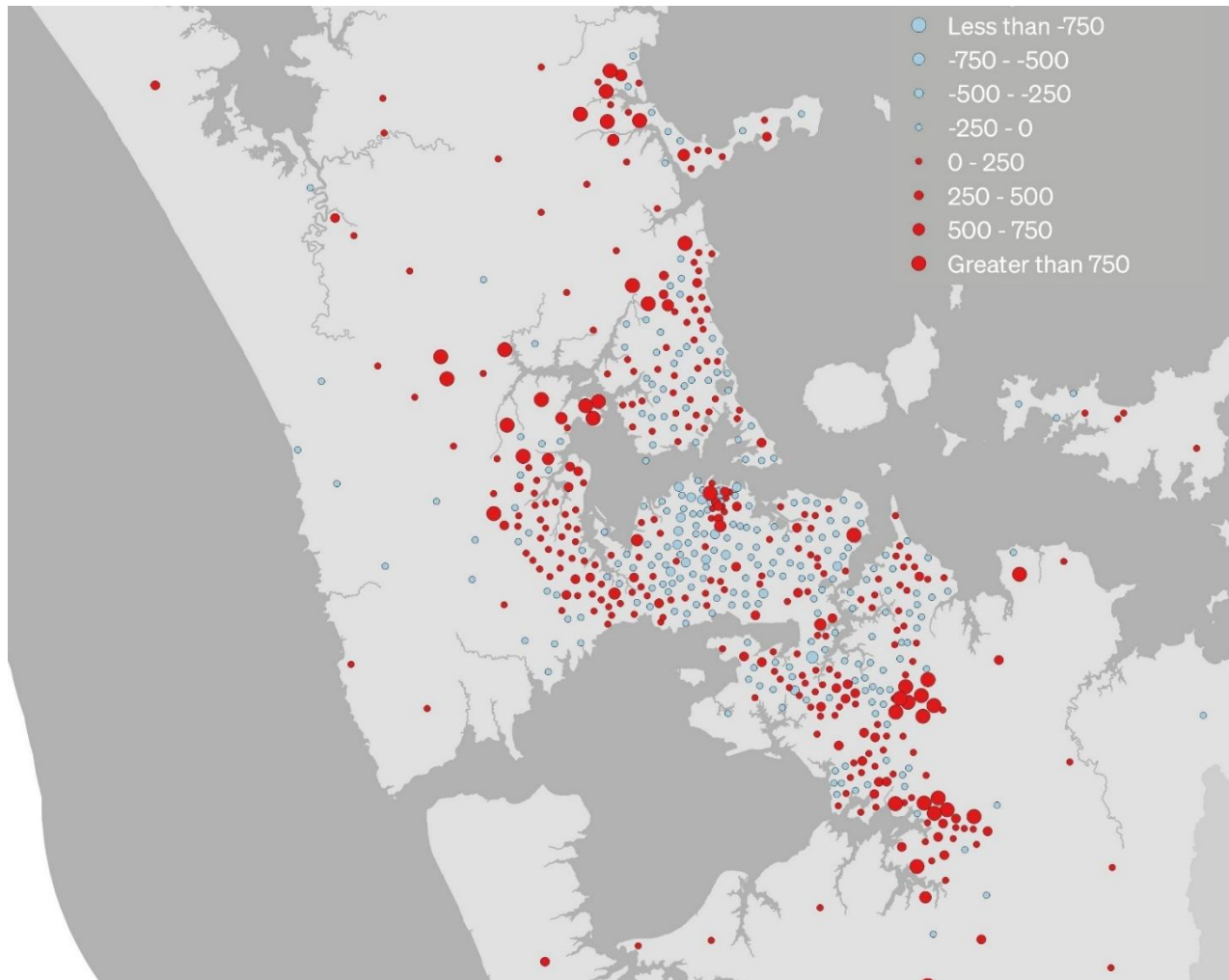
Item 19.2: Furthermore, if that is the target market, why are there no two-bedroom dwellings within the development?

The proposed development includes stand alone and town houses of a relatively modest size, and with regard to the market, are relatively small, at circa 90m² for the smaller 3-bedroom units. By comparison, typical 2-bedroom units are in the 80-100sqm size range. For buyers, this offers more flexibility, i.e. a spare room, study or room for a larger family, at a similar price point to the typical 2-bedroom house (as houses costs/prices reflect the overall size rather than the number of rooms). Put more simply, the development offers dwellings that are comparable to typical 2-bedroom dwellings in terms of size and price.

