

Understanding the impacts of releasing greenfield sites for development

Report to Tasman District Council
1 April 2020



SENSE PARTNERS
DATA LOGIC ACTION



Context

In late 2019 Tasman District Council approached Sense Partners for a report to help council staff gain a better understanding of the impacts of releasing greenfield sites for housing on intensification uptake in Tasman. The report is intended to help inform implementation of the Nelson Tasman Future Development Strategy, recently adopted in 2019.



Contents

Context	1
Contents.....	2
Key points	3
1. The impacts of land banking	5
Land banking relates to one of your key questions	5
Councils have options to change land banking.....	7
2. Moving to a land rating system	10
A rating system based on land value requires thinking about tax principles	10
Some local government context	11
Land-based taxation is not less “fair”	12
What would this look like for Tasman?	13
3. Which indicators should Tasman District follow?.....	14
Forecasting supply and demand 30 years ahead is extremely difficult	14
How might Tasman District respond to a high price-cost ratio?.....	15
A stocktake of Tasman’s land and housing markets	17
4. Developing Greenfields and Brownfields	24
5. Conclusion	27
References	29
Appendix A: Economic Modelling.....	31
Methodology.....	31
Model estimation.....	31

Figures

Figure 1: Landbanking is not obvious from simply listing landowners.....	6
Figure 2: Nelson urban area shows high ownership concentration	7
Figure 3: Councils sequence land release to smooth Infrastructure Costs, helping land bankers exercise market power	9
Figure 4: The price-cost ratio for the Tasman-Nelson area is high	15
Figure 5: Higher house prices drive the price-cost ratio in Tasman	16
Figure 6: Median house prices have pushed higher in Tasman	17
Figure 7: Likely pressures in Nelson are spilling over to Tasman	18
Figure 8: Land price increases have outstripped house price increases	18
Figure 9: Rents are increasing relative to house prices	19
Figure 10: Tasman ‘mid-pack’ in house price growth, 2009-19	20
Figure 11: Tasman land price growth is similar to other councils.....	21
Figure 12: Tasman has grown faster than Nelson and New Zealand.....	22
Figure 13: Incomes are lower on average than the rest of New Zealand	22
Figure 14: The cost of borrowing is decreasing, pushing up house prices	23
Figure 15: Auckland and Wellington meet hard intensification target.....	24
Figure 16: History says 60 percent intensification is sought for Tasman	25
Figure 17: National population growth, internal migration, and population ageing generate land generated land growth in Tasman.....	26
Figure 18: Recent years show continued release of land within Tasman District ...	28



Key points

Prices for land and housing have been rising relative to build costs in Tasman District

- House prices continue to push high in Tasman District, rising 51 percent in the five years to February 2020. The current median sales price is \$665,000.
- Increases in land prices have outstripped house prices – land remains a driver of housing cost through the region.
- It is costly to build in the Tasman District but the ratio of house prices to build costs – the key price-cost indicator – is high relative to history.

Housing affordability relative to incomes is poor in Tasman District...

- The house price to income ratio suggests housing is unaffordable in Tasman and Nelson relative to other parts of New Zealand.
- But strong internal migration and wealth effects provide more support to house prices in these Tasman and Nelson relative to other regions.

...but look at house prices relative to build cost to guide release of greenfield land

- On their own, elevated house prices provide no clear signal on whether to release more greenfield land for development. Instead, the price-cost indicator provides a clear signal of when land supply is failing, and release of greenfield land is needed.
- National guidance on greenfield release recommends undertaking an assessment of future demand against capacity. These exercises are useful to understand likely future needs.
- But the price-cost ratio, in combination with a stocktake assessment of the current state of housing and land markets, shows the current state of housing and land markets and whether additional land is required today.

Past release of greenfield land has mitigated price increases – squeezing the greenfield market now would lift house prices and shift demand to other regions

- One measure of land growth provided by Landcare research suggests Tasman District has doubled urban land available for development over the past 22 years – outpacing strong growth in population and household formation.
- Cutting back on this pace of release would lift land and house prices, decreasing affordability even further. Substantive increases in house prices would be likely to push firms and households to other more affordable regions of New Zealand.
- Continuing to release greenfield land for development also pushes down prices of land within existing urban areas, facilitating some intensification.
- At least according to history, a target of meeting 40 percent of housing demand from intensification is achievable but would require a step-up in intensification efforts within the District.



Indicators show some risk land banking could affect the market for greenfield land...

- Indicators of land market ownership concentration show greenfield land in the Nelson-Tasman land area is more concentrated than many other New Zealand regions...
- But opinions can vary on what constitutes land banking. What can appear as land banking to some can also appear as legitimate, albeit low value business activities

...Tasman District has a range of options to target land banking

- There are costs to targeting land banking so Tasman District could do nothing and accept the influence of land banking on house prices
- But Tasman District can influence the opportunity for land banking by increasing the size of the market, adding more greenfield land to make it more difficult for developers to capture market share
- Tasman District could also intervene directly in the market to buy and sell land packages but deciding where and when to buy is fraught.
- A better approach is likely to be changing incentives – raising the cost of holding land relative to development by applying the rating system to land rather than capital values.



1. The impacts of land banking

Land banking relates to one of your key questions

One of your key questions relates to the role of land banking in housing markets. You ask:

Q7. Council zoning the land for housing is only one piece of the jigsaw in ensuring housing is built. A landowner can bank the land and stage release it to market to control supply to maximize their return in the future. Further as explained above, house and land packages are the only option available to potential buyers (often with minimum floor area covenants). What impacts do these factors have on housing?

Land banking, where land is bought not to develop, but to hold as an investment, reduces development opportunities since location is a key attribute of housing. In practice, land banking can be hard to prove for enforcement measures, since proving the motives of land owners can be fraught. Moreover, low rent activities with little capital development (such as farms with low stocking rates or car park lots) can at times effectively substitute for land banking, reducing the effectiveness aimed at reducing land banking directly.

But we can make a general assessment of the relative extent of land banking by looking at indirect indicators of land banking. Land banking is only successful if the market for land is characterized by only a small number of landowners who can exercise market power over the land market to keep price high. When land markets have many different owners, ready to supply land, the returns to any individual landowner are small and based on market value rather than exercising market power over prices.

Although we don't have available detailed information on land holdings for Tasman District, we have detailed information for the Nelson urban area which span Tasman District and Nelson.

Figure 1 (below) lists the top ten landowners in the Nelson Urban Area.



FIGURE 1: LANDBANKING IS NOT OBVIOUS FROM SIMPLY LISTING LANDOWNERS

TOP TEN LANDOWNERS IN THE NELSON URBAN AREA

Rank	Area (hectares)	Land titles	Owner	Market Share	Entity type
1	99.3	25	K.B. QUARRIES LTD	20.3%	Related Entities
2	58.1	4	SOLITAIRE INVESTMENTS LTD	11.9%	Individual Entity
3	35.1	55	NELSON CITY COUNCIL	7.2%	Related Entities
4	31.5	11	BAYVIEW SUBDIVISIONS LTD	6.4%	Individual Entity
5	19.6	4	BISHOPDALE POTTERIES LTD	4.0%	Individual Entity
6	17.5	2	C N & J W GOURDIE, R A STEVENSON	3.6%	Consortium
7	14.6	1	KARAPOTI PARTNERSHIP LTD	3.0%	Individual Entity
8	14.1	4	TOI TOI GROVE LTD	2.9%	Individual Entity
9	12.2	11	BROOK INVESTMENTS LIMITED	2.5%	Individual Entity
10	11.6	1	ST. LEGER GROUP LIMITED	2.4%	Individual Entity

Figure 1 reveals some of the difficulties with merely looking at the landowners to assess the presence of land banking. The list includes the Nelson City Council and the largest land owner has many activities associated with road building. Moreover, the list only looks at land already zoned for housing across the Nelson urban area. Of the largest land holders in the urban area, nine are primarily associated with land holding in the Nelson City Council.

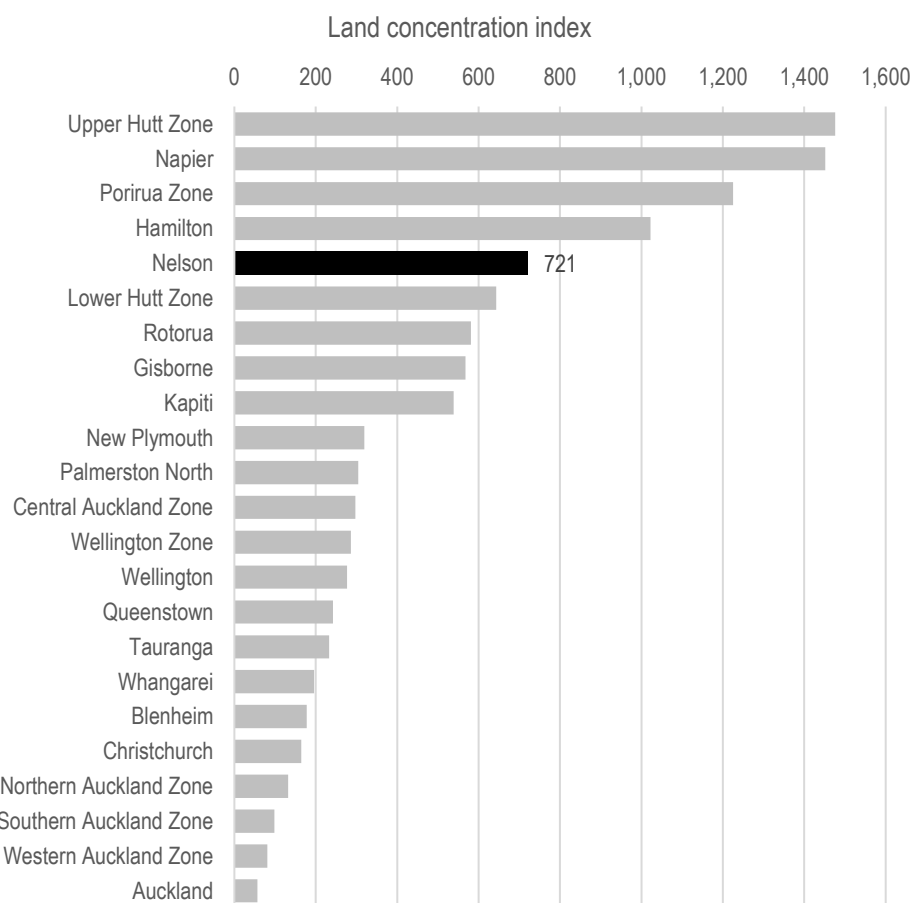
A parcel by parcel assessment may reveal other insights but MBIE also produces a land concentration index that compares the extent to which land is held in the hands of a few individuals.¹

