

IN THE MATTER

of the Resource Management Act 1991 and the
National Policy Statement on Urban Development

AND

IN THE MATTER

of the Proposed Plan Change 78 – Intensification

Proposed ‘Intensification Planning Instrument’
(IPI) Plan Change 78 to the Auckland Unitary Plan
(Operative in Part)

STATEMENT OF EVIDENCE OF DIANNE ELIZABETH GILES

12 August 2023

1. INTRODUCTION

- 1.1 My full name is Dianne Elizabeth Giles. My family has lived and farmed in rural Clevedon, Auckland since 1865. The Auckland region, whether it be of a rural nature or urban nature, is where my family have lived, worked, and called home.
- 1.2 As is the case with most residents of Auckland, my family came to the area with the hope of a better life, a better standard of living and better future. They, like most, would not have foreseen a future for Auckland where a large portion of its residents will be housed in high-rise living accommodation, living their daily lives bounded within large concrete towers, trudging concrete pavements (regardless of the weather), and left in a position of being solely reliant on public transport as a means to live, work and play. This is hardly the Kiwi dream, with the reality of high-rise living unlikely to be the preferred choice of accommodation for most current Auckland residents.
- 1.3 Such a limited existence that is coupled with restrained living conditions within high-rise concrete towers being imposed on so many future residents of these walkable catchments, is far removed from what most people would consider as ideal. To be expected to live in this manner should be based on the right fit of individual personal circumstances and lifestyle choices compatible with such living.
- 1.4 It is not acceptable to believe that any child that lives in New Zealand should grow up without either a home to live in or safe and immediate access to a backyard or an appropriate place to play. No child should be trapped within the four walls of a concrete tower at the mercy of abuse due to the fact that they have nowhere to go outside. Those responsible for enabling such circumstances should first and foremost consider just what social impact this dynamic will add to vulnerable lives who simply deserve better.
- 1.5 As an Aucklander, I believe that the population of Auckland deserved an appropriate level of engagement, consultation, and transparency around the ramifications of the NPS-UD and MDRS intensification being forced on Auckland by Central Government. A much more informative dialog should have been facilitated through-out Auckland's communities to provide a much higher standard of awareness to all.
- 1.6 Auckland Council (whether legislated to do so or not) should have communicated effectively to all Aucklanders in order to provide a better opportunity and a position of understanding in order to participate in a process that has the potential to alter the very essence of urban Auckland in a significantly permanent and merciless way.
- 1.7 In such circumstances, where people's lives will be so significantly impacted, all Aucklanders deserve to have been given a genuine opportunity to have their voices heard, listened to, and acted on by both local and central government. The overwhelming scale and size of what this policy brings will destroy our standard of living that we as Aucklanders deserve to have preserved and not undermined by such a reckless intensification policy.

- 1.8 Instead, all Auckland Council could muster up can only be described as a token gesture. Council's lacklustre efforts in favour of the public was poorly timed, limited to three weeks, not diverse enough, lacked future insight and was absent of any credible numbers or informative data. No information given accurately portrayed the actual reality of urban Auckland's future development, a true representation of what Auckland as a city will visually become, and just how many Aucklanders lives will be significantly impacted as a result of the proposed intensification being facilitated by PC 78.

2. CENTRAL GOVERNMENT APPROACH TO INTENSIFICATION

- 2.1 Central governments one size fits all approach has failed to account for the certainty that the AUP (OIP) had effectively planned for the future growth of Auckland urbanisation. The already legislated substantial increase in the supply of future dwellings into the Auckland housing market that has already resulted from the AUP(OIP), should have been factored into the need for any such radical move by Central Government.
- 2.2 Clearly from Central Government's perspective, the AUP(OIP) was a superfluous waste of resources, with these resources clearly sunk needlessly into a plan that has contributed to Auckland Council's lack of money and the dire state of Auckland Council's books.
- 2.3 The historic housing shortfall (pre AUP(OIP) legislation) did not warrant what has become a policy that is overzealous and not at all in line with what the actual level of demand currently is or forecast to be for the Auckland region.
- 2.4 A "knee jerk" reaction by Central Government has paved the way for ill thought through policy that has not been properly planned and will result in dire consequences for Auckland in the future.
- 2.5 The exclusion by Central Government of central planning principles associated with amenity values in order to facilitate the NPS-UD at any cost, clearly demonstrates a total disregard for Aucklanders and the purpose of Section 5 of the Resource Management Act 1991 around enabling all people and communities to provide for their cultural well-being and for their health and safety.

3. AUCKLAND COUNCIL'S RESPONSE TO CENTRAL GOVERNMENT

- 3.1 It is acknowledged that Auckland Council has been placed in a position of being required to implement the National Policy Statement on Urban Development (NPS-UD). Central Government policy has been written in a manner that deliberately sets out to override the very essence of established and recognised planning principals, merely affording Auckland Council minor modifications through "qualifying matters" and limited discretion around "walkable catchment" sizes.

