



National Policy Statement on Urban Development Capacity

Summary evaluation report of Housing and
Business Development Capacity Assessments
for high-growth urban areas

This document may be cited as: Ministry for the Environment. 2018. *National Policy Statement on Urban Development Capacity: Summary evaluation report of Housing and Business Development Capacity Assessments for high-growth urban areas*. Wellington: Ministry for the Environment.

Published in July 2018 by the
Ministry for the Environment
Manatū Mō Te Taiao
PO Box 10362, Wellington 6143, New Zealand

ISBN: 978-1-98-852575-4 (online)

Publication number: ME 1375

© Crown copyright New Zealand 2018

This document is available on the Ministry for the Environment website: www.mfe.govt.nz.



Making Aotearoa New Zealand
the most liveable place in the world
Aotearoa – he whenua mana kura mō te tangata

Contents

Introduction	5
Requirements of the National Policy Statement on Urban Development Capacity	5
Audience and aim of this evaluation report	6
Evaluation methodology and process for undertaking HBA evaluations	6
Housing demand	7
What we expected	7
Council assessments	8
Housing demand conclusion	9
Housing capacity and feasibility	10
What we expected	10
Council assessments	11
Housing capacity and feasibility conclusion	13
Business demand	14
What we expected	14
Council assessments	14
Business demand conclusion	15
Business capacity, feasibility and sufficiency	16
What we expected	16
Council assessments	16
Business capacity and feasibility conclusion	18
Housing and business interactions	19
What we expected	19
Council assessments	19
Housing and business interactions conclusion	19
Communication criteria	21
What we expected	21
Council assessments	21
Communication conclusions	22
Process criteria	23
What we expected	23
Council assessments	23
Process conclusions	24
Appendix A - Evaluation criteria for housing and business development capacity assessment content	25

Introduction

Requirements of the National Policy Statement on Urban Development Capacity

The National Policy Statement on Urban Development Capacity (NPS-UDC) requires local authorities with a high- or medium growth-urban area in their jurisdiction to complete a housing and business development capacity assessment (HBA) at least once every three years. Local authorities with jurisdiction over the high-growth Auckland,¹ Tauranga,² Hamilton,³ Christchurch⁴ and Queenstown⁵ urban areas were required to produce their first HBA by 31 December 2017. The newly defined high-growth urban areas New Plymouth and Whangarei had until 30 June 2018 to complete their HBA, as they were more recently defined as being high-growth. Medium-growth urban areas have until 31 December 2018 to complete a HBA.

HBA provides a clear picture of the current state of demand and capacity for housing and business land. This requirement should not be seen in isolation, but as part of a process of building the evidence base for well-informed planning responses. Regular monitoring of market indicators will help to keep this evidence base up to date.

The requirements for completing a HBA are set out in policies PB1-PB5 of the NPS-UDC.

Figure 1: Summary of NPS policies



¹ Auckland Council.

² Tauranga City Council, Western Bay of Plenty District Council and Bay of Plenty Regional Council.

³ Hamilton City Council, Waipa District Council, Waikato District Council and Waikato Regional Council.

⁴ Christchurch City Council, Waimakariri District Council, Selwyn District Council and Environment Canterbury Regional Council.

⁵ Queenstown Lakes District Council and Otago Regional Council.

Audience and aim of this evaluation report

The Ministry for the Environment (MfE) and the Ministry of Business, Innovation and Employment (MBIE) have established a significant implementation programme for the NPS-UDC. This will help councils build capability to meet NPS-UDC requirements.

The implementation programme includes a commitment to evaluate councils' first market indicator reports, HBAs, and future development strategies (FDSs) and to help bring councils together to share lessons from these processes and build capability. MfE and MBIE held a symposium on 29 March 2018 with high-growth urban areas to discuss the HBA evaluation process, share lessons learned, and to invite feedback on the evaluation.

At the time of writing, we have received HBAs from Auckland, Tauranga (through SmartGrowth), Hamilton (through Future Proof), and Christchurch (through the Greater Christchurch Partnership).⁶

This report:

- summarises MfE and MBIE's evaluation of the first four high-growth urban area HBAs
- compares and contrasts approaches and highlights best practice examples where relevant.

This report is a high-level overview. It does not detail technical or methodological points.

Evaluation methodology and process for undertaking HBA evaluations

MfE and MBIE developed the evaluation criteria used for this assessment in 2017. Criteria were based on the [National Policy Statement on Urban Development Capacity: Guide on Evidence and Monitoring](#). These criteria were shared with high- and medium-growth urban area councils in draft form for comment, and are included at appendix A.

An evaluation panel (with representatives from MfE, MBIE and experienced consultants in the planning and economics fields) met twice during January and February 2018, to assess the HBA documents received from councils. Panel members independently assessed the HBAs using the evaluation criteria. The panel then discussed differences in opinion until a consensus was reached for each criterion. The panel made requests for further information from some councils during this time. The panel incorporated responses from councils into the evaluation process.

Following these discussions, the panel gave initial feedback to all high-growth urban areas and consolidated the feedback into this report.

⁶ Queenstown have produced an HBA, however, it was not submitted in time to be included in this report. It will be included in the next report with the newly defined high growth urban areas.

Housing demand

What we expected

The NPS-UDC sets out the main requirements for the housing demand part of the HBA in policies PB1 and PB2.