Figure 2 (below) shows that the Nelson Urban Area shows high levels of land ownership – much higher than many of the main urban areas of Auckland and Wellington. So expect land banking is worthy of additional investigation for the Tasman District.

¹ MBIE have derived the ownership concentration indicators by matching land title data from Land Information New Zealand with Companies Office information on land-owning companies. Related companies and individuals are considered to comprise a single land-owning entity.



FIGURE 2: NELSON URBAN AREA SHOWS HIGH OWNERSHIP CONCENTRATION



In addition, other metrics can show the influence of land banking, including (i) changes in land prices after rezoning and (ii) the availability of land vs land and house packages. We have little evidence on (i), but the database of recent property sales suggest very few land sales close to Nelson city.

Councils have options to change land banking

There are four potential approaches that can be taken to help mitigate land banking:

- (i) Do nothing
- (ii) Change the size of the market – add more developable land
- (iii) Intervene directly in the market to buy and sell land packages
- (iv) Change incentives – raise the cost of holding land relative to development

Doing nothing is an option

Each of the interventions named above carry costs. Tasman Council may well form the view that the costs of a course of intervention outweigh benefits. This requires:

- Cost-benefit assessment of doing nothing compared to alternatives



- Assessment of authority to implement change

Changing the size of the market can help

One approach to improving competition in local land markets is to look at the limits that might prevent development outside of existing boundaries. The size of the market is defined by what local councils zone as fit for development. Relaxing zoning restrictions to expand the size of land available for development creates opportunities for consumers (land purchasers) to substitute across a bigger market reducing market power.

Three forces that are sustaining high land and therefore house prices:

- "...land-use plans that allow only incremental geographic expansion of cities,
- council infrastructure providers who want to keep costs low by only expanding their existing networks incrementally,
- and landowners at the fringe and beyond who hope for large capital gains.²

By adding additional greenfield land, councils can have a strong impact on local land and housing markets by changing the size of the market. This can increase the aggregate pool of land and often increase the number of potential suppliers to the market, creating opportunities for home buyers to search across a larger market reducing market power of existing land holders.

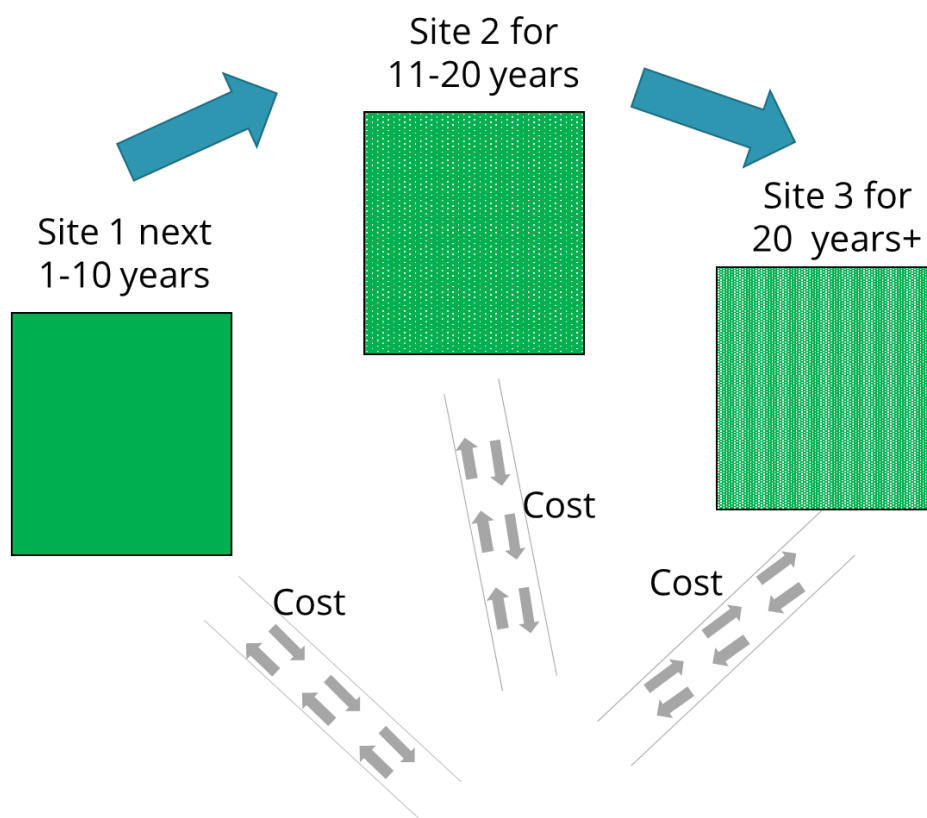
But councils are often reluctant to relax zoning. This can often relate to the cost of providing the infrastructure necessarily for development.³ Infrastructure is costly. Without funding models that incentivise developers to bear some of the cost, infrastructure tends to proceed in sequence to help councils' balance sheet pressure and reduce the risk of stranded assets. This increases opportunities for landowners to "land bank" since in the short-run, developable land is restricted to each sequence, keeping prices elevated.

Figure 3 (below) shows a stylised example of why councils prefer to proceed in a sequence of sites compared to substantive increases in developable land across multiple sites.

² See Productivity Commission (2017).

³ See New Zealand Productivity Commission (2017) for an in-depth treatment of the issue.

FIGURE 3: COUNCILS SEQUENCE LAND RELEASE TO SMOOTH INFRASTRUCTURE COSTS, HELPING LAND BANKERS EXERCISE MARKET POWER



Intervening directly in the market to buy and sell land packages

Councils could of course, buy and sell land. But councils are not well armed with a framework that governs the circumstances when land purchases are justified and equitable given the objectives of local councils.

At least in principle, councils could intervene directly in the market by buying and selling land holdings. That might work for at times for holdouts problems, when a single or small number of land holdings stand in the way of large-scale development. But a council that is a large active player in the market – to the scale required to change competition – takes on risk. This shows the regulatory toolkit at councils' disposal is not sufficient to overcome the barriers to development and provide better outcomes.

Right now, councils do not have the authority to remove restrictive covenants that can constrain the extent of development opportunities.⁴ The number, range and complexity of covenants has been increasing in recent years. Removing covenants would provide more flexibility for house and land packages, effectively increasing market supply.

⁴ The High Court has the power to modify land covenants.



But council can also mitigate many of the impacts of land banking by increasing the incentive to development land. This can be achieved by moving towards a land-based rating system rather than a capital-base rating system.

Targeted rates could also help. Targeted rates are designed to fund a function or group of functions, likely to be associated with new infrastructure or open spaces, such as parks and gardens and community facilities such as libraries. The intent is to recover costs when a user pays approach is not practical rather than change incentives by penalising land owners who choose not to develop land.⁵

2. Moving to a land rating system

A rating system based on land value requires thinking about tax principles

A second approach to making the market for developable land more competitive is to raise the relative cost of holding land. Most large New Zealand cities use a property's capital value as the basis for setting general rates. Switching from setting rates based on capital improvement to land value would reduce to zero the ongoing bill for capital improvement. The rates bill on unimproved land would increase to meet the revenue recouped from rates levied on capital.⁶

Such a switch changes the relative price of holding land and reduces the incentive for landowners to land bank. Impacts would differ according to the value of land, potential capital improvements and ratings basis.

Targeted rates are designed to fund a function or group of functions, likely to be associated with new infrastructure or open spaces, such as parks and gardens and community facilities such as libraries. The intent is recovering costs when a user pays approach is not practical rather than change incentives by penalising landowners who choose not to develop land.⁷

Incentivising development via a land rating system addresses a second of your questions:

⁵ At least in principle, Schedule 3 of the Local Government Act 2002 includes the number of separately used or inhabited parts of the rating unit as a factor that may be used in calculating liability for targeted rates. Rather than recovering servicing costs, charging land zoned for development but with few separately used or inhabited parts could incentivise development but seem to run contrary to the intent of the schedule.

