

COVID-19 Response: Delivering Kāinga Ora Housing Supply Commitments

Reference number	BN 21 040
Date	2 December 2021
Priority	Normal
Security level	In confidence

Action sought

Recipient	Action sought	Deadline
Minister of Housing	s 9(2)(f)(iv)	

Contact for discussion (if required)

Name	Position	DDI Mobile	Email	First contact
Andrew McKenzie	Chief Executive	s 9(2)(a)	Andrew.Mckenzie@kaingaora.govt.nz	Yes
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For Minister's Office						
Noted	Approved	Not approved	Other			
Comments						



BN 21 040

2 December 2021

Hon Dr Megan Woods, Minister of Housing cc: Vui Mark Gosche, Kāinga Ora – Homes and Communities Board Chair

Covid-19 Response: Delivering Kāinga Ora Housing Supply Commitments

Recommendations

1. I recommend that you:

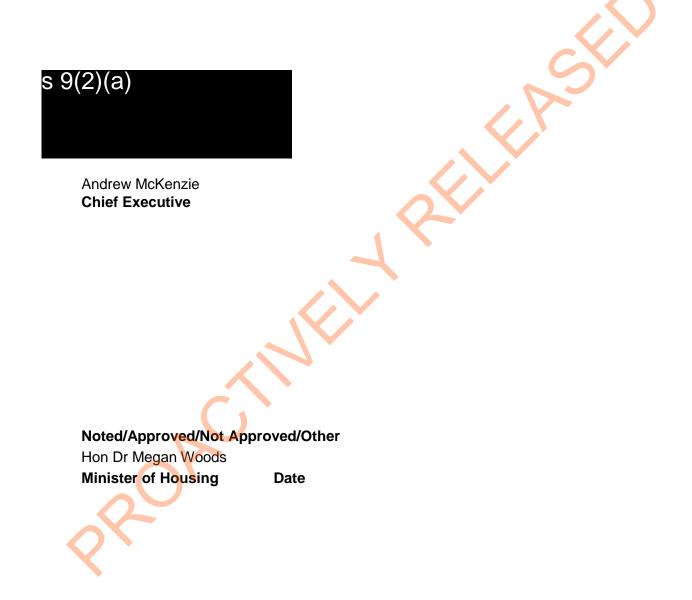
- a) note that the letter Kāinga Ora Homes and Communities received from you on 8 November 2021 sought advice on how the delivery risks (as outlined in BN 21 031) to our existing commitments through to June 2024 could be mitigated, including:
 - what Kāinga Ora can do differently; and
 - identifying where other government agencies could provide assistance
- b) note that Kāinga Ora is accelerating the production of new homes to ensure delivery of our existing housing supply commitments by FY24



agree that due to constraints around labour and materials priority will be given to meeting the supply programme requirements.
This may mean a reduction / delays to our retrofit programme and some planned maintenance being deferred

- e) **agree** to remove restrictions on the use of off-shore sourced offsite manufacturing (OSM) homes for public housing, given current internal labour constraints, noting that Kāinga Ora is focussed on supporting the development of onshore capacity
- f) **note** that Kāinga Ora will provide you with further information in early 2022 on:
 - the scale of opportunities enabled through the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill

- our long-term financial projections, in particular the impact of cost pressures and inflation and the implications of this on our funding settings (including the operating supplement), projected debt and our associated financing strategy
- the purpose-built rental approaches we are currently investigating.



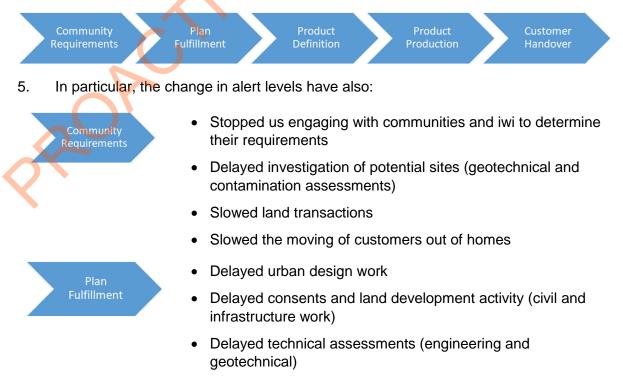


Purpose

 This briefing responds to your 8 November 2021 letter to Kāinga Ora Board Chair, Vui Mark Gosche, which requested advice on how the delivery risks to our existing housing supply commitments through to June 2024 could be mitigated (as outlined in BN 21 031).