- 3.2 However, as stated in my submission, the lack of any resistance whatsoever on Auckland Council's part would suggest that Council have embraced the NPS-UD policy statement.
- 3.3 Silence can be interpreted as acceptance, and therefore equates to agreement on Auckland Councils part. Aucklanders should be left wondering just how this can be, bearing in mind the immense investment in cost, knowledge, time, and energy that was sunk by Auckland Council and Aucklanders into a Unitary Plan that still has not ever reached the final stages to become fully operative now six years on.
- 3.4 What an inexcusable waste and what an insult it is for recognised established planning principals when such a tragic outcome will result from the endorsement and implementation of NPS-UD and MDRS.
- 3.5 Christchurch city has protested against this unwarranted intrusion by Central Government into Local Government urbanisation planning. Whether the approach worked or not, at least that council went on record and protested against being forced to implement such policy that was not in the best interests of Christchurch City. Auckland should have adopted a similar approach to Christchurch with regard to the NPS-UD and MDRS intensification in response to the catastrophic negative impact on Auckland's urban environment.

4. BACKGROUND

- 4.1 The portion of my submission relating to '001A Plan making and Procedural – Consultation and engagement' process around the notification of PC 78, seeks to oppose PC 78 based on what transpired to be an unacceptable level of consultation, engagement and lack of transparency on Auckland Council's part.
- 4.2 It was imperative that Auckland Council's approach toward communication to **all residents of Auckland** was highly informative, within a timely manner and at an appropriate level that provided the ability for truthful insight and engagement.
- 4.3 As the NPS-UD, MDRS and PC 78 legislation's **impact will be significant (as acknowledged by Auckland Council)**, it will indisputably affect all Auckland residents' lives in some way. Therefore, it is unconscionable to believe that the residents of Auckland do not deserve an appropriate level of respect from Local Government or Central Government in relation to being given the greatest opportunity to be able to be participate in such decision making and have their voices appropriately heard.
- 4.4 In my opinion it is disgusting, as was indicated by Mr Moffatt's 'Primary Statement of Evidence' on behalf of Auckland Council, that Aucklanders do not legally have a right to have their say with respect to the running of their own city. I interpret this as an insult to and the degradation of the supposed democratic (all people are given the opportunity to have their say) principles of our country.

4.5 My submission stated the following:

I do not believe that Auckland residents have been adequately or transparently informed in relation to the potential magnitude around the increase in supply of buildings (housing and business) that will be enabled through legislation such as PPC 78, in particular reference to the 6 storey or greater walkable catchment areas. An overwhelming quantity of residential units and business premises will be enabled through the existence of rapid transit stops (existing and planned - estimated to be 60+). There has been no real justification on Auckland Council's part to address the potential for such excessive supply numbers (saturation) in relation to:

1. *estimated demand numbers (short, medium, or long-term).*
2. *evidence-based decision making.*
3. *providing only sufficient development capacity for housing and business to meet the expected demand plus the appropriate competitiveness margin.*

4.6 Auckland Council's lack of direct response to Central Government, and disturbing silence has equated to acceptance of the NPS-UD and MDRS intensification.

4.7 Through-out Wayne Brown's mayoral campaign he opposed the intensification of urban Auckland. This was in contrast to Efeso Collins, who campaigned for more intensification. Auckland Council official results for Mayor stated that Wayne Brown received 181,810 (45%), Efeso Collins received 124,802 (30.9%) out of 404,541 total votes received.

4.8 Therefore, these results show that there was an overwhelming vote by Aucklanders against the intensification of urban Auckland.

5. AUCKLAND COUNCIL'S APPROACH TO CONSULTATION AND ENGAGEMENT

5.1 Mr Moffatt's planning evidence sets out Council's approach to consultation and engagement during the preparation of PC 78, and how the public, stakeholder and mana whenua feedback was considered in PC 78's preparation.

5.2 It is his belief that the public consultation and engagement approach delivered by Council **was genuine and sufficient** in terms of the limited range of matters that were available for the Council to decide within the requirements of the NPS-UD and amendments made in 2021 to the Resource Management Act 1991 (RMA).

5.3 Under Schedule 1 of the RMA, Auckland Council **is required to consult certain government departments, affected local authorities and iwi authorities** when preparing plan changes to the AUP. Council **may consult with anyone else during the preparation of the proposed plan changes**, therefore having discretion to adopt its own process for engagement and consultation in accordance with S82 of the Local Government Act 2022.