⁶ The New Zealand Productivity Commission (2017) concluded: "The unimproved value of land is a more efficient and fair rating base than capital value.

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Q8: Tasman's rating system is capital value based. Some say that a rating system that is land value based better encourages development of land (improvements), what are the pros and cons of each?

Taxes are primarily levied by government primarily to finance expenditures on public goods like infrastructure, typically when there is some market failure that makes it unlikely for the private sector to provide those goods.

Over history, governments can either charge the recipients of particular services or tax everyone in the community in some measure. Taxes have been levied on many things but primarily have fallen on income, wealth or particular assets and income.

Among these, taxes on real property (e.g. land) have a very long pedigree, because land has long been a visible indicator of wealth and ability to pay and also because land is immobile, which makes it easy both to assess liability and to collect taxes on it.

The basic principles of taxation can be summarised as the following:

- Taxes should be administratively easy to collect relative to their return;
- The timing and amount to be paid must be certain to the payer;
- There should be a convenient way of paying the tax for the payer;
- Taxes should be levied according to ability to pay;
- Taxation should be economically efficient and not distort resource allocation across economy activity.
- Tax should be fair – similar individuals should pay similar tax and a higher share of taxation should come from individuals with a greater ability to pay.

Some local government context

Local government's ability to raise taxes is constrained since central government (at least in New Zealand) cannot access the same taxation base by law and it is easier for residents of local areas to "vote with their feet" and move outside the taxation net.

Usefully some limited national funding (for example provision of roads) is available to local governments with local decision-making. This follows the US funding model of local decision-making relative to the European model where local authorities are responsible for delivering national goals.

Relative to international norms, local government in New Zealand tends to be largely independent of central government and much more reliant on property taxation than local government internationally that often has recourse to a taxation base including sales taxation for example.

The absence of other taxation bases raises the importance whether to levy property taxation on a land or capital taxation basis.

The case for land-based taxation: land-based taxation is more efficient

Economists agree that land-based taxation is one of the most efficient taxes. Because land is in fixed supply, businesses find it extremely difficult to avoid the tax and has the least impact on the decisions businesses make to allocate resources across the



economy. In contrast, capital-taxation applies to the worth of any building, effectively discouraging businesses to develop economic value.

That agreement can be pretty stark and to the point. One Nobel prize-winning economist notes:

“The property tax is economically speaking, a combination of one of the worst taxes – the part that is assessed on real estate improvements ... and one of the best taxes – the tax on land or site value”. (Vickrey 1999)⁸

And a second Nobel prize-winning economist puts it simply:

“...the least bad tax is the property tax on the unimproved value of land” (Milton Friedman).⁹

In contrast, income taxation reduces the return from employment, reducing the effort of labour. Similarly, a capital-based property tax reduces the returns to capital, reducing the incentive to invest. In short, land-based taxation is good for growth. According to the Economist (2013):

“Taxing land and property is one of the most efficient and least distorting ways for governments to raise money. A pure land tax, one without regard to how land is used or what is built on it, is the best sort.”

Ultimately land is immobile. That makes land-based taxation and efficient, non-distortionary taxation system. The Taxation Working Group agrees:

“Most members of the TWG support the introduction of a low-rate land tax as a means of funding tax rate reductions and improving the overall efficiency of the tax system. However, there are concerns over the political sustainability of such a tax.”

The OECD’s 2011 report on New Zealand advocates a land-based tax:

“A land tax would tend to be more efficient than a property tax. Because land is fixed in supply, it is relatively price-inelastic, and therefore deadweight losses from taxing it are relatively low.”

Since capital is mobile and unlike land, can respond to relative price shifts, taxing capital would reduce the existing taxation base. Assessing the rates required to return a fixed revenue base needs to assess the price effect on the size of the capital base. That favours retaining land-based taxation.

Land-based taxation is not less “fair”

Traditionally economists have been more divided about not just the relative “fairness” of property taxation versus income and other forms of taxation but also the relative fairness of land-based versus capital-based taxation.

Property taxes have long been considered regressive since the burden was thought to be passed on to tenants and workers. But when capital markets are efficient, capital taxation falls on the owners of capital. Since these owners of capital tend to be richer, the tax is less likely to be regressive (the Economist 2013).

⁸ Cited in Dye and Richards (2011)

⁹ Referenced in Blaug (1980) and Coleman and Grimes (2010).



With regard to land-based versus capital-based taxation, capital-based taxation was favoured since capital was assumed to represent an asset that might be more closely associated with a cash stream than a land-based tax alone.

But the equity impact of land-based taxation depends on many factors. These include not just the direct impact of the tax, but on how the tax shapes the prices of land and other assets and how homeowners and businesses change their behaviour in response to these price changes.

Coleman and Grimes (2010) note that the international evidence is mixed but that area specific features matter making it hard to generalise with regard to whether a land-based tax is regressive.

For example, Bowman and Bell (2008) use Roanoke, Virginia as a case study and find a land-based taxation system is more progressive. England and Zhou (2005) use the case of Dover, New Hampshire and find the tax is likely to be regressive.

Coleman and Grimes (2010) find that for the case of New Zealand, at a national level, the land-based tax is more likely to be progressive than regressive. McClusky et al. (2006) take a closer look at land-based taxation at a local-level and conclude that the land-based tax is likely to be regressive in the New Zealand case while Kerr, Aitken and Grimes (2004) advocate for land-based taxation in the New Zealand context – at least partly because it is likely to be progressive.

To see how the land-based taxation system can be progressive, compare the taxation incidence of a well-located inner-city urban property with a property in a less desirable location. For the well-located inner-city property, land makes up a larger fraction of the overall value of the property. Since individuals with more wealth and income can afford to live in the well-located suburbs, they would pay more tax under a land-based taxation system.

What would this look like for Tasman?

Regime change will create winners and losers. Existing taxation rules are baked in or capitalised into existing property values. So, expect substantial winners and losers from changing taxation regime. The winners will already have above average capital intensity, developed under the previous capital-based taxation regime. Conversely the losers will have large land holding with relatively undeveloped properties.

There are other effects. Land taxes intensify use of land. That penalises holding undeveloped land and promotes a more compact city, since Greenfields urban development at the edges of the city is typically more costly than brownfields development since infill can make use of capacity of some existing infrastructure.

But many cities face different infrastructure constraints. Like Tasman, much of New Zealand's infrastructure is ageing and upgrades are needed to many water systems, making decisions about greenfields and brownfields development, over other short- and long-run horizons, far from obvious.

Changing the taxation regime will have non-trivial implications for households and businesses. Property values – particularly commercial property values – will move immediately on announcement of the new regime, even if the incidence of the taxation regime begins in ten years' time. Where to live and work, the type of house to buy and the house location are all dependent on the local taxation regime. A halfway house, where taxes are set as a 50-50 weight of capital-based and land-based might prove a political feasible option.



3. Which indicators should Tasman District follow?

Forecasting supply and demand 30 years ahead is extremely difficult

Taking a central planning approach to forecasting future demand and supply for housing can be fraught. On the demand side, forecasts need to account for a wide range of factors including national and regional migration, ageing populations and changes in fertility.

On the supply side, markets can change dynamically in response to changes in relative prices. Industries that didn't exist 30 years ago can start, grow and wane over these generational timeframes. Moreover, it can be hard to estimate the trajectory of economic trends that, such as a generational long move from agriculture and manufacturing towards services, that dominate the demand for industrial land.

In practice, population growth has outstripped even Statistics New Zealand's "high" population projections, placing additional pressure on local councils that plan for growth based on these assessments.

Use prices to augment 30-year forecasts for demand and supply

So rather than relying solely on demand and supply forecasts we can use various measures of relative prices to infer whether current land market conditions are tight and unnecessarily restrictive.

This speaks to two of your central questions:

Q4 Councils tend to release land for housing based on population projections, not market conditions. What are the most important market factors council should take into account?

Q5 Tasman is the second least affordable region in the country for housing, according to the Massey University index. Land values have also increased strongly since 2014. If house and land prices continue to rise, is that a signal to release more greenfield land?