PB1: Local authorities shall, on at least a three-yearly basis, carry out a housing and business development capacity assessment that:

- a. Estimates the demand for dwellings, including the demand for different types of dwellings, locations and price points, and the supply of development capacity to meet that demand, in the short, medium and long-terms; and
- b. Estimates the demand for the different types and locations of business land and floor area for businesses, and the supply of development capacity to meet that demand, in the short, medium and long-terms; and
- c. Assesses interactions between housing and business activities, and their impacts on each other.

Local authorities are encouraged to publish the assessment under policy PB1.

PB2: The assessment under policy PB1 shall use information about demand including:

- a. Demographic change using, as a starting point, the most recent Statistics New Zealand population projections;
- b. Future changes in the business activities of the local economy and the impacts that this might have on demand for housing and business land; and
- c. Market indicators monitored under PB6 and PB7.

The *Guide on Evidence and Monitoring* suggests how to assess housing demand, as well as identifies different data sources available. The assessment of demand for housing is expected to produce:

- quantitative documentation of the **current consumption patterns** of different household and/or population groups regarding dwelling type, location and price
- information and analysis about potential **future broad demand patterns** of different household and/or population groups regarding dwelling type, location and price
- information and analysis about potential **unmet demands** in the current housing market (eg, shortages of housing meaning some people are living in over-crowded accommodation or choosing not to live in their preferred location)
- a description of the **methods and data** used to derive the assessment and the limits of these
- a projected **total number of dwellings required** in the short, medium and long term for the study area and for each constituent local authority area.

Council assessments

Approach to housing demand

For all high-growth urban areas, population growth is a main source of demand. In some cases the councils have considered other sources of demand (including latent demand due to an existing shortage of housing, student accommodation, holiday houses, and seasonal worker accommodation). For several high-growth urban areas, HBAs indicate other sources of demand are likely to be immaterial. However, it would be useful if the reports were more explicit about this.

Table 1: High growth urban area housing demand sources

Urban area	Population growth	Latent demand	Students	Tourist/holiday homes	Social housing	Seasonal workers
Auckland	✓	✓				
Tauranga	✓			✓		✓
Hamilton	✓		✓	✓	✓	
Christchurch	✓			✓	✓	

The Auckland HBA is the only one to explicitly consider the issue of latent demand — adding a ‘shortfall’ figure of 35,000 houses onto the demand assessment. Other HBAs implicitly consider the issue of latent demand in their analysis of housing affordability and housing stress, but do not necessarily quantify this. Cross-referencing monitoring data on consents versus population growth — a key indicator in the quarterly monitoring reports — may provide further insight on this point and would be useful to include.

Most high-growth urban areas use an alternative to Statistics NZ’s medium-growth projections. For example, Greater Christchurch uses slightly higher growth scenarios (medium-high) for Selwyn District and Waimakariri District than for Christchurch City, while Future Proof uses a low growth scenario for Hamilton City. In general, the decision to use a different projection could be clearly explained and justified with reference to past trends, to explain why it is appropriate to use for the urban area.

The panel considered the Greater Christchurch demand assessment to represent best practice. The assessment uses a range of data sources to understand the housing demand in the urban area and explore the range of demands for types, locations and price points of dwellings. It also includes an analysis of housing stress based on people’s incomes, in relation to renting and buying costs. It also refers to existing evidence on housing needs such as the Salvation Army reports on social housing and local and international research on housing preferences and trade-offs. The SmartGrowth report similarly completes this work to a very high standard, and the Future Proof HBA also covers the demand assessment well.

The Auckland HBA analyses demand for different locations and price points, but not dwelling types. This includes innovative analysis to match household growth by income level to modelled commercially feasible dwellings. In addition, a hedonic price model⁷ is used to identify different

⁷ A hedonic pricing model is used to estimate the extent outside factors, such as, scenic views, house appearance and neighbourhood demands affect the price.

features of locations that may influence housing demand, such as coastal proximity and green space. Stronger links between these results and potential policy implications would be helpful.

Dwellings required in short, medium and long term

The SmartGrowth, Greater Christchurch and Future Proof HBAs report demand for dwellings in the short, medium and long term in simple tables. These tables include total dwellings across the sub-regional area covered and for each local authority area. The Auckland HBA uses graphs to highlight the short-, medium- and long-term demand.

Housing demand conclusion

Overall, the housing demand analysis required by the NPS-UDC is carried out to a good standard in each of the four HBAs. There are some minor issues and points of clarification outlined above that would improve the HBAs to support potential planning responses. We note in particular the innovative work done by Auckland and the comprehensive work in Greater Christchurch and SmartGrowth's demand assessment methodology.

Housing capacity and feasibility

What we expected

The NPS-UDC sets out the main requirements for the housing capacity and feasibility side of the HBA in policies **PB3** and **PB4**.

PB3: The assessment under policy PB1 shall estimate the sufficiency of development capacity provided by the relevant local authority plans and proposed and operative regional policy statements, and Long Term Plans and Infrastructure Strategies prepared under the Local Government Act 2002, including:

- a. The cumulative effect of all zoning, objectives, policies, rules and overlays and existing designations in plans, and the effect this will have on opportunities for development being taken up;
- b. The actual and likely availability of development infrastructure and other infrastructure in the short, medium and long term as set out under PA1;
- c. The current feasibility of development capacity;
- d. The rate of take up of development capacity, observed over the past 10 years and estimated for the future; and
- e. The market's response to planning decisions, obtained through monitoring under policies PB6 and PB7.