Background

- 3. On 13 October 2021 Kāinga Ora provided you with a briefing note (BN 21 031) which set out the delivery challenges prior to and as a result of the August 2021 alert level changes as at 30 September 2021, and as a consequence of extended border closures and huge disruptions to international flows of labour and materials supply chains. This included:
 - · our ability to have contractors on-site undertaking works
 - staff not being able to physically inspect and progress work on sites
 - the efficiency of returning to business operations by the building sector through changes in alert levels
 - the solvency of our build partners and their general ability/preparedness to commit to new work
 - our ability to access materials for our supply and maintenance programmes
 - skills and labour shortages in the industry exacerbated by the increased volume of work across the sector increasing demand for construction skills.
- 4. These impacts have not been constrained to the "product production" (physical construction) phase of our delivery programme. They have impacted across all phases of our construction process (outlined in the diagram below), some of which have less of an impact on immediate supply numbers but will see ripple effects into later years.





- Stopped the movement of employees across regions
- Delayed home design work
- Slowed procurement and pricing as site visits cannot be undertaken
- Limited our ability to complete the handover of completed homes to our customers.
- 6. Since the October briefing, Alert Level Three restrictions have continued in Auckland and parts of the Waikato and Northland have also been subject to these restrictions for periods of time. During this period, the Government announced the new COVID-19 Protection Framework.
- 7. This briefing provides an update on the financial and non-financial effect of the COVID-19 lockdowns, supply chain constraints and border restrictions on Kāinga Ora housing delivery given the changes outlined above. It sets out a pathway for Kāinga Ora to meet our existing multi-year public, transitional, Community Group and Corrections housing commitments through to June 2024, including:
 - what Kāinga Ora can do differently; and
 - identifying where other government agencies could provide assistance.

Net build target and impact of COVID-19 lockdowns, supply chain constraints and border restrictions on delivery programme

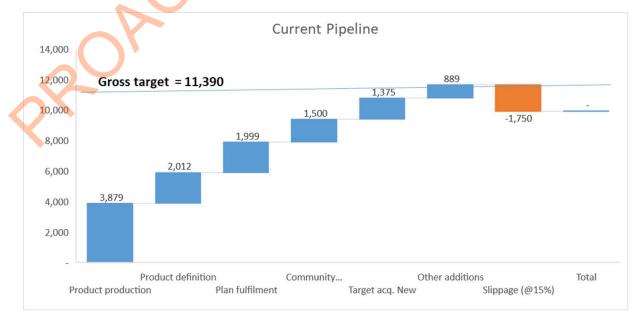
8. Kāinga Ora has commitments to deliver 11,780 **net** additional homes between FY19 and FY24. There were 4,160 homes delivered between FY19 and FY21. The detail of these commitments and the previously agreed phasing is set out in the table below.

All numbers are in net volun	ne							
Volumes (Net)	FY19	FY20	FY21*	FY22	FY23	FY24	FY19 - FY24	Agreement
Public Housing Plan 1: July 2018 to June 2022	1,223	727	940	1,590	0	0	4,480	Budget 2018
Public Housing Transfer: Tenanted			142				142	Nelson
Public Housing: Refugee Housing	0	0	215	23	126	0	364	Budget 2018
Public Housing Plan 2: July 2022 to June 2024	0	0	0	0	2,400	2,400	4,800	Budget 2020
Transitional Housing: PERM 530-650	0	229	175	0	0	0	404	HUD reset target to 40
Transitional Housing: Budget 2020	0	0	465	935	0	0	1,400	Budget 2020
Community Group Housing	-5	30	-5	21	42	43	126	13 in Corrections
Corrections Department	13	3	8	40	0	0	64	
Total	1,231	989	1,940	2,609	2,568	2,443	11,780	
Public Housing	1,223	727	1,297	1,613	2,526	2,400	9,786	
Supported Housing	8	262	643	996	42	43	1,994	