Rather than relying on any single measure of prices, councils can examine the price-cost ratio that is an indicator of the extent to which the price of land rather than the cost of construction is driving house prices. This signals a shortage of development opportunities, not just that construction costs may be high.¹⁰

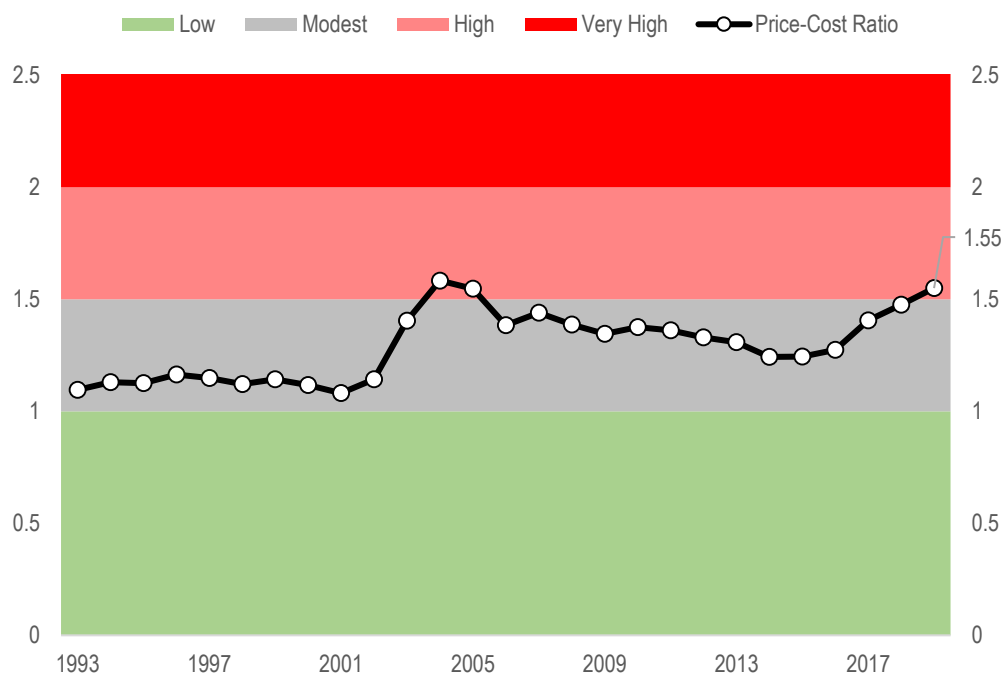
In many ways, the price-cost acts as a check on the overall state of the market. Rural-urban price differentials and zone price differentials can be used to assess underlying causes of markets that show elevated price-cost ratios. Figure 4 shows

¹⁰ The per square metre house price (obtained from sales records) are compared to per square metre construction costs, to estimate how much of sales price is driven by the cost of land, including some allowance for infrastructure.



the update price-cost ratio for the Nelson-Tasman urban area against MBIE's classification framework for the price-cost ratio. The value for 2019 places the ratio in the "High" category – from 1.5 to 2.

FIGURE 4: THE PRICE-COST RATIO FOR THE TASMAN-NELSON AREA IS HIGH



How might Tasman District respond to a high price-cost ratio?

The price-cost ratio is a general indicator – it shows the impact of the existing suite of land use regulation on development supply given existing demand conditions. So, the price-cost ratio should inform the general response of Tasman District.

Guidance on the National Policy Statement on Urban Development Capacity suggests that:

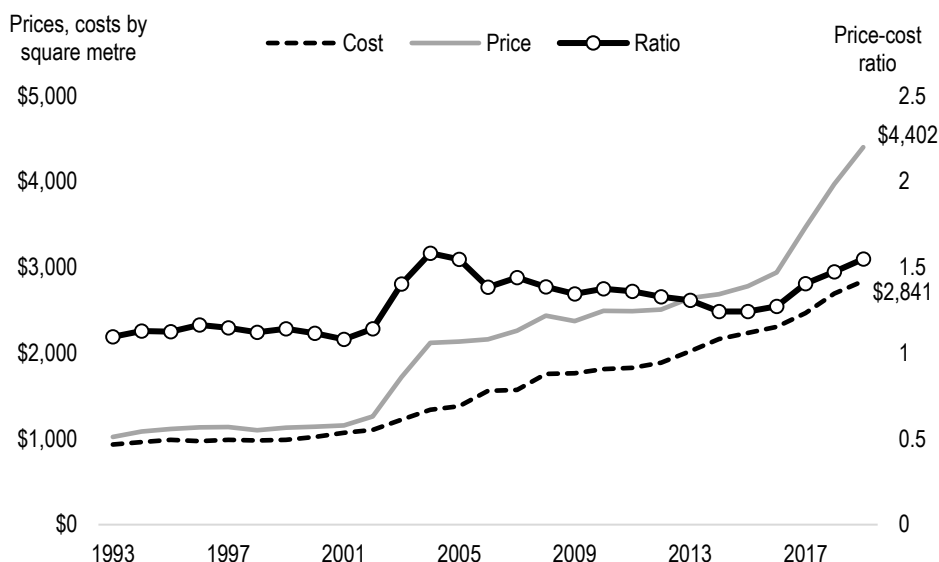
- **When the price-cost ratio is low** – less than one – construction costs outstrip prices, land is not playing a significant role in the housing affordability so council efforts are best placed elsewhere.
- **When the price-cost ratio is modest** – between 1 and 1.5 – councils should monitor changes over time. Planning policies and processes take time to implement and are generally do not build-in sufficient flexibility to respond to rapid changes in demand. Even when the price-cost ratios are elevated councils might want to test whether policies enable sufficient flexibility to meet current conditions.
- **When the price-cost ratio is elevated** – between 1.5 and 2.0 land is playing a substantial role in driving up house prices and reducing housing affordability.

Councils should check the role any confounding factors might be playing. For Tasman, this could be significant since Tasman is only a part of the broader Nelson-Tasman



urban area. The persistence of any factors, such as a wedge between prices in Nelson and the Tasman District, should be tested. If these factors are likely to persist, then councils should adjust plans and regulations to improve housing supply. Figure 5 shows that recent increase in house prices have outstripped increases in construction costs – lifting the price-cost ratio.

FIGURE 5: HIGHER HOUSE PRICES DRIVE THE PRICE-COST RATIO IN TASMAN



Source: Sense Partners

When the price-cost ratio is *elevated* Tasman District could be satisfied with either:

- (i) modest changes that span existing plans, land use regulation within the city and land use regulation and incentives for development at the city boundary; or
- (ii) substantive relaxation of the master plan or land use regulation either across the city or within the city.

Option (ii) would require identifying where relaxing land use regulations would improve land supply. At this point, the rural-urban price differential and zone price differentials can be used to test where land use restrictions might be eased. These land use restrictions might include:¹¹

This includes how much needs to be done when, across a range of potential responses rather than prioritising responses. Responses can be characterised into a typology that includes:

- i. revisiting Master plans and carrying out the assessments of demand for business and housing demand and capacity
- ii. relaxing land use restrictions at urban limits by expanding the amount of greenfields land ready for development

¹¹ See "Moving on up Relaxing land use restrictions can lift Auckland city", NZIER report to Auckland Council 13 February 2015



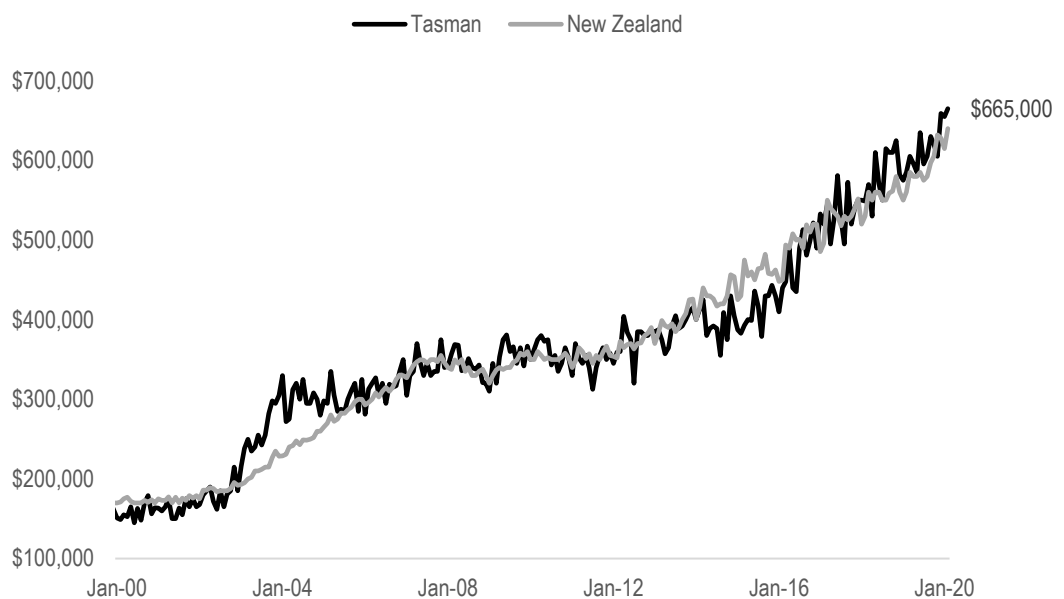
- iii. relaxing land use restrictions within the city, and allowing for additional density within the city

Deciding on which path might prove most fruitful requires a closer look at the drivers of land and housing markets across the region. We might expect Nelson to be constrained by the sea and hills for greenfields development so Tasman might need to do more to provide land across the wider Nelson urban area. So, we first conduct a mini stocktake for Tasman District before moving to evaluating the question of greenfields vs intensification

A stocktake of Tasman's land and housing markets

Regardless of the drivers, house prices have pushed up in Tasman more than elsewhere. Figure 6 show house prices estimate (based on Core logic data) that compare Tasman to the average median sale price in New Zealand to February 2020.