PB4: The assessment under policy PB1 shall estimate the additional development capacity needed if any of the factors in PB3 indicate that the supply of development capacity is not likely to meet demand in the short, medium or long term.

The key criterion used in the evaluation of the HBAs was that the assessment produces a rigorous estimate of the feasible development capacity for housing provided for by current plans⁸ and development infrastructure.

As per the approach outlined in the *Guide on Evidence and Monitoring*, producing this estimate involves a number of important steps:

- Assess the **total development capacity** enabled by Resource Management Act plans.
- Clarify how much of this total capacity is **supported by development infrastructure**, in accordance with policy PA1 (served in the short term, identified in the long term plan in the medium term, or identified in an infrastructure strategy in the long term).
- Assess how much development capacity is **commercially feasible**. This should produce an estimate of the number of dwellings feasible in **current market conditions**, by dwelling type and location and over the short, medium and long terms. It should also include an analysis of how sensitive these estimates are to change.
- Provide **information on take-up**, meaning the number of dwellings actually developed over a period of time, relative to the amount of enabled capacity. The *Guide* acknowledges it can be

⁸ Current plans are the current operative plans.

difficult to accurately assess past take-up and encourages local authorities to put effort into setting up future systems for monitoring take-up.

- Make a conclusion on **whether development capacity for housing is sufficient** in the short, medium and long terms, and if not, include an analysis of contributing factors to any shortfall.

Council assessments

Assessing development capacity

A variety of approaches are used to quantifying development capacity, mostly using geographical information system (GIS) modelling supplemented with information on existing development patterns. All of the assessments look at capacity for greenfield development, as well as infill and redevelopment potential. The degree of analysis varied both between and within the different councils that make up the urban areas.

In general, greenfield capacity is well covered and the methods and assumptions used to assess this are clearly presented. Contributions to capacity from infill and redevelopment are not always as clear, and some of the HBAs would have benefitted from greater clarity on the modelling approaches and assumptions used. Finally, there is also little evidence of checking market dynamics with developers of these estimates across all of the HBAs.

Most of the capacity analysis focuses on what was clearly enabled in existing plans, as per the NPS-UDC requirements. The Future Proof HBA also considers ‘anticipated’ capacity, which may go beyond what is strictly considered to be ‘enabled’ by the NPS-UDC. This is, however, clearly separated out from ‘current’ capacity, so they can be taken into account by the decision makers when interpreting the results from the modelling.

Identifying development infrastructure

All HBAs identified potential constraints on capacity from a lack of development infrastructure. Some are explicit in highlighting the challenges in funding and financing this infrastructure, particularly in the long term. In other cases, such as the Auckland HBA, this could have been raised as a significant issue to allow decision-makers to be aware of it.

The Greater Christchurch HBA presents the clearest picture of infrastructure-enabled capacity.⁹ It provides a table summarising the capacity not serviced by infrastructure, and the timing of when this was expected to be serviced. The Future Proof report also presents this information clearly.

Some HBAs are not clear about which greenfield areas are infrastructure-enabled. In Auckland’s case, this information is provided in their Future Urban Land Supply Strategy (a separate document to the HBA), however, this could have been more explicitly referenced in the HBA. In some cases, HBAs do not clearly state whether infrastructure is already identified in a long term plan, or merely in an infrastructure strategy.

Over the course of 2017, councils repeatedly raised funding and financing of infrastructure as a major issue that would constrain their ability to deliver additional development capacity. Given these discussions, it would be useful for councils to note which specific projects may not be able to

⁹ See, for example, table 4 “Infrastructure constraints for modified plan-enabled net capacity for housing across Greater Christchurch” in the Greater Christchurch HBA.

proceed as a result of funding and financing pressures, and how the delay or cancellation of these projects would impact their housing supply conclusions.

Assessing feasibility

All assessed HBAs include feasibility assessments of their estimated development capacity. We consider the modelling outlined in the Auckland HBA to be best practice, noting it has been extensively tested and peer reviewed. The Tauranga HBA also provides extensive information about feasibility, especially for greenfield areas, which makes it straightforward to assess the results.

The SmartGrowth and Greater Christchurch HBAs do not report all of the assumptions and methods used in feasibility modelling, which makes it difficult to fully assess the modelling. We encourage councils to consider including all relevant assumptions in their HBAs to help ensure the underlying methods used to calculate feasibility in the HBA are transparent

The HBAs do discuss sensitivity testing, such as varying the assumptions for greenfield section prices and varying the gross profit margins required for a dwelling to be considered feasible. All the HBAs could have taken this testing further, looking at a wider range of alternative scenarios.

Some HBAs show evidence that input from the local development community has been sought, but in general this input is not explicitly discussed. We suggest input from the development sector is further clarified in future reports.

The Auckland, SmartGrowth and Greater Christchurch HBAs assess feasibility based on current market conditions. That is, the housing and land prices and development costs observed at the time of the assessment, as required in the NPS-UDC and explained in the *Guide on Evidence and Monitoring*. The Future Proof draft feasibility assessment, by contrast, is based on the assumption prices and costs will change in the future, leading to changes in feasibility over time.

NPS-UDC Policy PB3 requires the assessment of feasibility to be based on current market conditions. Future Proof's draft report also includes a feasibility assessment based on current costs. We are working with Future Proof to finalise their report, which will show the current cost assessment as a baseline scenario, while also including scenarios of changing costs over time and how this may lead to greater amounts of capacity in the long term.