- 5.4 The following approach was taken:
- I. Workshops from October 2021 to early 2022 with Auckland Council's Planning Committee, local boards and mana whenua on the council's preliminary response.
 - II. Engagement in March or April 2022 with Aucklanders and key stakeholders on the council's preliminary response.
 - III. Workshops in May and June 2022 with the Planning Committee, local boards and mana whenua to consider feedback from Aucklanders and key stakeholders on the matters over which the council has discretion and to progress the proposed intensification plan change.
 - IV. Public notification of the proposed intensification plan change by 20 August 2022.
- 5.5 The 'National Policy Statement on Urban Development – pre-notification engagement' report on the required intensification plan change, set out the context for the recommendations that were adopted. This context being that, **given the significance of the matters that need to be addressed in the required intensification plan change and their interest to Aucklanders**, and also reflecting previous engagement on a pre-notification draft of the Proposed Auckland Unitary Plan in 2013, **it was considered appropriate to engage with Aucklanders** and key stakeholders on the Council's initial proposals in response to the NPS-UD before formal public notification of a plan change as required in August 2022.
- 5.6 This report's proposed approach was supposedly seen to have two key benefits as follows:
- 1) Enable Aucklanders and key stakeholders to understand the NPS-UD and the Council's preliminary response to it; and
 - 2) Enable feedback received through this process to inform the intensification plan change required under the NPS-UD prior to public notification.
- 5.7 The report noted that Auckland Council needed to be **as clear as possible** about:
- 1) **the aspects of the intensification plan change that were required by the NPS-UD** and
 - 2) **the aspects over which Council had some discretion.**
- 5.8 Clarification was given that **even though there may be engagement (including consultation)** prior to formal public notification, that Auckland Council would not be able to change its approach in response to feedback received on aspects that are mandatory.
- 5.9 The public online consultation material encompassing Council's preliminary response contained the following elements:
- A summary preliminary response consultation document
 - A shorter summary document translated into seven languages

- An 'NPS-UD planning map viewer' illustrating possible zoning and qualifying matters layers
- Eleven detailed information sheets on key matters for consultation feedback
- Reposts on residential and business Special Character Area surveys and assessments
- An online, printed and translated feedback form with questions on feedback topics
- A set of frequently asked questions and answers on 30 topics
- Explainer videos for the map viewer and the preliminary response
- An enquiry service for questions and clarifications.

5.10 In the months leading up to the public engagement phase, work was undertaken to brief and prepare 'community partners' to engage Auckland's diverse audiences about the NPS-UD and amended RMA requirements, and the upcoming preliminary response.

5.11 During the consultation period, a programme of mainly online engagement events and activities occurred including four webinars, four community and stakeholder 'Have Your Say' events, and two Special Character Areas information sessions.

5.12 **Public consultation focused on those aspects of the NPS-UD policies where the Council had some discretion as to how and where to implement them**, including the following matters.

- the approach to identifying walkable catchments around the city centre, metropolitan centres and rapid transit network stops
- the approach to identifying areas of intensification adjacent to town and local centres
- the selection of, and approach to, "other" qualifying matters that should limit height and density of development.

5.13 It has been stated by Mr Moffatt that **the inclusion of the public engagement phase presented a challenge to meeting the tight timeframe** required to notify the intensification plan change by August 2022.

5.14 Since October 2021, through to the IPI plan change notification, mana whenua groups recognised by the Council, regional mana whenua forums, co-governance entities urban Māori authorities and urban marae had been actively engaged. For further information refer to points 6.12 to 6.14 within Mr Moffatt's Statement of Evidence.

6. RESPONSE TO AUCKLAND COUNCIL'S LEVEL OF PUBLIC CONSULTATION AND ENGAGEMENT

6.1 **Externally imposed and procedural time constraints were offered up as the excuse for what contributed to the limiting of the duration of this consultation to three weeks.**

Public consultation on the Council's preliminary response, being an indication of possible IPI plan change content, occurred for three weeks ONLY from 19 April to 9 May 2022.

The engagement approach was supposedly designed to encourage participation from Auckland's diverse communities with a range of channels used to raise awareness and provide further information to that contained in the consultation documents (e.g. **AKHaveyoursay platform**, **community partners** and **databases**)

- 6.2 It should be noted that this **three-week tight timeframe coincided with both Easter and school/university holidays.**
- 6.3 Surely it is disingenuous on Auckland Council's part to claim that their choice of timing was either genuine or sufficient, especially when the three weeks chosen (already limited as they were) as the only available window of opportunity for Council's public consultation and engagement coincided with easter and school/university holidays. If it was not perceived by Council to have impacted the level of public feedback, then why would it be necessary to have highlighted this point within Mr Moffatts planning evidence.
- 6.4 Other Factors such as central government introducing major changes through the RMA Amendment Act and the **impact of the Covid 19 pandemic**, were suggested to be reasons as to why it had made it impossible to engage with the public earlier.
- 6.5 **Extending** the engagement period further into May was suggested to run a **very high risk of the council being unable to meet the 20 August 2022** statutory [notification] **deadline** set by Central Government.
- 6.6 It also simply does not ring true that Auckland Council was put in such an impossible position with regard to the selection of this three-week period due to Covid, especially in light of the level of engagement that was afforded to and undertaken with:
 - a) Local boards:

Boards were briefed in October and November 2021 on the implications of the NPS-UD. Local board chairs were invited to the series of Planning Committee NPS-UD policy direction workshops in 2021 and 2022. Local boards received briefings on the Council's preliminary response in March 2022 and submitted feedback through resolutions at meetings in June 2022.
 - b) Iwi:

Consultation and engagement with mana whenua included regular collective and individual hui, visits to individual marae, subject matter workshops, presentations and updates to mana whenua forums and co-governance and co-management entities, provision of an independent professional planner to assist representatives to draft feedback, and a formal process of providing pre-notification feedback on the draft IPI plan change for consideration as part of decision-making for notification.

- 6.7 I disagree with Mr Moffatt's belief **that the extent and clarity of information provided on the matters for Council discretion was sufficient to enable the public to understand the issues and options involved, and to enable feedback to be provided that informed the preparation of the plan change that was notified in August 2022.**
- 6.8 A total of 7869 items of feedback were received by 9 May 2022, which included **6094 completed feedback forms**. A feedback summary report was produced and published on the Council's AKHaveyoursay platform.
- 6.9 The feedback form provided to the public was far from comprehensive, consisting of only 9 pertinent questions (with predetermined answers) and 7 generalised questions which did not specifically relate to the NPS-UD policy. Refer point 7.5 for list of feedback questions.
- 6.10 With the metropolitan population of Auckland in 2023 reaching 1,673,000, a total feedback response of 7869 (0.47%) is hardly a conclusive representation of Aucklanders as a whole. This is especially true in the absence of any credible numbers or informative data being provided to enable informed decisions on which answers could be based.
- 6.11 I disagree with Mr Moffatt's opinion that the consultation and engagement approach employed to assist the preparation of PC 78 was genuine and sufficient in terms of statutory requirements. I disagree with the conclusion that he considered that the **Council's approach and activities provided for "as comprehensive a consultation and engagement as was possible, delivered within a very tight timeframe not within the Council's control."**
- 6.12 I do not agree with Mr Moffatt's opinion **that the limited period of consultation and the limited engagement with the people that would be most impacted by the NPS-UD was sufficient under the circumstances.**
- 6.13 It was acknowledged by Council that the Auckland public would be significantly impacted by this level of intensification, and as such Auckland Council simply should have done far better than only achieving a level of consultation and public engagement "as was possible" and within a timeframe that had provided ample time but was limited solely by the decisions made within Auckland Council.
- 6.14 How can Auckland Council be of the belief that there was an undertaking of a **full** public consultation, especially when the limited consultation that did occur was only engaged in with regard to the Council's preliminary response?

7. LACK OF MEANINGFUL DATA SUPPLIED BY AUCKLAND COUNCIL CONCERNING SIGNIFICANT IMPACTS RESULTING FROM INTENSIFICATION

- 7.1 The Auckland Unitary Plan (AUP) brought about the biggest change in zoning rules in New Zealand history, and increased physical development capacity in urban areas by around two million dwellings. This was several