Item 19.3: Do middle-lower income NZ born Aucklanders want to live at the far edge of a region?

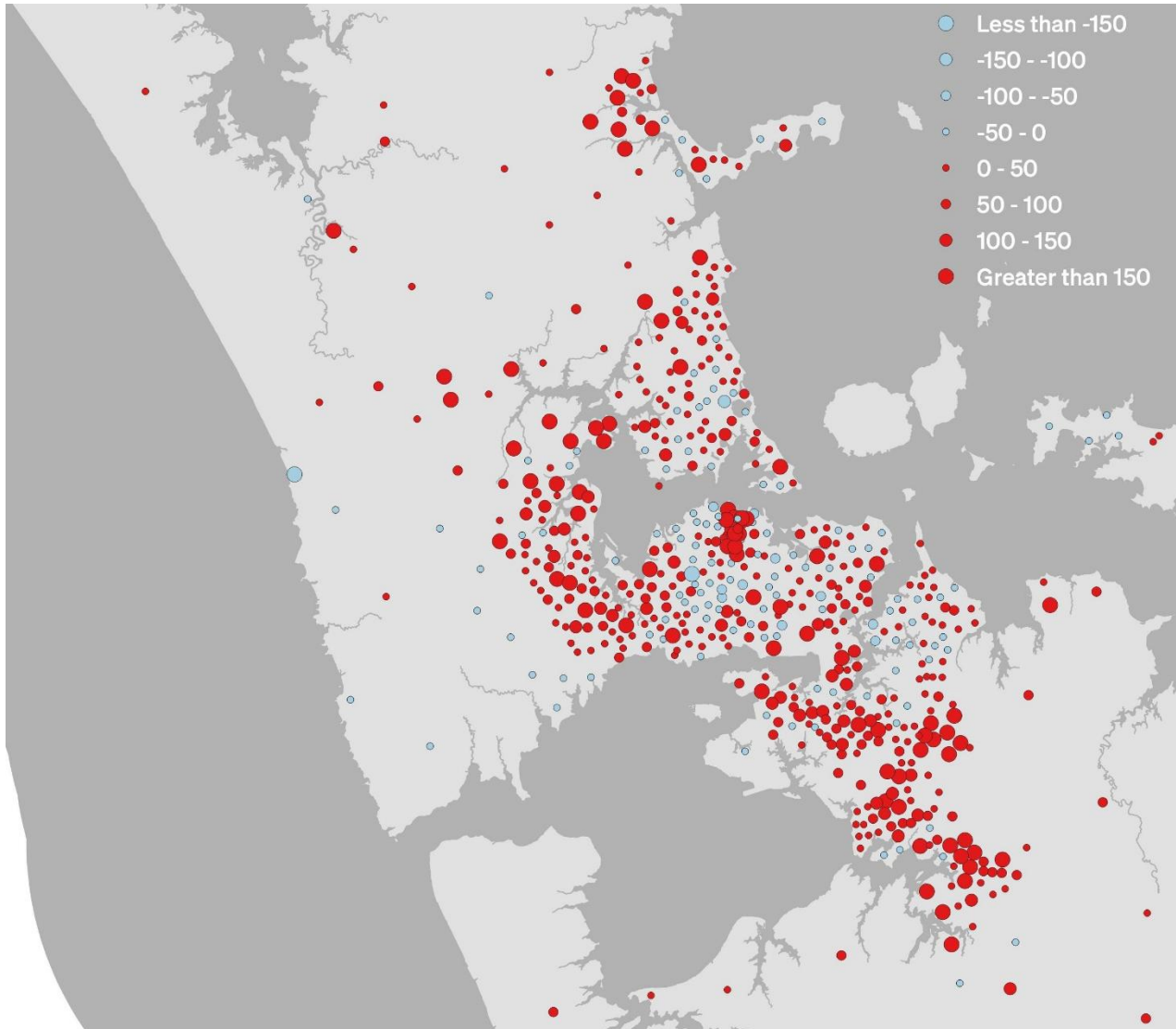
The majority of population growth under the AUP has been in peripheral locations. This is evident in Figures 5 and 6, which show growth for the 2018-2023 period, reflecting the period the AUP has been operative. Whilst there has been significant infill housing under the AUP, enabling more households to reside in central locations, there has been a counter-trend, with households reducing in size (family households becoming empty nester households) and due to the cost of housing, a large proportion of the population has moved to the periphery, and has actually declined in the more expensive central locations (shown in blue). For lower-middle income households, the periphery is considerably more affordable. It should be noted here that demand is a function of quantity and price, so more houses are demanded at a lower prices. In cities like Auckland, with high house prices, this shifts demand to the locations that offer lower prices, which are largely peripheral. Overall, this shows that under the AUP the majority of demand occurs in the CBD and in the outer suburbs, and that the inner and middle suburbs experience low rates of demand, and in many instances negative demand. This confirms strong demand for the proposed development.