Providing information on take-up

The HBAs provide varying degrees of information on take-up of development capacity. Auckland provides the most thorough analysis of take-up, building on previous history of capacity assessments pre NPS-UDC. This is a good practice example for future monitoring of take-up.

Other HBAs provide some information based on development trend monitoring. This includes qualitative analysis of recent development trends and some quantitative analysis of the pace of development in greenfield areas and infill and intensification activity. Monitoring of take-up could be addressed more explicitly in most HBAs, referencing information in monitoring reports or building consents data.

In some cases, take-up has been considered when assessing development capacity. For example, the Greater Christchurch HBA considers take-up when converting from a 'theoretical' to a modified plan-enabled capacity (based on past take-up and development trends). This analysis could have been presented more clearly as an assessment of take-up.

Calculating sufficiency

The SmartGrowth, Future Proof and Greater Christchurch HBAs provide the information required to estimate the sufficiency of development capacity in the short, medium and long terms. In most cases, analysis of sufficiency is presented in summary tables that can be understood quickly and easily by readers. In the case of the Auckland HBA the sufficiency information is included in the supporting report but not in the executive summary. The Auckland HBA would be improved significantly if this information were clearly presented and communicated up front.

The SmartGrowth HBA provides a very clear conclusion and narrative about sufficiency, including identification of uncertainties around whether long-term capacity is sufficient, and what would be required to ensure long-term sufficiency. It links sufficiency to infrastructure funding and financing arrangements to provide capacity, as well as development trends and take-up in infill/redevelopment areas. The Greater Christchurch and Future Proof HBAs also consider these issues.

The Auckland HBA references the Future Urban Land Supply Strategy, which discusses how infrastructure is treated when calculating greenfield development capacity. The 30-year infrastructure strategy contains an overview of the enabling infrastructure required to support growth in the greenfield areas.

All HBAs explore the contributing factors to any estimated or potential shortfalls in sufficiency. Alongside the infrastructure constraints discussed above, there is some discussion of different rates of take-up of infill and intensification opportunities and the impact of external factors such as rising construction costs.

Housing capacity and feasibility conclusion

The HBAs generally do housing capacity and feasibility modelling well, with some variations in the detail and quality of analysis for greenfield areas compared with infill and redevelopment in existing urban areas. The work done on housing capacity by Auckland Council is most comprehensive, though we would encourage the council to clarify some aspects of their methodology.

Councils should be as clear as possible about the distinction between capacity that strictly fulfils the NPS-UDC requirements, and future capacity not yet enabled by plans and development infrastructure.

Feasibility modelling needs to consider current market conditions as the baseline scenario. A key aim of the NPS-UDC is to ensure sufficient development capacity is provided to avoid driving up house prices. Other assumptions about housing and land prices and development costs may be useful as sensitivity tests, but at this point we consider the methods used to forecast future feasibility rely on too many uncertainties to be used as the primary analysis.

Business demand

What we expected

As for housing demand, the main requirements in the NPS-UDC for the business demand side of the HBA are set out in policies PB1 and PB2. The definition of 'demand' further clarifies what is being asked for on the business side.

Demand means:

In relation to business land, the demand for floor area and lot size in an urban environment in the short, medium and long term, including:

- a. the quantum of floor area to meet forecast growth of different business activities;
- b. the demands of both land extensive and intensive activities; and
- c. the demands of different types of business activities for different locations within the urban environment.

The *Guidance on Evidence and Monitoring* suggests a range of data sources and methods to help local authorities:

- **understand their economy**, its key characteristics and drivers of change
- develop a set of **economic projections** to predict future business space requirements
- **translate projections into business space, zones and locations** required in the future.

Council assessments

Narrative on the local economy

SmartGrowth, Future Proof and Greater Christchurch all provide a clear and comprehensive narrative about the factors driving their local economy and causing changes in demand for business land or floorspace. These reports discuss key sectors, trends and possible future changes. In addition, the SmartGrowth HBA provides scenario-based analysis of future business location and further detail above and beyond NPS-UDC requirements.

Auckland's HBA describes the broad sectoral composition of the Auckland economy, including spatial characteristics and the density of employment in different zones. However, there is scope for additional discussion of factors driving growth in business floor space demand.

Analysis of business demands

The SmartGrowth, Future Proof, and Greater Christchurch HBA reports break down demand projections by broad sector and local authority. These reports start with employment projections, which they then convert into floor space or land demands. In many cases the methodology and ratios used to convert economic activity into demand for land or floor space is buried in the appendices making it difficult to find.

The Greater Christchurch HBA report could be more explicit with the ratios used to convert future retail and/or employment growth into demand for commercial land and the justification for differences between council areas. We acknowledge that some of this information is contained in further technical appendices, citing the higher ratios observed in more rural towns compared to areas of the city. We recommend future sensitivity testing to assess the implication of changes to these ratios over time as they will impact sufficiency conclusions.

Auckland uses employment demands by industry and translates them into floor space demands at a zone level. These projections are not broken down by broad industry group (eg, industry, retail and office space). To help interpret results, we recommend providing further information on the assumptions underlying the allocation of particular zones to particular business demands. This includes additional information on the assumptions made about the attractiveness of different zones and locations to different industries.