- 9. Updated analysis as at November 2021 suggests that as a result of the current environment there are delays to our programme of at least six months (refer *Appendix One* for a detailed list of key assumptions, risks and mitigations). In real terms this means that at least 1,451 homes (net) scheduled for completion in this financial year will now be delivered in FY23, with deliveries in FY23 being pushed later into the year and/or out into FY24, and for future financial years, due to delays through the different phases of our construction process.
- 10. This is based on:
 - mitigations to the FY21 lockdowns (which resulted in an on average three-month delay across all construction projects with some ongoing effects on the overall industry productivity) being undermined by current restrictions (refer BN 21 031)
 - a minimum three-month shifting out of our FY22 programme relating to the length of the current lockdown
 - our biggest delivery months shifting into the first quarter of FY23 (55% of FY22 delivery was scheduled for completion in the fourth quarter)
 - supply chain constraints are worse now, with limited buffer stock on hand there will be a reduction in productivity
 - the impact of the alert levels on the ability to implement the identified actions to close the gap identified in our pipeline pre-lockdown
 - this has increased since our October briefing (which was based on September 2021 data) due to the restrictions being place longer than assumed at that point in time.

Gross Build Target

- 11. Sales, lease expiries and demolition of existing stock to enable redevelopment mean that to meet our net residual target of 7,620 by FY24, we actually need to build or acquire an estimated 11,390 homes (gross) over the rest of FY22, FY23 and FY24.
- Kāinga Ora has a sufficient number of projects in our delivery pipeline to meet our FY24 commitments, with almost 3,900 already contracted and under construction – refer to the figure below.



- 13. When planning construction programmes, experience has shown that we need more sites in the pipeline than the target as there will be site-specific challenges that move the timelines of individual projects around (particularly in the early planning and feasibility stages). As we programme our workload, we include additional sites above the target to allow for these movements. The process is an ongoing one and currently our regional and commercial teams are identifying sites with capacity for an additional 1,750 homes (gross). We have already settled or have under contract land that will enable approximately 700 800 public and transitional homes, and there is more in earlier stages of investigation that will provide these additional sites.
- 14. The delays that have resulted from alert level restrictions in FY21 and FY22 mean we have compressed timelines to deliver our homes. This puts pressure on our resources and costs, requiring us to adopt processes and methodologies that drive speed and remove waste from each phase of the delivery process without reducing reliability.
- 15. We also need your support for some suggested changes that we believe will help with pace and mitigate risks from ongoing market conditions. The following sections discuss initiatives we have underway, and those important changes in settings.

Accelerating the delivery of new homes

- 16. Kāinga Ora has a number of significant initiatives already underway to improve our processes and to accelerate delivery, which will help to mitigate the impact of the delays to the supply programme. These include:
 - planning and scheduling hubs leveraging the clarity provided by the Public Housing Plan and Asset Management Strategy to drive our construction programme
 - Project Velocity a continuous improvement initiative focussing on improving the efficiency and effectiveness of our end-to-end process for housing development
 - Construction Accord procurement alignment. We have sped up our contract negotiation processes by aligning our contracts wherever possible with Construction Accord Standards
 - construction partnering agreements delivering time and cost savings through multi-year contracts with build partners for the annual delivery of a set number of homes
 - off-site manufacturing (modular and panelised) accelerating the delivery of homes and leveraging offshore labour to complement internal capacity
 - initiation of Consentium, our Building Consent Authority, to provide faster and more cost-effective building consent services and to improve our building processes through greater consistency and transparency
 - Civils' Alliances which streamline the delivery of build-ready residential land by encouraging organisations to work together to develop innovations, manage and mitigate risks and resolve issues fast when they arise.
- 17. In addition, we are undertaking a number of steps at each phase of the housing delivery process to accelerate the production of new homes. These are particularly targeted at those phases where we are face the most challenges:



• Expanding our locational settings under the Public Housing Plan - this will enable us to access a broader number of opportunities to enable us to meet our commitments. This includes:

- actively looking for opportunities to over-deliver on the Public Housing Plan in Tier 1 locations¹ and HUD Public Housing Focus areas for the purposes of meeting Public Housing Plan 2 commitments (in line with your letter)
- widening our planning and investment intentions to allow us to invest in a broader range of communities within these regions. All communities will have:
 - clear and identifiable unmet demand for public Income-Related Rent Subsidy (IRRS) housing
 - ready access to employment, amenities and social services to support our customers' needs; and
 - good quality land and be adequately protected from the detrimental effects of climate change.

When considering more remote communities Kainga Ora will ensure:

- that it already has a presence in the area and is successfully meeting existing customers' needs;
- we do not intend to invest in a town where we have made a decision to exit over time (i.e. remote towns with high service costs, limited underlying demand, and very small existing portfolios); and
- that these communities make up a manageable proportion of the overall supply programme.