FIGURE 6: MEDIAN HOUSE PRICES HAVE PUSHED HIGHER IN TASMAN
MEDIAN SALES PRICE, TASMAN VS NEW ZEALAND

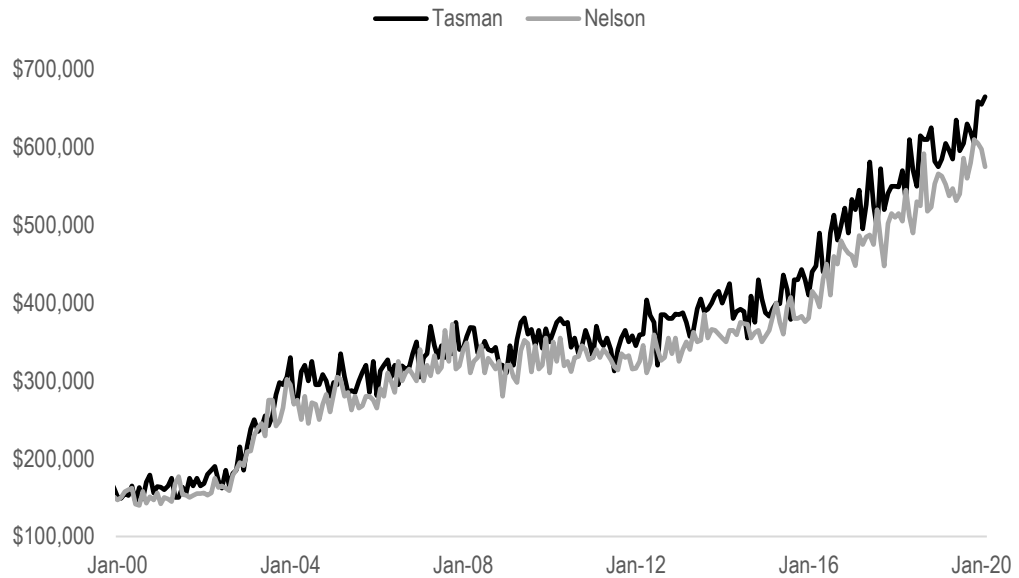


Source: REINZ

Figure 7 shows that house prices in Tasman are closely linked to Nelson City. It is sensible to consider Nelson and most of Tasman as a joint urban area.



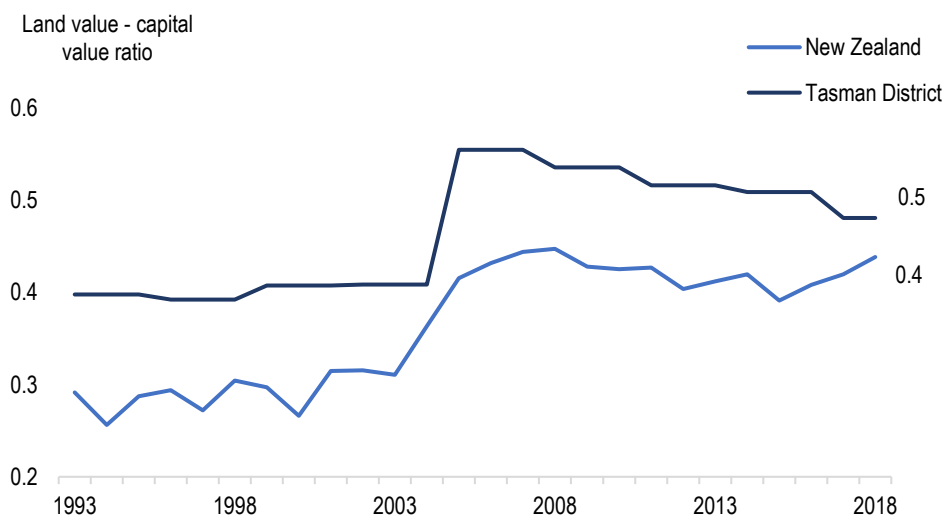
FIGURE 7: LIKELY PRESSURES IN NELSON ARE SPLILING OVER TO TASMAN
NOMINAL HOUSE PRICES TASMAN DISTRICT AND NELSON CITY



Source: Sense Partners

Increases in land price appear to be a critical driver. Figure 8 shows that land price increases have outpaced the increases in house price according to the land value to capital value ratio.

FIGURE 8: LAND PRICE INCREASES HAVE OUTSTRIPPED HOUSE PRICE INCREASES
RELATIVE PRICE OF LAND TO HOUSING NEW ZEALAND AND TASMAN

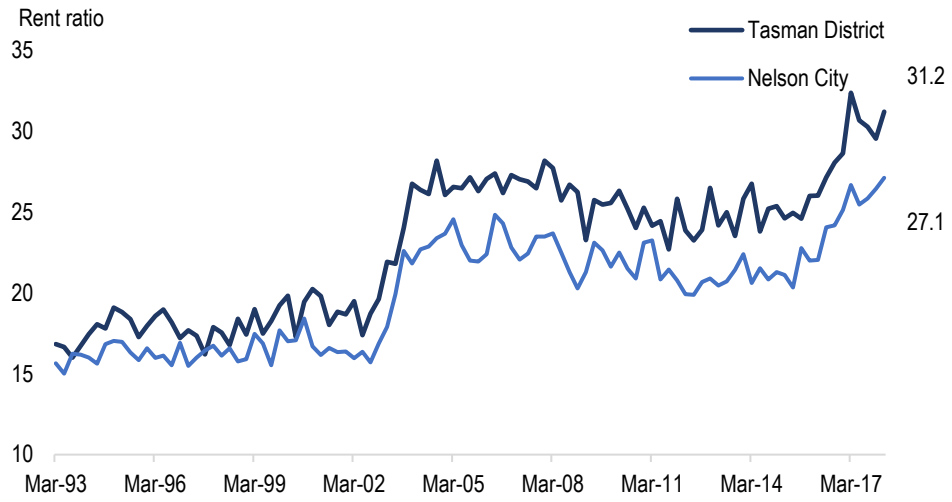


Source: Sense Partners

And elevated land prices are in turn spilling over to the rental market, decreasing housing affordability for both home-owners and renters. Figure 10 and Figure 11 suggest growth in housing and land prices for Tasman District have been in the top of half relative to New Zealand councils in.