Medium- and long-term demand projections

All the HBAs provide a good level of information on demand projections in the medium and long term. For Auckland, we recommend including the summary tables in both the main body of the HBA report and the executive summary, not in the appendices. The breakdown of business floor space demand by zone is useful when assessing industrial land sufficiency, since some non-industrial activities locate in industrial zones.

Business demand conclusion

In general, we consider the business demand assessment has been completed well for all the high-growth urban areas. In most cases the analysis has been outsourced, but councils have successfully incorporated this analysis into their HBA summary reports.

Business capacity, feasibility and sufficiency

What we expected

The main requirements in the NPS-UDC for business capacity and feasibility are set out in policy PB3 (set out in full on page 10).

As per the approach outlined in the *Guide on Evidence and Monitoring*, producing this estimate involves several key steps.

- **Assessing plan-enabled capacity, infrastructure enablement, and ground-truthing:** the *Guide on Evidence and Monitoring* recommends developing a vacant land stocktake and updating this annually. Larger urban areas should also investigate redevelopment potential. Councils should clarify how much of this total capacity is **supported by development infrastructure**. Ground-truthing of plan-enabled capacity is important. Two general methods for ground-truthing are outlined: surveys of business occupiers, and visual inspections.
- **Assessing feasibility:** the *Guide on Evidence and Monitoring* recommends using a multi-criteria analysis (MCA). A good quality MCA would use a range of criteria required by the intended sector, and ideally be developed with input from sector representatives.
- **Calculating sufficiency:** the demand (and additional margins) and capacity assessments need to be brought together and a quantitative comparison made to draw conclusions. The *Guide on Evidence and Monitoring* suggests a way of presenting these, and also suggests the use of industrial zone price differentials as a check on whether capacity is constrained, either at a city-wide level or in specific places.

Council assessments

Assessing plan-enabled capacity, infrastructure enablement, and ground-truthing

Assessments of plan-enabled capacity in the HBAs are generally thorough, with the HBA reports focusing primarily on vacant land, as suggested in the *Guide on Evidence and Monitoring*.

Several of the HBA reports are explicit about which areas of plan-enabled capacity were also infrastructure-enabled. For example, the Greater Christchurch HBA makes it clear infrastructure enablement has been considered, and removes land without available infrastructure from the capacity tally.¹⁰ The Future Proof report is not explicit about whether or not vacant business-zoned sites are infrastructure-enabled; however the HBA summary report's definition of 'current capacity' implies they are. If this is not the case, this should be clarified.

The Auckland report is less clear about which areas are infrastructure-enabled, and if future urban areas have been counted as capacity. In other respects, Auckland's assessment of plan-enabled capacity for business space is very comprehensive.

Greater Christchurch's report shows a ground-truthing process has been done, employing Christchurch City's vacant land register and focused ground-truthing in Selwyn and Waimakariri Districts. In addition to this, consultants did an audit of the business land. The Smart Growth report

¹⁰ For example, see table 20 in the Greater Christchurch Partnership HBA.

also has evidence of some ground-truthing, but it is unclear how extensive this has been. For SmartGrowth, vacant land survey information is provided for industrial zones, but not for centre zones and commercial uses. This could be a significant gap, given the reliance on a centres-based approach and some evidence of potential shortages of commercial land.

Assessing feasibility

The SmartGrowth HBA estimated feasible capacity by using an ‘average market maximum’ ratio of building floor area to site area (FAR). A FAR of the 80th percentile of developed sites was applied to vacant sites to represent development potential. Effectively this means using what has already been developed in the area as an indication of what is feasible for the market to deliver in the future. The Smartgrowth HBA would have benefitted from further analysis of other factors influencing how attractive particular sites would be for development or redevelopment. In the case of redevelopment, the approach taken does not seem to take into account the financial viability of demolishing existing buildings.

Auckland’s HBA takes a similar approach to apply a ‘contemporary development scenario’ as a way to reality check theoretical capacity under the plan. It also develops a machine learning model to assess which sites are more likely to be developed or redeveloped, based on the historical pattern of development. In theory, this seems like a good method, but we would like to see further explanation and validation of the model and key results. This could include testing with property experts, other ground-truthing, or a clearer explanation of which variables were tested and used in the model.

Greater Christchurch and Future Proof both present robust MCA approaches developed with input from the development sector. These analyses are clear and transparent as to the criteria used and the weighting assigned to them. The Future Proof MCA includes criteria relating to the availability of infrastructure, which we consider should be applied at the preceding step as a filter on available capacity, rather than at the feasibility step.

Calculating sufficiency

Conclusions about the sufficiency of business capacity are generally well communicated. We found Greater Christchurch’s tables¹¹ very helpful in showing the sufficiency conclusions, and these are also clearly and simply stated in the executive summary. The SmartGrowth report shows a clear comparison of future demand versus capacity in the short, medium, and long terms. It summarises the analysis well and links it to policy implications. Auckland’s HBA does not state a clear conclusion about sufficiency of business capacity, but the information is contained in the relevant tables in the appendix.¹² We recommend this data is brought into the main report.

The Auckland and SmartGrowth reports do not contain analysis of the price efficiency indicators (required under Policy PB7). This may reflect the fact that price efficiency indicators were only formally published late in 2017, however, draft results were available for some time previously. The Greater Christchurch and Future Proof reports both mention industrial zone price differentials. In the Greater Christchurch case, differentials are discussed in some depth and with consideration of potential policy implications. There may be opportunities for further considering these indicators to supplement the existing analysis that has been done.