Kāinga Ora is currently assessing whether these changes will result in a need to change current operating supplement settings. If so, we will work with HUD to determine the appropriate response.

Delivering more on our development sites and accelerating deliveries where possible through the use of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill –Kāinga Ora is currently undertaking work to identify:

- the level of additional housing capacity that the Bill may enable on our land holdings above and beyond capacity provided by the current operative planning frameworks. This will mean that some of the homes we had previously identified for renewal through the retrofit programme may become redevelopments instead
- where the Bill could support a reduction in the need for resource consents reducing processing time risk for the organisation.

Initial work indicates that while the Bill will enable some additional capacity in the Tier 1 council locations, Kāinga



¹ As defined by the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill

Ora would benefit more significantly from the application of the Medium Density Residential Standards in the majority of the Tier 2 and some Tier 3 Councils (with the exception of Whangarei where we have already undertaken a significant amount of work with them through their urban and services plan changes to modify their District Plan and Queenstown where we have limited land holdings). We will brief you further on this once we finalise our analysis in early 2022.

- Scaling our delivery approaches to enable delivery at pace broadening our current mix of delivery approaches (which involve partnering with the private sector at various scales, and a mix of methodologies based on typology, location, capacity and capability requirements *refer Appendix Two* for further detail on this) to ensure we are facilitating and enabling the private sector effectively in the current environment to enable delivery of the commitments. This includes progressing opportunities to enable the delivery of land and building packages at varying scales.
- Being more flexible around our standard housing requirements, for example living space sizes, while still meeting Building Code and Healthy Homes Act requirements. This will open up further opportunities to acquire new homes in partnership with developers, and enable more flexibility to accept standard products from OSM providers.
- Changing our approach to public housing concentration and tenure mix to enable delivery at scale. We currently turn down opportunities due to concerns about the extent of concentration of public housing in the community. Research suggests that concerns about community wellbeing associated with concentration are not supported by evidence.



Product

Production

- Supporting the private sector with a focus on building service suppliers and supply chains through:
 - Encouraging forward ordering of materials as far in advance as possible.
 - Extending the existing aggregated materials supply arrangements.
 - Expanding coverage to support a wider number of our maintenance and construction services partners (where desired).
 - Increasing the categories of materials covered including products and supply chains that will assist transition to lower carbon emission construction.
 - Working with independent advisors to ensure robust thinking and scenario planning.

Areas where other government agencies could provide assistance

 In line with your letter, we have also identified a number of key areas where other government agencies could provide assistance to accelerate delivery. These are outlined in the sections below.

Prioritisation of Supply commitments

- 19. Given the significant delivery requirement created by the movement of our programme out six months, we will be making changes to the timing of our retrofit programme and potentially deferring our planned maintenance programme to free up labour and material resource to enable us to deliver the supply programme. Confirmation from you that you are comfortable with us doing this would be beneficial for the organisation.
- 20. As previously discussed, there is also work currently being undertaken across government to identify if there is any known capacity available in the housing stock to support the COVID-19 response requirement for self-isolation and quarantining in the community. While we are happy to assist where possible, any substantial involvement will compromise delivery dates, as utilising our homes for the COVID-19 response will likely limit our rehousing capacity and therefore our ability to undertake redevelopment at pace.

Consentium scope

- 21. In mid-December 2021 Kāinga Ora will be providing a briefing note to you seeking expansion of our Building Consent Authority (Consentium) to include public housing developments over four stories, all Community Group Housing, market delivery of public housing and other buildings that are proposed to be retained in Kāinga Ora ownership. It is estimated that, if supported, Kāinga Ora could start consenting these additional units by October 2022.
- 22. By expanding Consentium's scope approximately 1,500 additional public housing units per annum would benefit from faster consenting services, with time savings of between three weeks and four months.