FIGURE 9: RENTS ARE INCREASING RELATIVE TO HOUSE PRICES
RENT RATIO TASMAN AND NELSON

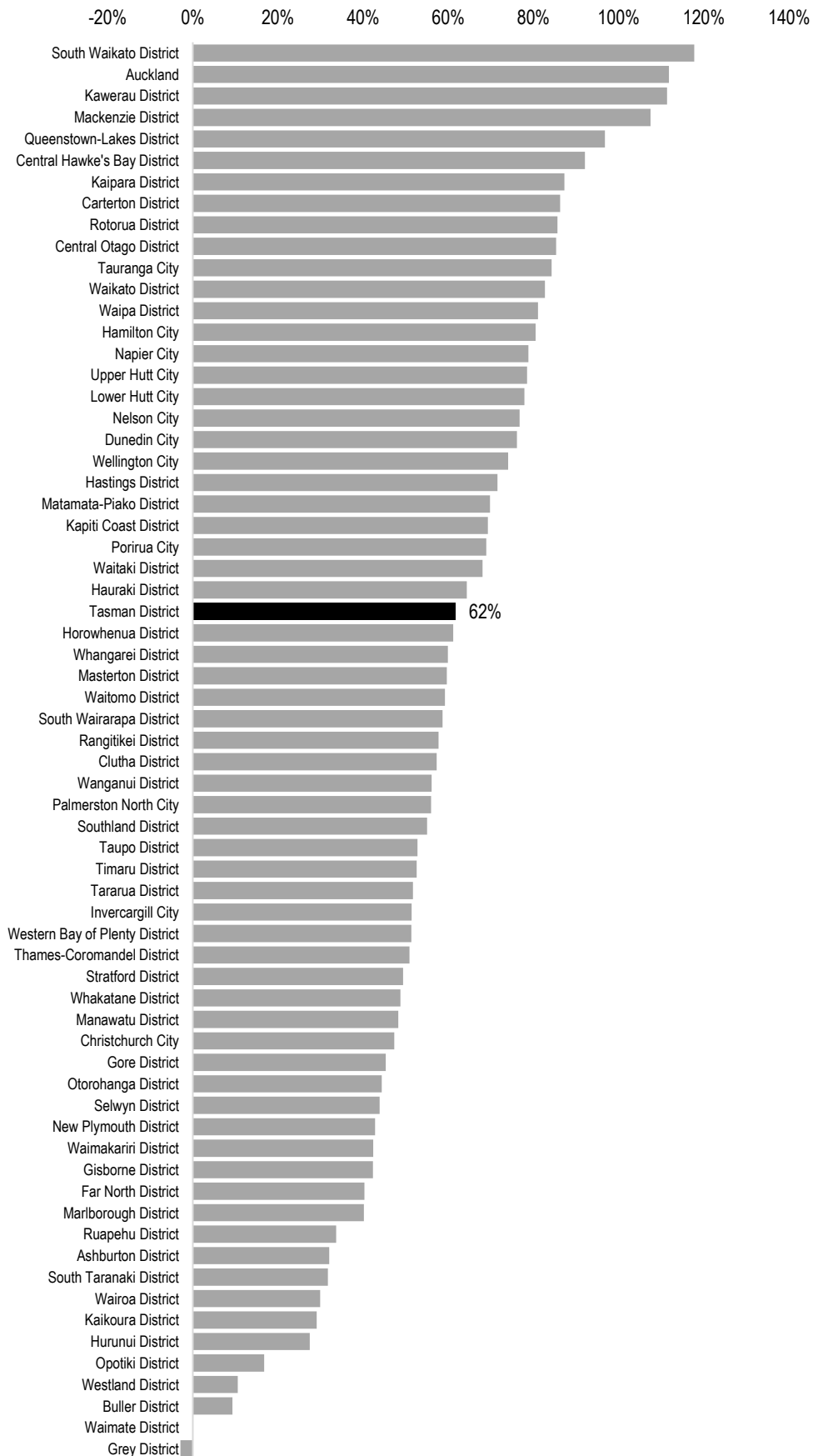


Source: MBIE



UNDERSTANDING THE IMPACTS OF RELEASING GREENFIELD SITES FOR DEVELOPMENT

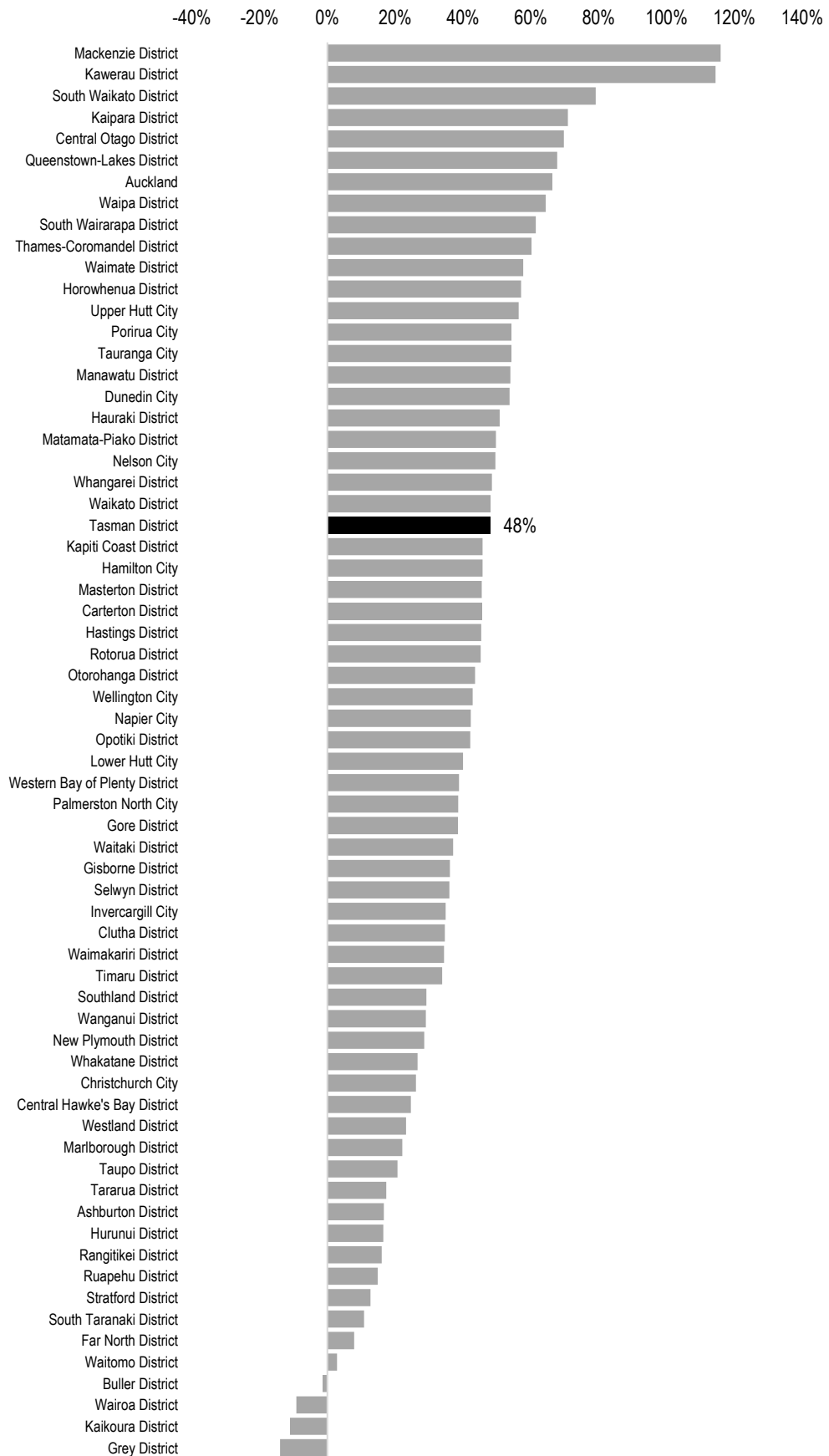
FIGURE 10: TASMAN 'MID-PACK' IN HOUSE PRICE GROWTH, 2009-19





UNDERSTANDING THE IMPACTS OF RELEASING GREENFIELD SITES FOR DEVELOPMENT

FIGURE 11: TASMAN LAND PRICE GROWTH IS SIMILAR TO OTHER COUNCILS





Alongside strong population growth, one feature of the local economy is the level of GDP per capita is lower than the rest of New Zealand, at least according to MBIE's modelling GDP per capita. Figure 13 shows incomes are lower than the New Zealand average and growing at only a moderate pace, placing pressure on affordability measures. In addition, falls in real interest rates have decreased borrowing costs and are placing additional pressures on prices (see Figure 14).

FIGURE 12: TASMAN HAS GROWN FASTER THAN NELSON AND NEW ZEALAND POPULATION GROWTH (PERCENT), PAST TEN YEARS

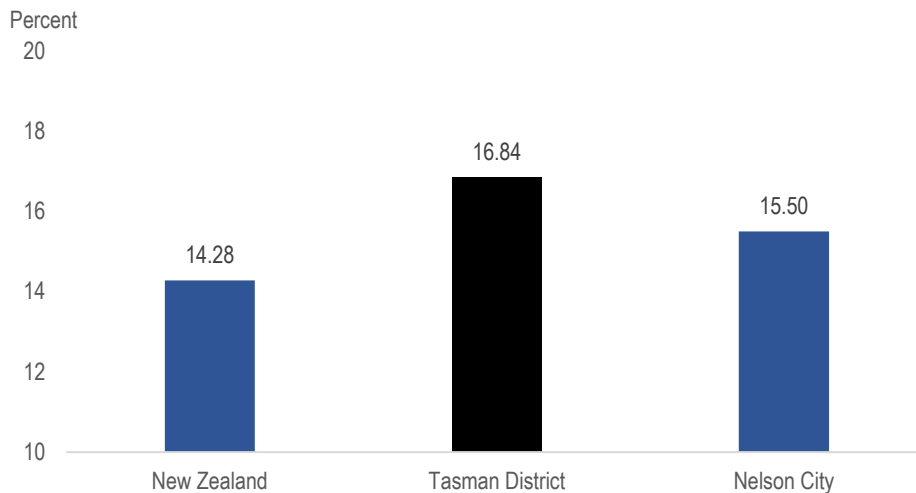
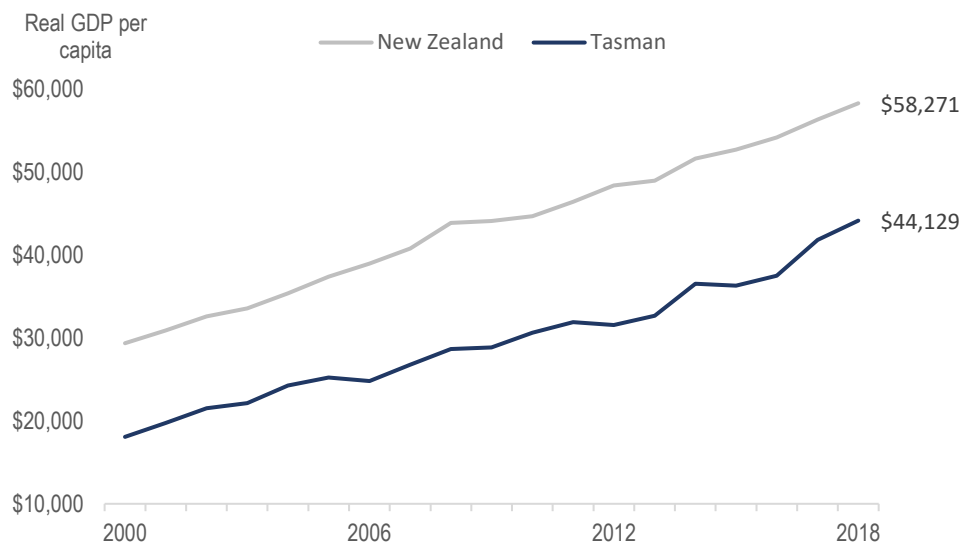