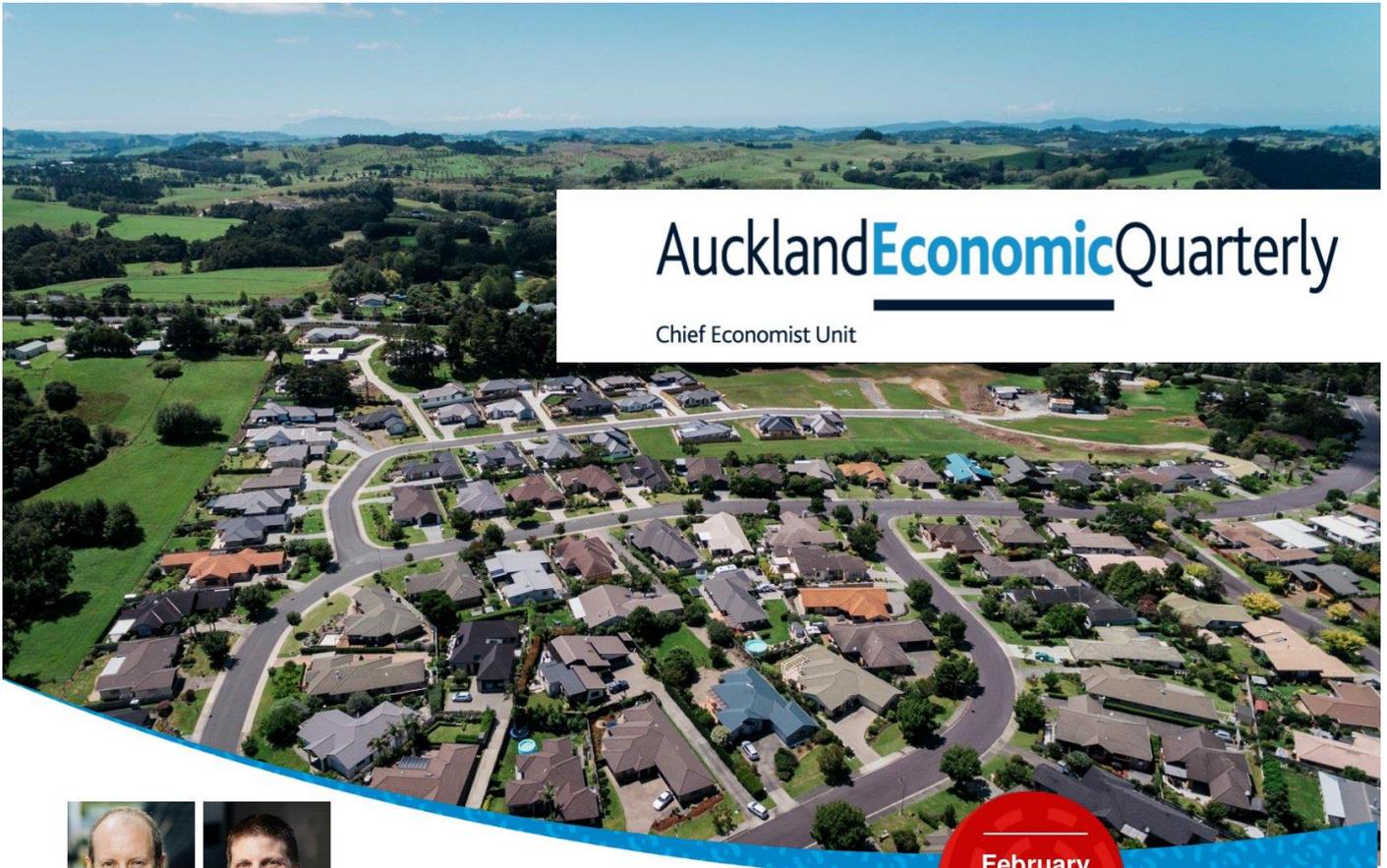
times Auckland's projected housing demand over the next 30 years. (See Appendix A)

- 7.2 Within the Rural Urban Boundary (RUB), allowance had been made for around 137,000 new homes in greenfield areas. (See Appendix A)
- 7.3 Regardless of the legislated AUP(OIP) growth capacity outlined in points 7.1 and 7.2, (over and above a current recorded 2023 Auckland population of around 1,673,000) there has been no data provided throughout the NPS-UD preliminary response process as to what the predicted increase in physical development capacity in the urban areas of Auckland will be.
- 7.4 Although the Preliminary Response Viewer (2D) highlighted possible areas likely to be significantly impacted, no comprehensive supporting data as to population numbers and number of high-rise buildings within walkable catchments were supplied during the preliminary process regarding feedback sought from the public.
- 7.5 Instead, without any real consequential numerical data to support the public when providing their feedback answers (as were predetermined), Auckland Council opted for the following feedback questions:
 1. What do you think of our proposed walkable catchment of 1200 metres from the edge of the city centre?
 2. What do you think of our proposed walkable catchment of 800 metres from the edge of the metropolitan centres?
 3. What do you think of our proposed walkable catchment of 800 metres around rapid transit stops?
 4. What do you think of our proposal to apply the Terrace Housing and Apartment Buildings Zone to residential areas up to around 400 metres from large town centres with high accessibility?
 5. What do you think of our proposal to apply the Terrace Housing and Apartment Buildings zone to residential areas up to around 200 metres from small town centres or large local centres with high accessibility?
 6. What do think of our proposal to include identified special character areas as a qualifying matter?
 7. What do you think of the proposed residential special character areas that we have identified?
 8. What do you think of the proposed business special character areas that we have identified?
 9. What do you think of our proposal to include areas in Auckland with long-term significant infrastructure constraints as a qualifying matter?
- 7.6 It is clear from the questions above that without specific consequential numbers and informative data being supplied by Auckland Council in support of each question that the public feedback provided was based on information that glosses over the questions very real and significant impact when it came to intensification within the urban areas to which the question related.