¹¹ For example, see tables 23 and 25 in the Greater Christchurch Partnership HBA.

¹² For example, see figures 3-7 and 3-8 in Appendix A of Auckland’s HBA.

Business capacity and feasibility conclusion

Overall, the analysis on business capacity and feasibility is of good quality. Data gaps do exist in some cases, meaning expectations for the business demand and capacity assessment are slightly lower than for housing.

We consider the work done by Greater Christchurch to be an example of best practice.

On the whole, capacity appears to be adequately identified through all of the assessments, but the quality of the ground-truthing and feasibility is mixed. This shortcoming could be improved if councils were more transparent about inputs to feasibility modelling and related assumptions.

Councils generally draw clear conclusions on business capacity and make an effort to clarify contributing factors to any shortfalls.

Housing and business interactions

What we expected

The NPS-UDC sets out the relevant requirements for this part in PB1(c) which requires councils' HBAs to: "[Assess] interactions between housing and business activities, and their impacts on each other."

The *Guide on Evidence and Monitoring* states HBAs can meet the requirements of PB1(c) by:

- reconciling the housing and business capacity assessments to ensure capacity is not double counted or under or overestimated
- providing information about the positive and negative spatial interactions between housing and business capacity, and impacts on accessibility and transport
- analysing barriers and opportunities for development and change.

Council assessments

The most important requirement of this section is capacity in zones allowing multiple types of use (eg, centre or mixed-use zones that allow retail, commercial, or residential uses) has not been 'double counted' to meet demand for both uses. In some cases, double-counting could lead to inaccurate conclusions about the sufficiency of capacity.

Most HBA reports appear to make an effort to avoid double-counting of capacity in some places, but this was not always clearly stated in the assessment. For example, the Future Proof report notes double-counting between retail and residential capacity has been avoided by allocating ground floor to retail. The SmartGrowth report contained no clear statement on how double-counting of housing and business uses in centres has been avoided, whereas Auckland's report (section 9) clearly states how double-counting was avoided.

Greater Christchurch's HBA had the most comprehensive analysis of spatial interactions between housing and business capacity. This included information on transport planning linkages, including scenarios around different growth patterns and their impact on public transport provision. We consider this to be an example of best practice. Although it goes beyond the minimum requirements of the NPS-UDC, it will likely provide valuable information to inform future planning processes.

We recommend additional consideration of spatial interactions between housing and business capacity and the resulting effects on transport networks would have been useful for Auckland and Future Proof, particularly given the transport capacity issues facing Auckland. It is possible this could be addressed by referencing existing evidence from other planning processes, such as the Auckland Transport Alignment Project update.

We did not see any real consideration given to the price efficiency (PB7) indicators in the HBAs, other than mentions of industrial zone differentials in the Future Proof and Greater Christchurch reports. This is an area to work on for next time.

Housing and business interactions conclusion

HBA reports suggest councils have considered the issue of double-counting, but the extent to which this had been done was not always clearly communicated. Overall, we would have liked to have seen clearer statements in the HBA on the risks of double-counting, the steps taken to avoid it and the

potential impact of any residual double-counting risk on conclusions about the sufficiency of development capacity. Some councils have given this explanation in appendices.

Interactions between housing and business uses were also given some consideration in the assessments. Key messages from growth strategies and other planning processes could have been referenced in places to bolster some of this discussion.

Communication criteria

What we expected

The first HBAs are the product of a significant effort by councils and consultants. We recognise it is challenging doing this work and pulling together and analysing a large amount of information. Given the effort put into these assessments, it is essential relevant information is communicated in a way it is easily accessible and understandable by decision-makers, and leads to clear conclusions about what type of action is required.

During workshops with high-growth urban area councils prior to the HBA deadline of 31 December 2017, MfE and MBIE set out the most important elements of a good HBA as we saw them. One of these core elements was that a HBA “... provides a clear, analytically rigorous narrative that guides planning decisions”. In the evaluation criteria, this overarching element was translated into criteria relating to clarity, narrative and usefulness to decision-makers.

Council assessments

Clarity

The Greater Christchurch and SmartGrowth reports scored well on these criteria. These reports were written in plain English, were of an appropriate length, with clear section headings to help readers find key information. Both reports used tables effectively to display their conclusions. The Future Proof report was also well-written and structured and likely to be accessible to policy and decision-maker audiences.

The Auckland HBA, although supported by substantial analysis, appeared to be written more for a technical audience than for a group of decision-makers. Some aspects are helpful (such as the summary boxes at the end of sections), however clarity varies significantly throughout the report. This could be improved by shifting detailed technical information into appendices, referencing analysis of business demand and capacity in the body of the report, and developing a more comprehensive executive summary.

Narrative

Most HBAs scored well on the narrative criterion. Greater Christchurch’s report provides a clear narrative, linking future growth pressures to current evidence on capacity and sufficiency and highlighting areas where sufficiency may need to be addressed. The SmartGrowth report also clearly sets out where and when the city is expected to grow, and how planning can respond to this over time. It also defines a clear link between monitoring of development trends and identification of policy responses (for example, in the relationship between take-up in brownfields areas and the effect on timing of greenfields developments). The Future Proof HBA also provides a clear narrative about future demand and capacity to respond and clear conclusions about sufficiency.