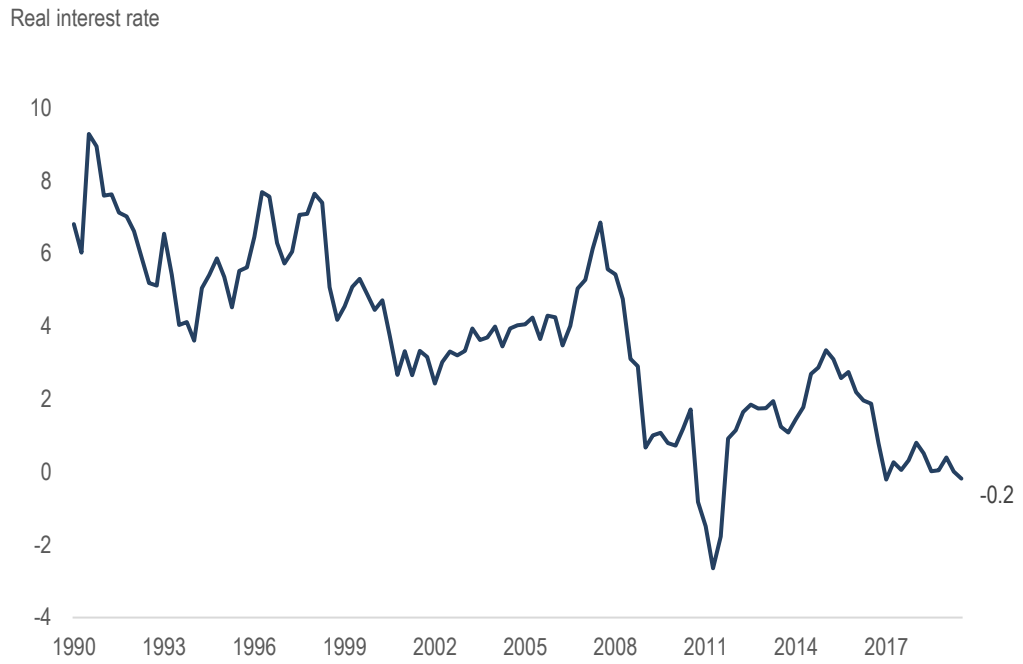
FIGURE 13: INCOMES ARE LOWER ON AVERAGE THAN THE REST OF NEW ZEALAND MBIE'S MODELLED GDP FOR TASMAN AND NEW ZEALAND



Source: MBIE



FIGURE 14: THE COST OF BORROWING IS DECREASING, PUSHING UP HOUSE PRICES



Source: Sense Partners



4. Developing Greenfields and Brownfields

One of your key questions relates to the feasibility of your target of meeting 60 percent of new housing need from intensification of existing land rather than greenfield development:

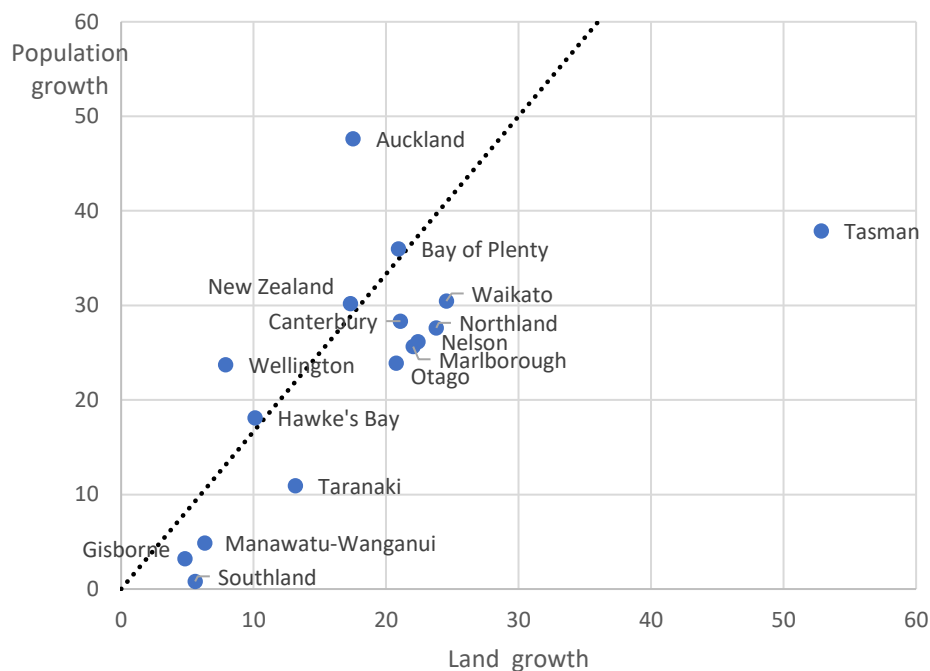
Q1. How feasible is a target of 60% new housing from intensification within the Nelson urban area based on the behavior of the NZ market and home buyers?

Many factors will drive the likelihood of meeting this target, including for example: income growth (that increases demand for backyard space), changes in interest rates (that over the past generation have facilitated additional borrowing to fuel house and land consumption) and internal and international migration patterns.

But a simple gauge exists – looking at how New Zealand regions accommodated growth over the past 25 years. We use Landcare New Zealand’s Land Cover Database (LCDB), to calculate the change in urban land over the 22 years (from 1996 to 2018) and compare land growth to population growth for each region in New Zealand. Figure 15 shows the results relative to a dashed line for a target of meeting 40 percent of housing needs via intensification – allowing for 60 percent greenfield development. The target for Tasman and Nelson Districts overall (as opposed to the Nelson Urban Area) in the Future Development Strategy is 40% intensification.

On first blush the results are a little sobering. Only Auckland and Wellington are much to the left of the dashed line and meet the target for intensification over the past 22 years. Most other regions are to the right of the line and Tasman is some distance from the target line.

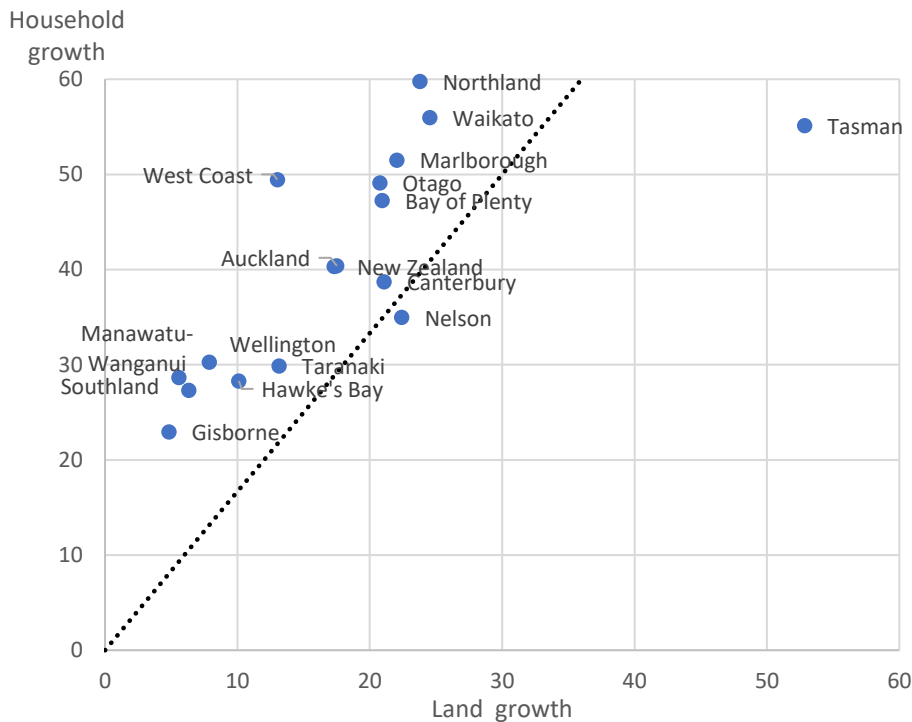
FIGURE 15: AUCKLAND AND WELLINGTON MEET HARD INTENSIFICATION TARGET CENSUS POPULATION GROWTH (1996 VS 2018) AGAINST LANDCARE URBAN GROWTH (1996 VS 2018)





But population growth is not household growth since demographics -and an ageing population in particular, shifts around household formation. The number of households has grown rapidly over the past 22 years. Figure 16 shows that many regions have almost matched household growth with a 40 percent intensification target, but such a target looks challenging for Tasman. Significant change would need to occur.

FIGURE 16: HISTORY SAYS 40 PERCENT INTENSIFICATION IS TOUGH FOR TASMAN
CENSUS HOUSEHOLD GROWTH (1996 VS 2018) AGAINST LANDCARE URBAN GROWTH (1996 VS 2018)



And we can do more to use change in urban land over history to show the drivers of change in Tasman District. Figure 17 shows the drivers of demand for land in Tasman at a high level. The first element is national population growth. New Zealand's population has grown rapidly over the past 22 years and this translates into additional demand for land.

The second element shows demand for land that has accrued from a regional pivot: Tasman District has experienced greater internal net migration than other regions placing additional demand pressures on land.

The third element is household size. As the population ages, fewer people accommodate each household and additional housing is required to house the same number of people. Ageing and household size account for about 215 hectares or about 24 percent of the growth in land Landcare estimates occurred over the period.