- 7.7 Stats NZ puts the current functional Auckland Urban Area 2023 (generalised) (Urban core) at a land area of 606 km² (excluding Pukekohe). (See Appendix B)
- 7.8 The walkable catchment areas (using 800 metres from the edge) of the city centre, metropolitan centres and an estimated 60 Rapid Transport Stations (49 RTS's as per the PC 78 Map Viewer, plus the Light Rail Corridor, two new RTS for the North West Strategic Network and counting) has the potential to allow for approximately 120 km² in 'at least six storey' buildings along the main rail and bus corridors.
- 7.9 This Auckland urban land area that has the potential to be extensively covered in corridors of six storey plus high-rise concrete structures equates to close to 20% the current functional Auckland Urban Area. Equate this as a percentage to areas that are AUP (OIP) zoned residential, and the impact would be shown to be much more significant.
- 7.10 The population density for the Auckland urbanised area was 24.9 people per hectare, 2490 per km², when using the 2013 census population counts. What will the area population of Auckland become as a direct result of this form of intensification and what is the population density for the Auckland urbanised area projected to be?

8. CONCLUSION

- 8.1 It is my opinion that Auckland Council has failed to publicly consult with or engage appropriately with Aucklanders (whether it was or was not a statutory requirement to do so).
- 8.2 I do not believe that Auckland residents have been adequately or transparently informed, due to the absence of relevant credible numbers and informative data in relation to the increase in supply of dwellings that will be enabled by the NPS-UD and MDRS policy through PC 78.
- 8.3 It is clear that the focus of Auckland Council's limited public consultation and engagement has been centred solely on the NPS-UD and MDRS policy and how to bring that policy into the AUP (OIP) plan with the aid of "qualifying matters" and walkable catchment distances. Due to this myopic focus, Auckland Council has ignored the on the ground ramifications and reality of their implementation of PC 78 that will ultimately shape Auckland in the future and have a significant negative impact on all Aucklanders' lives.
- 8.4 Such a lack of transparency, and lack of public consultation and engagement should be taken into considered in relation to PC 78 and just how appropriate it would be to approve PC 78 in its current form.



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David Norman – Chief Economist
david.norman@aucklandcouncil.govt.nz
021 516 103

Shane Martin – Senior Economist
shane.martin@aucklandcouncil.govt.nz
021 871 244

Rub of the green? Auckland's urban boundary and land prices

- Housing affordability remains a challenge for many in Auckland. Land use regulations such as the Rural Urban Boundary (RUB) are often blamed.
- But until now, no studies had looked at whether the RUB distorts land markets.
- Pre-RUB studies also underestimated the cost of infrastructure to develop greenfield (or undeveloped) areas, and in some cases ignored the value of location or mis-attributed amenity value.
- Our reviewed analysis shows the RUB accounts for **at most** between 0.6% and 5.2% of the price of the average developed residential property that has land and is inside the RUB.
- But market prices do not include the social impacts of more expansive development on things like congestion, emissions, viability of public transport and optimal use of existing infrastructure.

- We should evaluate whether these social impacts justify the RUB before bold recommendations are made on the RUB's future.

The RUB debate

With housing affordability still a challenge for many in Auckland, the finger of blame often points at land use rules, such as the old Metropolitan Urban Limit (MUL) or current RUB, both of which have limited development outside certain areas of the Auckland region. If a growth boundary results in a land price premium that materially increases the cost of housing, then given Auckland's housing affordability challenge, there would be an argument for removing the boundary.

The facts of this matter are fundamental to the shape of Auckland in terms of its growth, infrastructure provision, and economic and social outcomes. This means any policy to contain or expand development should be based on even-handed, defensible evidence.

The view that the urban boundary imposes a substantial premium on land is universally based on studies done on the obsolete MUL. On 15 November 2016, Auckland's Unitary Plan became operative, consolidating the different zoning rules in the various legacy plans of the

councils that amalgamated to form the new Auckland Council in 2010. It replaced the MUL with the more flexible RUB, which includes around 30% more land.

The Unitary Plan was the biggest change in zoning rules in New Zealand's history, and increased physical development capacity in urban areas by around two million dwellings. This is several times Auckland's projected housing demand over the next 30 years. Within the RUB, allowance has been made for around 137,000 new homes in greenfield areas. These significant changes render previous studies on Auckland's MUL obsolete.

[As our full technical report points out here](#), previous studies also had a number of other limitations. They generally underestimated or ignored the cost of infrastructure to turn greenfield (undeveloped) areas into residential-ready areas. As a result, they overestimate any price premium on developed residential land.

One often-cited study, which estimated the cost of land use regulation under the MUL at up to 56% or \$530,000 of the total price of an average **property** (not land) in Auckland, also excluded proximity to the CBD as a determinant of property values in Auckland. Yet practically every study that includes this variable finds that proximity (especially to the CBD and/or jobs) matters.

Previous studies have dealt with the value that amenities add to properties with varying accuracy and detail. One study accounted for amenities by using a dummy variable for each suburb, but then assigned the value of this variable to the cost of land use regulation. It effectively assumes the difference in land prices in **Ponsonby**, with its proximity to jobs, the water, hairdressers, supermarkets and coffee shops, and **rural areas near Pukekohe** is overwhelmingly the result of land use regulation. But land is not geographically identical. Location matters.