Off-Site Manufacturing (OSM) settings

- 23. The OSM Supply Programme was established to drive an acceleration in the use of volumetric OSM. This is important as it effectively adds additional labour and material capacity to overcome existing construction sector constraints in New Zealand, and a faster product production process. The initial programme was primarily focussed on the delivery of homes to meet the Kāinga Ora FY22 transitional housing targets.
- 24. We use a mix of offshore and onshore providers. As previously indicated you have indicated a clear preference towards:
 - the onshore manufacturing of these homes, and
 - these being primarily targeted towards the delivery of transitional housing rather than public housing.
- 25. Kāinga Ora has made significant ground in the local OSM space and is now working with at least twelve local suppliers in this space and has revised plans to have only 40 percent of the homes sourced offshore (down from 70 percent) (refer AH 21 105). We are also continuing to pilot and test a variety of materials and methods.
- 26. While our long-term approach is still aligned with your preference to build onshore OSM capacity, loosening the transitional housing setting would be very helpful. The primary build focus for Kāinga Ora over the next 30 months will be public housing and

the ability to use offshore manufacturers to support the delivery of that commitment would give us access to an additional labour and materials pool. This will be particularly important in some parts of the country where we are experiencing issues finding build partners (noting we will not accept off-shore product at a lower standard to New Zealand product).

Further opportunities to proactively consider facilitation and enabling of others in the sector, to support delivery

- 27. You also sought a view on how Kāinga Ora could consider facilitating and enabling others in the sector to support the delivery of our public and transitional housing supply commitments.
- 28. As set out in *Appendix Two*, Kāinga Ora already engages with the broader construction sector to varying degrees across each phase of delivery. This includes delivering homes from market sources through acquisition of land and home packages from the private sector and securing construction outcomes via contract mechanisms on Kāinga Ora land. Within each of these procurement models there are a number of construction pathways including OSM, cross laminate timber, tilt-slab concrete and traditional stick build. Most partners specialise in a particular set of approaches and have varying appetites for risk. This approach results in a diverse mix of contractual and construction methodologies which we can scale as appropriate to certain typologies or locations (markets), as well as the capabilities of our partners.
- 29. Kāinga Ora partners with various groups to deliver joint outcomes for example with iwi on Maori owned land, and with Councils and the Crown in priority areas. The more complex the partnership model though, often the more resource intensive the process. Kāinga Ora is focussed on increasing its partnership approach, particularly in relation to achieving its broader urban development outcomes.
- 30. In the current environment Kainga Ora has an opportunity to be the best customer for the private sector by supporting the purchase of new homes from distressed buyers (which in turn could contribute towards our FY24 commitments) and our settings will be further explored around this.

Opportunities to change the mix in the Large-Scale Projects (LSPs)

- 31. As requested, we have looked at options for increasing the proportion of public and affordable housing in our LSPs. It is important to note that:
 - the LSPs are primarily in their land development and infrastructure delivery phases, with the majority of housing enabled in the later years of the programme

public housing delivered in the Tamaki Development does not contribute towards Kāinga Ora delivery commitments

- the ongoing delivery of the enabling works are subject to Cabinet decisions in March (Auckland) and May (Porirua) 2022.
- 32. Kāinga Ora have investigated the opportunity within these areas with a focus on the sites that will be enabled and are able to have homes delivered on them by FY24 (subject to Cabinet decisions on the business cases in March). This found that:
 - the majority of areas have already prioritised public housing during this period to support rehousing but also in response to public housing delivery requirements

- there may be some limited scope potentially existing in the Mangere LSP to consider public housing phasing opportunities in Aorere Stages two and five. Further work will be done in the first quarter of 2022 months to validate this
- where market and affordable homes are proposed to be built during this period, the majority are already committed, at tender stage or in negotiation with build partners.

Ongoing Risks to Delivery

- 33. Kāinga Ora is committed to meeting its current housing delivery commitments. There is a variety of improvement initiatives already underway, and others proposed that will drive speed and cohesion. There will be some natural risks given we are all operating in a period of significant uncertainty with many key components of our delivery model outside of our direct control. That is why some of the key steps we are taking and support we are seeking are focussed on mitigating ongoing risks like limited rehousing, the locked down border and supply chain constraints.
- 34. We will continue to keep you up to date on progress on these initiatives, our build programme, the risks we are managing, further changes required and recommending any further support we might need at that time.