Some work needs to be done in the Auckland HBA to integrate the separate pieces of analysis making up the report. We recommend an expanded executive summary that brings the analysis together would significantly improve the report.

Usefulness to decision makers

We scored the Greater Christchurch and SmartGrowth reports highly on this criterion. Greater Christchurch's HBA provides a clear snapshot of trends, capacity and sufficiency and makes links to policy decisions and processes already underway. The final section of the report discusses challenges and opportunities and notes points where further policy action may be needed. The SmartGrowth HBA presents a clear picture of when different developments will be staged, so decision-makers understand what they need to progress, especially in the medium term, to provide enough development capacity.

Even when an HBA was well-written and key messages clearly reported, we assigned it a lower score on the 'usefulness to decision-makers' criterion if those messages were not clearly supported by the evidence presented, or if important assumptions were not fully explained or justified in the report. For this reason, we scored the Future Proof and Auckland reports low on this criterion.

Future Proof's messages to decision-makers depend on three key assumptions: demand growth scenarios, future versus current feasibility and the treatment of anticipated capacity. These assumptions are not fully explained or justified in the report. Future Proof should make decision-makers aware of the risks associated with these assumptions, to ensure they can make appropriate decisions.

In the case of Auckland, the key conclusion that "... significant alteration to planning policy and strategy to address [the insufficiency] is not recommended ..." does not appear to be fully supported by the analysis. The report highlights potential shortfalls in housing development capacity in the long run. It doesn't give sufficient information on if greenfield areas are infrastructure-enabled in the medium term to be certain medium-term capacity is sufficient.

Communication conclusions

There were mixed results on the communication criteria. Most reports are well written and structured, and bring together the key aspects of the analysis in a clear narrative. However, in some of the reports main messages could be better linked to analytical conclusions.

Process criteria

What we expected

We evaluated three 'process' criteria as below.

- **Council agreement on the relevant geographic area of focus** – This requires a clear definition and some logical basis for the choice of area.
- **Local expertise sought and used** – This is not a specific consultation requirement in the NPS-UDC but HBAs should show evidence they have sought and used the input of iwi authorities, the property development sector, significant land owners, social housing providers, requiring authorities, and the providers of development infrastructure and other infrastructure (in accordance with PB5).
- **Transparency** – HBAs should clearly set out methodology and assumptions and detail key gaps, strengths and weaknesses of the analysis.

Council assessments

Geographic area of focus

The area of focus is clearly defined in all of the HBAs. Where councils have an existing partnership structure in place, this area is agreed between all relevant councils.

Local expertise sought and used

There is evidence of local expertise and input in all the HBAs. The SmartGrowth report helpfully lists stakeholders from whom input was sought in part 5. There is evidence of local input and expertise both in the structure of the Future Proof and Greater Christchurch partnerships and in the business demand and capacity analysis for both of these HBAs.

Auckland's HBA states no discussion with stakeholders was held about the business demand and capacity report. There is also no reference to seeking input of development infrastructure providers or significant landowners. This might have occurred in separate processes (such as the Future Urban Land Supply Strategy) but it would be useful to say so.

Transparency

Auckland and Christchurch scored highest on the transparency criterion. A high level of detail on assumptions and methods was given in the reports and technical appendices. For Auckland, a suggestion for improvement is to provide a clear disclosure statement highlighting strengths, weaknesses and risks in the analysis and conclusions.

For Future Proof, more information on inputs and assumptions into housing feasibility modelling, planning and infrastructure enablement of long-term capacity, justification for the use of low-growth projections for Hamilton City and breakdown of demand by price, location and typology are key gaps which make it difficult to fully assess the HBA results. We acknowledge this information may be contained in further technical reports.

There are areas in the SmartGrowth report where transparency could be improved by bringing some of the supporting information into the main report. These areas are the infill and intensification capacity for housing, assumptions applied to estimate business development capacity and how double-counting of housing and business capacity has been avoided.

Process conclusions

On the whole, the HBAs adequately fulfil the process criteria. In some cases, there was scope for more transparency about assumptions, and clarity about where stakeholder input had been sought and used.

Appendix A - Evaluation criteria for housing and business development capacity assessment content

Key criteria	Indicator	Status	Comments
Content			
The assessment produces a rigorous estimate of aggregate demand for homes in the short, medium and long term.	Have all contributions to total housing demand relevant to the urban market been considered. <i>For example population and demographics, household projections, visitors, migrant workers (there for one year or less), students (there for the academic year).</i>		
	Is the basis of the demand assessment the 2017 Statistics New Zealand medium household growth projection? If not, is any alternative projection justified?		
	Does the assessment use rigorous methods to explore the range of demands for types, locations and price points to the extent relevant in the urban market. <i>For example, (if relevant) the assessment matches demands of different population groups to housing types, locations and price points and forecasts the impact of demographic change. It also considers current unmet or latent demand, if relevant to the urban market.</i>		
	Does the assessment produce an estimated number of dwellings required in the short, medium and long term for the area (broken down by associated districts if relevant)? <i>Does the assessment provide estimates either side of the main projection, with discussion of the key drivers of these estimates?</i>		
The assessment produces a rigorous estimate of the feasible development capacity for housing provided for by current plans and	Does the assessment reasonably quantify all housing development capacity enabled by relevant proposed and operative RPSs, regional plans and district plans, and Is the assessment clear about what enabled capacity is also supported by development infrastructure?		
	Has a robust assessment of development feasibility been undertaken? Are the methods and assumptions used in this assessment		