Other gaps in previous analysis that we wanted to overcome included:

- selecting an appropriate way to compare parcels of different land sizes inside and outside the RUB
- using real-world sales data rather than property valuations (to avoid modelling a model)
- accounting for net useable land when converting farm or lifestyle land into residential sized sections
- considering natural hazards such as risk of flooding in determining property values.

The question we posed

Put simply, we ask if converting farm or lifestyle-sized land outside the RUB into infrastructured residential sections similar to already developed land inside the RUB would deliver land to the market more cheaply. If there is a material premium on land inside the RUB, it would imply that the RUB is inflating land prices inside it.

Would converting farm or lifestyle land outside the RUB into infrastructured residential sections similar to already developed sections inside the RUB deliver land to the market more cheaply?

We define the **RUB factor** as the share of the price of the average developed residential property that has land and is inside the RUB that is attributable to being inside the RUB, if any.

We provide a brief summary of our approach later in this article but recommend the interested reader tackle our [full technical report](#). In short, we built a standard hedonic pricing econometric model to explain property prices as a function of the dwelling, land, and location. We gathered screeds of information about the nearly 37,000 farms, lifestyle blocks and residential properties with a land component that sold in and outside the RUB between 15 November 2016 and 31 March 2019. This allowed us to explain much of the variation in property prices depending on property characteristics and location.

What we found

Our goal was to isolate the un-amenitied, a-spatial value of land in farm sized (four hectares or bigger) and lifestyle sized (0.4 to four hectares) land outside the RUB, and compare it to the un-amenitied, a-spatial value of developed residential land inside the RUB (less than 4,000 m² in size).

The "un-amenitied, a-spatial land" value is what remains once we strip out other things that add value to property (such as proximity to jobs, the water, parks, or "good" schools; or the size and condition of the house, views, and contours of the land). We then estimate the value of un-amenitied, a-spatial farm or lifestyle land outside the RUB of the same size as the average developed residential property inside the RUB (618.7 m²) without these confounding factors. Here's what we found.

Figure 1 Un-amenitied, a-spatial value of 618.7 m² of land, before accounting for net usable land and infrastructure

| | Farm-sized | Lifestyle-sized | Residential-sized |
|-------------------------------------|------------|-----------------|-------------------|
| Outside RUB | \$1,069 | \$7,447 | \$67,164 |
| Inside RUB, inside FUZ | \$21,594 | \$28,695 | \$99,203 |
| Inside RUB, already developed areas | \$70,098 | \$37,222 | \$132,665 |

This figure does **not** say that the average residential section in Auckland costs \$132,665. It says that once you have removed almost everything that adds value to a property – its dwelling, its location and amenities, and other characteristics of the land – this is left over. The figure for farm-sized land outside the RUB is \$1,069.

But it would be a mistake to stop the analysis here.

First, when farm or lifestyle-sized land is converted to residential use, a large share of that land will be converted into roads, stormwater run-off, parks and other uses from which no financial return will be made by the developer. This means the value per square metre of raw land needs to be adjusted upward based on an assumption about how much of the land will be used for non-recoverable purposes once converted to residential use. Recent Auckland structure plans suggest around 57% of land becomes **unavailable**, meaning the cost of the land must be recovered from the remaining 43%. To err on the side of conservatism (i.e. overestimating the RUB factor, if any), we assume 65% of farm and lifestyle sized land is available for cost recovery.

Second, and far more importantly to the results, the major difference between farm and lifestyle land on the one hand and developed residential land on the other is access to infrastructure – running water, flushing toilets, roads, power and the like. It stands to reason that the cost and value of that infrastructure would add massively to the value of land. Yet only one previous study we know of in New Zealand has made an explicit attempt to account for some of these infrastructure costs.

Figure 2 RUB factor using various infrastructure cost scenarios

| Property location | Higher estimate of bulk infrastructure costs | Average estimate of bulk infrastructure costs | Average estimate of bulk infrastructure costs, 15% of subsidy priced into land | Average estimate of bulk infrastructure costs, 30% of value to existing users | Lower estimate of bulk infrastructure costs | No allowance for infrastructure costs |
|----------------------------------|--|---|--|---|---|---------------------------------------|
| Farm-sized land outside RUB | -\$77,580 (-8.1%) | \$15,820 (1.6%) | \$27,220 (2.8%) | \$50,380 (5.2%) | \$58,420 (6.1%) | \$131,020 (13.7%) |
| Lifestyle-sized land outside RUB | -\$87,392 (-9.1%) | \$6,008 (0.6%) | \$17,408 (1.8%) | \$40,568 (4.2%) | \$48,608 (5.1%) | \$121,208 (12.6%) |

The Future Urban Land Supply Strategy (FULSS), which sets out the sequencing for an estimated 137,000 new dwellings in greenfield parts of Auckland **inside** the RUB, provides an insight into the likely bulk infrastructure costs. [Our full technical report](#) provides detail on how this work was used to estimate the cost per dwelling in greenfield developments **outside** the RUB. For a number of reasons we list there, the estimates we use for bulk infrastructure in this analysis are likely to be far lower than would be the case outside the RUB, but again, we err on the side of conservatism.