Figure 5: Auckland Population Growth/Decline 2018-2023 (Census)



Source: Statistics NZ

Figure 6: Auckland Dwelling Growth/Decline 2018-2023 (Census)



Source: Statistics NZ

Figure 7 provides a summary of the Census population and dwelling growth for the Hibiscus Coast and Auckland region between 2018 and 2023. The Hibiscus Coast recorded population growth of 9,640 people (17%), equating to an average of 1,930 people per annum (3.5% p.a.). Dwelling growth over the same period was 3,860 dwellings (17%), or 770 dwellings per annum (3.3% p.a.). This compares to region-wide growth of 5% in population and 12% in dwellings over the same period showing that the Hibiscus Coast grew at a faster rate than the Auckland region between 2018 and 2023. This reinforces the high demand for housing in the Hibiscus Coast.



Figure 7: Hibiscus Coast & Auckland Region Population & Household Growth 2018-2023 (Census)

Location	Measure	Census		Nominal Growth		% Growth	
		2018	2023	18-23	18-23 p.a.	18-23	18-23 p.a.
Hibiscus Coast	Population	55,790	65,430	9,640	1,930	17%	3.5%
	Dwellings	23,250	27,110	3,860	770	17%	3.3%
Auckland Region	Population	1,571,720	1,656,490	84,770	16,955	5%	1.1%
	Dwellings	547,060	611,900	64,840	12,970	12%	2.4%

Source: Statistics NZ

Item 20: The statement “the main driver of house price growth has been the imbalance between infill and greenfield housing” is overly simplistic and somewhat inaccurate. Does this need further qualification/interrogation?

There is a range of data and studies that confirms this statement. These are summarized below.

- The Auckland Plan, AUP and FDS allocate the majority of growth to infill locations.
- Figures 17-18 of my report show the sale price of new greenfield and infill dwellings in Auckland. Overall, greenfield dwellings are 88-89% of the price of infill dwellings (11-25% more affordable). On average, a house that costs \$1.2 million in an infill location could be purchased for \$1.0 million in a greenfield location. This price differential is more pronounced for small 2-3 bedroom stand-alone greenfield dwellings, which are 68-79% of the price of their infill counterparts (20-32% more affordable).
- Several studies confirm that greenfield housing is able to be produced at more affordable prices than infill housing. For example, a study completed by Urbis Ltd in 2011⁵ found that greenfield housing was significantly less expensive than infill housing (32% cheaper in Brisbane, 10% cheaper in Adelaide, 5% cheaper in Sydney, 22% cheaper in Melbourne and 32% cheaper in Perth).
- A joint 2024 paper reported findings authored by the Housing Technical Working Group (HTWG), a joint initiative of the Treasury, Ministry of Housing and Urban Development and the Reserve Bank of New Zealand, found that restrictions on the supply of urban land are estimated to have added \$378 per square metre to the price of urban land immediately inside of the Rural Urban Boundary line in Auckland in 2021⁶. This confirms that greenfield land as an input cost is less expensive than urban land, enabling a lower cost of production. It more generally confirms there is a shortage of land to enable a competitive land and development market.
- It is accepted economic theory that raw peripheral greenfield land has a lower price than raw infill land therefore enables lower house prices, and that larger greenfield developments offer greater economies of scale which reduces the cost of production.

⁵ National Dwelling Cost Study, prepared for the National Housing Supply Council, 2011, Urbis.

⁶ The Treasury, Ministry of Housing and Urban Development, Reserve Bank of New Zealand. 2024. Analysis of availability of land supply in Auckland. Prepared for The Treasury, Ministry of Housing and Urban Development, Reserve Bank of New Zealand by the Housing Technical Working Group. Wellington: The Treasury.



Further, the Auckland Council Chief Economic Unit agrees the greenfield houses are able to be brought to the market at a lower price:

“We acknowledge that it is plausible that the same house and land package in a greenfield location would be brought to market a lower price than if it were in an infill location”, and “We agree that the proposed development could contribute to more affordable housing outcomes by creating more development opportunities, enabling supply to be more responsive to demand”.

Mr James Stewart, Response to Delmore Proposal on behalf of the Auckland Council Chief Economic Unit, dated 16 May 2025.