Key criteria	Indicator	Status	Comments
development infrastructure	<i>clear? Are key assumptions about construction costs, land prices, target profits and cost of capital up to date? Has the local property community been asked for input?</i>		
	Does the assessment of development feasibility include sensitivity analysis of relevant key assumptions? Does the assessment describe the range of feasible development capacity that is possible if there are changes to assumptions on: • development sale price • land cost • construction cost (for building development) • land development cost • development timeframes, and/or • minimum gross profit required in order for a development to be considered feasible		
	Does the assessment provide information about take-up of feasible development capacity? <i>Using quantitative info (eg, building consents and code compliance certificates), and qualitative analysis (eg, discussions with development community).</i>		
	Is there a clear conclusion on whether development capacity for housing is sufficient? <i>Discusses what the rural-urban land price differential suggests about current sufficiency. Aggregate demand + margin compared to estimated feasible and plan-enabled DC. Is there an estimate of the number of dwellings over/under? Where relevant to the urban market, is there discussion of sufficiency to meet demand by dwelling, type, location and price? Sensitivity analysis based on changes in key drivers of demand and capacity?</i>		
	Does the assessment analyse the contributing factors to any shortfall in sufficiency? <i>Ie, how do different factors (enablement in plans, development infrastructure or feasibility) contribute to a shortfall in sufficiency?</i>		
The assessment produces an estimate of demand for	Does the assessment provide a rigorous narrative on the key sectors, trends and possible future changes in the local economy?		

Key criteria	Indicator	Status	Comments
business space in the short, medium and long term.	<i>Does this cover broad sectoral composition, employment densities, spatial characteristics and emerging trends and the sectors that are expected to drive future land/space demands?</i>		
	Does the assessment analyse different business demands for different locations, property types, sizes and tenure?		
	Does the assessment contain future medium- and long-term projections of demand (especially for industrial land) by discussing the key drivers to business demand space?		
The assessment produces an estimate of capacity for business space	Does the assessment reasonably identify all business development capacity enabled by relevant proposed and operative RPSs, regional plans and district plans (including a stocktake of vacant land by zone and type and redevelopment potential), and is the assessment clear about what enabled capacity is also supported by development infrastructure?		
	Have these assessments been qualitatively assessed or ground-truthed? <i>For example, have they been tested and supplemented by visual inspections or surveys of business occupiers?</i>		
	Does the assessment consider the feasibility of capacity, particularly for industrial land? <i>For example, has a multi-criteria analysis been used? Are the methods and assumptions used in this assessment clear?</i>		
	Is there a rigorous conclusion on whether development capacity for business is sufficient now and in the short, medium and long terms? <i>Is there a quantitative comparison between the demand and capacity assessments? Is sufficiency measured by zone type, geographical area and in the short, medium and long terms? Are there more detailed sufficiency measures for the short and medium terms? Are the industrial zone land price differentials used to inform a conclusion about whether zoning matches demand of different activities for particular locations?</i>		
	Does the assessment analyse the contributing factors to any shortfall in		

Key criteria	Indicator	Status	Comments
	sufficiency? <i>le, how do different factors (enablement in plans, development infrastructure or feasibility) contribute to a shortfall in sufficiency?</i>		
The assessment considers interactions between housing and business activities and their impact on each other	Does the assessment consider the interactions between business and housing capacity? <i>Does the assessment ensure that capacity is not double counted or under- or over-estimated? Does it consider the positive and negative spatial interactions between housing and business capacity, and impacts on accessibility and transport? Does it analyse barriers and opportunities for development and change?</i>		
The assessment explicitly uses market and price efficiency indicators	Are results from the quarterly monitoring of market indicators reflected in the assessment and are they consistent with the final assessments of housing and business land sufficiency?		
	Does the assessment include consideration of price efficiency indicators as a package and an analysis of what these suggest about the sufficiency of supply and location of development capacity?		

Indicator	Status	Comments
Communication		
Clarity <i>Is the capacity assessment easy to read and understand? Does it use appropriate headings, plain English, executive summary and visuals or spatial information where appropriate? Is it of a readable length?</i>		
Narrative <i>Does the assessment provide a clear narrative about the urban markets for housing and business space and their interaction with land use planning? Is the analysis of the indicators clearly grounded in the local context? Is it an appropriate level of detail for the local authority in question?</i>		
Usefulness to decision-makers <i>Will the assessment inform targets, plan changes and future development strategies (where relevant), and long-term plans? Does it draw clear conclusions on the 'so what' and next steps (possibly through a recommendations section)? Does it link the HBA to other key responsive planning requirements under the NPS? Does it contain the key information necessary for further decisions? Are key risks and timing issues highlighted?</i>		

Indicator	Status	Comments
Process		
Agreement between the relevant councils on the geographic area of focus for the assessment <i>Is this clearly delineated and does it have some logical basis; eg, the functional market, coordination arrangements, the application of planning decisions?</i>		
Local expertise sought and used <i>Is there evidence that the input of iwi authorities, the property development sector, significant land owners, social housing providers, requiring authorities, and the providers of development infrastructure and other infrastructure has been sought and used?</i>		
Transparency <i>Are the methodology and assumptions clear, even when work has been procured? If there is a disclosure statement, does this detail key gaps, strengths and weaknesses? Are options for filling these gaps explored? Has consideration been given to releasing the report to the public?</i>		