The cost for bulk infrastructure, notwithstanding they are lowball estimates, is eye-watering, ranging from \$72,600 to \$208,600 per dwelling. The average estimate per dwelling inside the FULSS area is \$115,200. We would also note that even these figures do not include all of the infrastructure provided by central government or other costs of subdivision, including surveying, resource consent, legal and Land Information New Zealand fees that would be incurred in cutting up a farm or lifestyle land into residentially-sized sections.

Applying six different estimates of the possible cost of bulk infrastructure to develop farm and lifestyle land outside the RUB into useable developed residential properties similar to those inside the RUB, yields the RUB factors in Figure 2. The most defensible **upperbound** estimates of the RUB factor are in the dark grey boxes. We have pointed out the absurdity of a view that no infrastructure costs should be allowed for, but present that result too for the sake of completeness.

The most likely **upperbound** range of values for the RUB factor is 0.6% to 5.2% of the value of the average developed residential property with land inside the RUB (value of \$960,000). We label this an **upperbound** range in large part because of the low estimates of infrastructure we have used throughout, and our exclusion of other subdivision costs altogether.

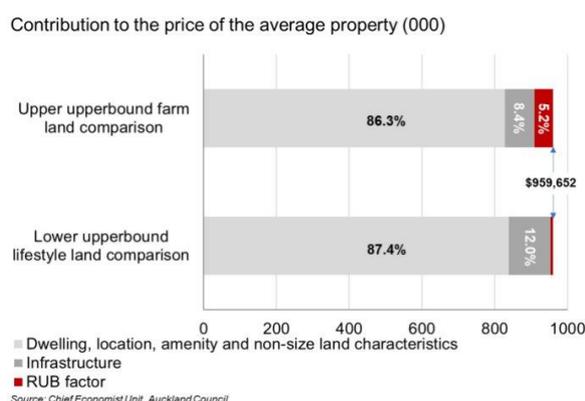
We ran numerous sensitivity tests on different model specifications, many at the suggestion of our external reviewers. None of the tests changed the modelled results in either direction by more than a few percentage points.

This last point is important. At higher infrastructure cost estimates, or different model specifications, it is possible that properties **outside** the RUB actually carry a premium. This would likely be because often two-thirds or more of the cost of bulk network and social infrastructure in greenfield areas is not borne by the property developer. Assumptions that this will continue to be the case may be encouraging land prices to be bid up outside the RUB, with the anticipation that the RUB might expand or disappear altogether.

What does all this mean?

Our analysis shows that the RUB factor, if any, is massively lower than previous work on the MUL had suggested. The reality of what the Unitary Plan has seemingly done to land markets, and accounting better for infrastructure and amenities matters significantly to how we think about the impact of the RUB.

Figure 3 Role of the RUB factor in the price of the average property



What about the social costs of sprawl?

Further, market prices do not include the relative social impacts of more expansive development on congestion, emissions, viability of public transport and optimal use of existing infrastructure, for instance. Our work provides a starting point for an informed debate on whether a RUB factor of up to 5.2% is justified given the social costs that may be part of more expansive development that would come with relaxing or removing the RUB.

A thorough analysis of whether these social impacts justify the RUB should be completed before bold recommendations are made on the RUB's future, given the impact keeping or removing the RUB has on the shape of New Zealand's largest city, its infrastructure needs and community outcomes.

How we did it

The interested reader will want to read our [full technical report](#). But in summary, we used hedonic price models with spatial error disturbances to explain prices in farm, lifestyle and residential properties. We tested numerous models, but settled on a three-model approach with separate models for farm, lifestyle and residential sized properties, all of the same specification. This allowed for different values to be placed on amenities or the value of an additional square metre of land by property size category.

We did not use a "difference in difference" modelling approach, as we were not asking how the RUB affects land market prices **relative** to the MUL, but rather how the land market operates today, since the Unitary Plan and RUB were introduced. Further, the results of a difference in difference analysis could almost certainly not be meaningfully interpreted. Land that was outside the MUL but is now in greenfield areas inside the RUB would be expected to increase in value given the promise of infrastructure, but how much would be largely a subjective interpretation.

We are confident in the reasonableness and explanatory power of our preferred model, but we ran numerous sensitivity tests. These tests included using spatial error and lag models; a number of different spatial weights; models with and without median income; with and without zoning; with and without additional RUB, or RUB and FUZ dummy variables; with different thresholds for setting size categories; using log forms for estimating the value of an additional square metre of land; using capital value instead of actual sale prices; and using one combined model instead of three.

Appendix B