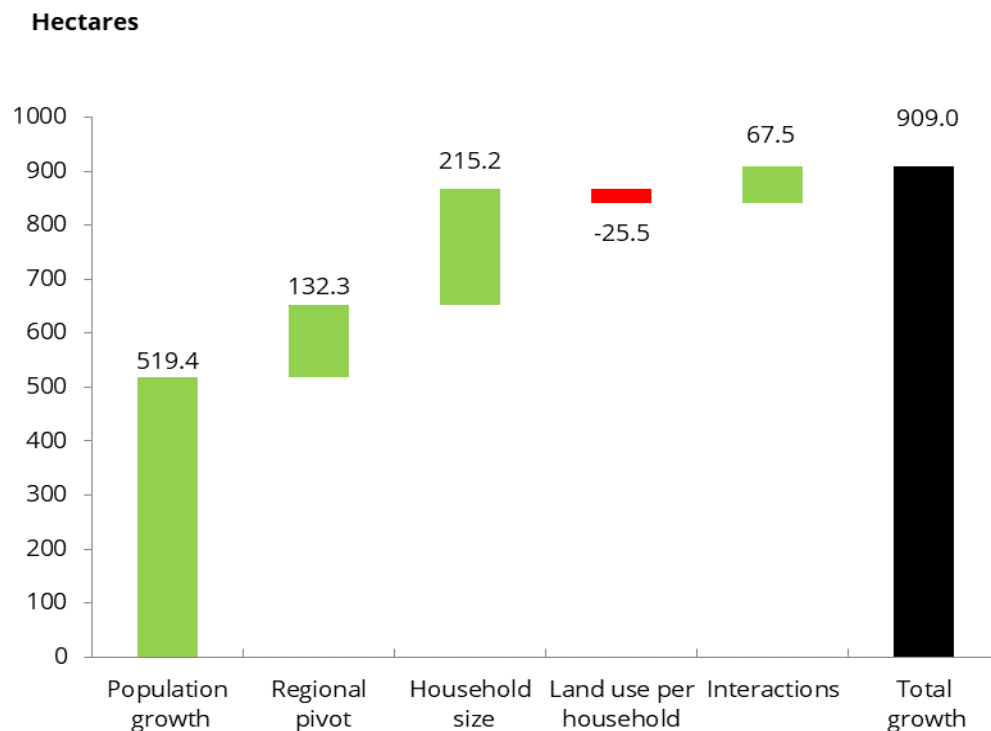
Households are using less land per household, perhaps driven by increases in land prices. A term that accounts for interactions across the drivers adds an additional 67 hectares so growth in urban land is 909 hectares since 1996. This speaks to your second question.



Q2 If we squeeze the greenfield market, what are the likely impacts on the market, prices, buyer behavior and any wider economic impacts?

These underlying demand drivers show that Tasman has accommodated population growth and an ageing population by releasing urban land for development. This has moderated price increases relative to build costs, keeping the price-cost ratio lower than most other regions. Expect this process to reverse if greenfield development is curtailed.

FIGURE 17: NATIONAL POPULATION GROWTH, INTERNAL MIGRATION, AND POPULATION AGEING GENERATE LAND GENERATED LAND GROWTH IN TASMAN DRIVERS BY HECTARE



You also ask:

Q3. Is there a potential negative impact on land values in intensification areas if further large areas of greenfield land are released?

And:

Q4. Conversely by not releasing greenfield land, if population growth continues to be high and prices unaffordable, it may create scarcity, limit housing choice and prices continue to worsen

This relates to the substitutability between greenfield and brownfield development across the Nelson-Tasman urban area. Greenfield sites will not substitute one-for-one with brownfield sites since our modelling work suggests some benefits accrue to homeowners with locations close to the city centre but in general, increasing greenfield site will reduce the price of brownfields development sites.



Our modelling work (see Appendix A) suggests a coefficient estimate of 0.183 on the impact of land on house prices – increasing the land available with a house and land package increases the house price by about 18 percent.

So on average homeowners are willing to pay for additional land. Doubling the size of the land available on a standard house increases the average sale price from \$665,000 to \$788,025. This result suggests existing strong demand for greenfield land. It's important to note that this effects averages across many buyer types, and today's homeowners will not share the same preferences and demands of tomorrow's homeowners, a point noted in the joint Nelson-Tasman capacity feasibility assessment:

“Council is anticipating increased demand in our larger settlements as the rural population ages and people choose to live closer to services.”

But at least for Tasman District, greenfields development should provide a range of pricing options and housing typologies.

5. Conclusion

House prices pushed higher in the ten years to the end of 2019. In February 2020, the median sales price stands at \$665,000, challenging housing affordability for many when incomes are lower than the national average. Land prices have also grown rapidly adding to growth in house prices. The price-cost ratio that relates the sales price of homes to the cost of building on a like-for-like basis suggests land is a key driver of house prices, despite a sustained programme of greenfield land release.

One measure of land growth provided by Landcare research suggests Tasman District has doubled urban land available for development over the past 22 years – outpacing strong growth in population and household formation. Cutting back on this pace of release would lift land and house prices, decreasing affordability even further. Substantive increases in house prices would be likely to push firms and households to other more affordable regions of New Zealand.

But Tasman District has options. It's not necessary to choose between greenfield and brownfield development. Instead, council can continue to release greenfield land (and recent years show strong growth in titles across the region, see

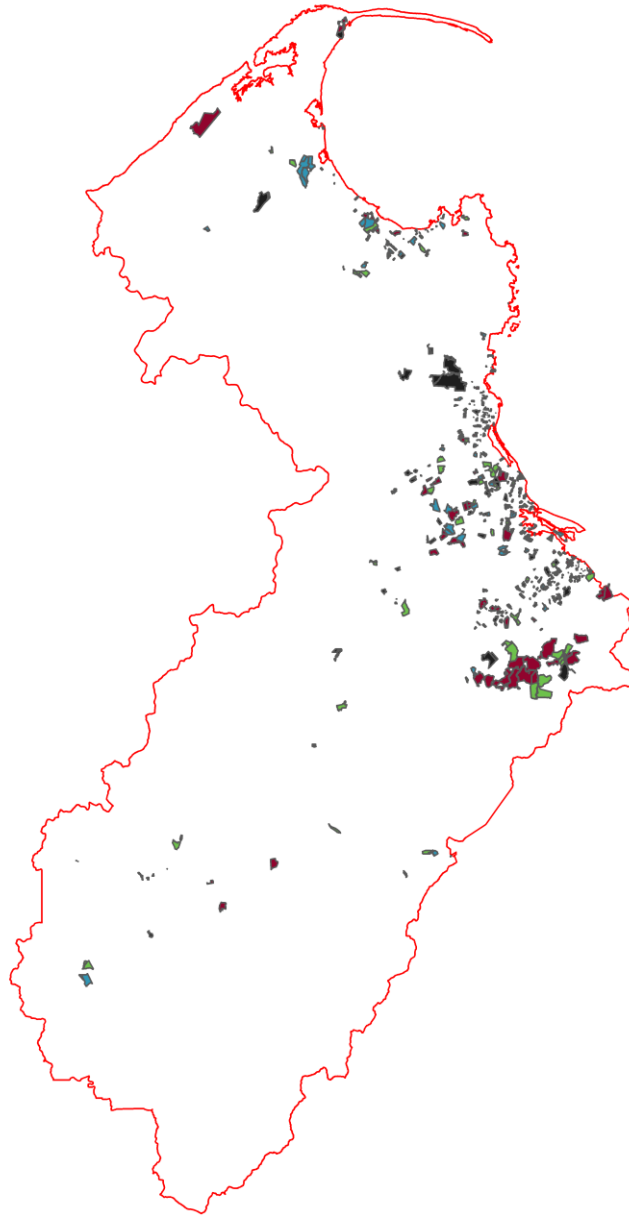
Figure 18), providing opportunities for the market to develop both greenfield and brownfield sites.

Land banking is likely to be playing a role. But Tasman District can influence the opportunity for land banking by increasing the size of the market, adding more greenfield land to make it more difficult for developers to capture market share. Council could also change incentives to holding land – raising the cost of holding land relative to development by applying the rating system to land rather than capital values.

Continuing to release greenfield land for development also pushes down prices of land within existing urban areas, facilitating some intensification. At least according to history, a target of meeting 40 percent of housing demand from intensification is achievable but requires a step-up in intensification efforts within the District.



FIGURE 18: RECENT YEARS SHOW CONTINUED RELEASE OF LAND WITHIN TASMAN DISTRICT PROPERTY TITLES CREATED EACH YEAR, LINZ ON-LINE DATABASE



Date Title Issued 2017 2018 2019 2020



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Appendix A: Economic Modelling

Methodology

Overview

Our core objective is to estimate the value home-owners place on the land that comes alongside a house and land package, that is, space for the backyard for kids to play, gardens to enjoy and space for families to enjoy. The extent to which households value this space can be used to assess the extent to which demand for land will drive growth in greenfields vs brownfield intensification in Tasman District.

There are a wide range of factors that drive house prices that we are less interested in. These include for example the build quality of the dwelling, the construction type, the number of garages, whether the house has deck, and several other factors that we need to account for before looking at factors that help determine the value of land.

Controls

To estimate the hedonic model, we use the population of sales data from the third quarter of 2006 to the third quarter of 2018. We also choose to filter out a number of sales from our dataset prior to estimation:

- A small number of house sales not associated with a residential code from LINZ
- Less than 50 houses with total living area smaller than 50 square metres or greater than 400 square metres
- Sales with very low (less than \$75,000) or very high (more than \$2,500,000) prices
- Sales with large land areas (greater than 4,000 square metres) and for the narrow model, land area less than 100 square metres
- We also exclude 90 sales that have an outlier flag attached in the sales record.

Amenity

In addition to a relatively standard list of control variables, we construct several variables that we believe are likely to be associated with underlying amenity values. Equation 1 describes the model:

$$\log(\text{home price}) = \log(\text{land area}) + \text{other controls} + \text{amenities} + \varepsilon_t \quad (1)$$

We are primarily interested in land areas but need to adjust for the wide range of factors that impact on house prices.

Model estimation

We start the model with the full set of variables model by removing insignificant coefficients (at the ten percent level), retaining any dummy variables that are significant as a class. The adjusted R^2 statistic on the preferred broad model is 0.877 and the model as a whole is statistically significant (testing the F-statistic at the one percent level).