Potential Impact on Capital Costs and Debt

35. The Kāinga Ora capital programme and debt projections have been based on estimates for inflation, interest costs and the timing of payments for construction activity. As has been well documented, inflation is much higher than anticipated, particularly in the construction sector, interest rates are increasing and lockdowns and market conditions have slowed the pace of construction activity.

s 9(2)(f)(iv), s 9(2)(i)	

37. The capital spend profile has now grown to \$8,688m from \$7,654m in the budget. The costs of \$1,034m (14%) are primarily driven by timing (\$92m), inflation (\$65m) and price increases (\$877m).

s 9(2)(f)(iv)

Further work to be undertaken

- 39. The majority of Kāinga Ora income is sourced from its rental portfolio, which is set at market rent across our portfolio, with the addition of operating supplements for a relatively small number of recent additions to our portfolio. As such our assumptions around rental price growth year-on-year has a significant influence on our projected financial position.
- 40. We are currently updating our long-term financial plans, which will pick up further movements and sensitivity modelling to better understand the potential financial sustainability challenges and will come back to you in early 2022 to discuss this analysis. It is expected that this will include:
 - inflationary impact greater than assumed (currently 5-7%)
 - rent income continuing to grow at a lower rate than our cost base (currently rent growth is assumed at 2.5%)
 - the new capital expenditure profile
 - cost pressures on other parts of the business facing similar headwinds (retrofit programmes, Healthy Homes).
- 41. This may result in a need to:
 - revisit operating supplement settings to improve our financial sustainability
 - assess the projected debt levels, and plan for the debt protocol revision requirement.

2021/22 Statement of Performance Expectations

- As noted in BN 21 031 over half of the Kāinga Ora SPE targets have been impacted by COVID-19 alert level changes and are unlikely to be achieved this financial year.
- 43. HUD and Kāinga Ora have previously provided you with advice on options as to whether to make amendments to Kāinga Ora 2021/22 SPE. At this stage, Kāinga Ora has taken into account the ongoing uncertainty around the COVID-19 impact as discussed, and the practicality of an official amendment to the SPE. That is, a formal process under the Crown Entities Act is likely to take until March or April 2022 to complete, by which time the 2022/23 SPE is almost due for ministerial consultation. Given the above, we agree with HUD in that our preferred approach is to not amend the targets as published in the current SPE. Kāinga Ora will instead explain the impact of COVID-19 on its performance delivery in its 2021/22 Annual Report.

44. Kāinga Ora is currently starting its 2022/23 SPE development process and will consult with you on the proposed approach for this in line with the standard process early next year.

Next Steps

- 45. Kāinga Ora will provide you with further information in early 2022 on:
 - the scale of opportunities enabled through the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill
 - our financial sustainability, in particular the impact of cost pressures and inflation, and differing rent and operating supplement settings, and the flow on implications on projected debt levels and debt servicing.
- 46. Your letter noted that you would also like to be kept updated on progress in relation to the provision of land for purpose built rental developments. We are currently investigating a couple of approaches, one involving sale of a superlot, and a second involving a leasehold model. We propose providing a report back to you in early 2022 outlining these approaches.

Appendix One – Key modelling assumptions

Assumption	Risk	Mitigation		
Build Inflation rates at 3-5%	Cost to build keeps going up. Home delivery, renewal programme and healthy homes spend can no longer be funded through debt alone	Portfolio adjustment or spending adjustment		
Rent income growth is at 2.5%.	Our ability to invest in the portfolio and service our debt becomes challenging	Increase revenue through updated operating supplement		
	Interest coverage becomes unsustainable	Seek a market rent top-up across our portfolio to reflect operation cost pressures (as per comment above)		
Interest rates is circa 2-3%.	Interest costs grow significantly. Again, this will decrease our ability to service the debt	Interest hedging Update our financing strategy to access to capital markets		
Assumed no cost pressure from other parts of the	Not enough funding to support business operations	Decrease business activities		
business.		Identify new funding sources		
Build cost assumptions are still aligned with long-term incentive plan (LTIP) baseline	Cost to build keeps going up. Home delivery, renewal programme and healthy homes spend can no longer be funded through debt alone	Reduce spend by delivering less homes. Seek capital injection from Crown		

Appendix Two – Delivery approaches

J. Marine Ma Marine Marin

Our delivery toolbox

Kāinga Ora delivers a range of housing typologies using different contractual and construction methods. These methods range between enabling supply from others through acquisition approaches as well as leading delivery through redevelopment approaches.

Having a diverse range of approaches means Kāinga Ora can tailor its approach to certain typologies or locations (markets), as well as the capabilities of our partners. Most partners specialise in a particular set of approaches, and have varying appetites for risk.

Therefore, when choosing which approach to take, Kāinga Ora needs to consider the housing typology, location and the needs of our build partners. This results in a diverse mix of contractual and construction methodologies.



Procurement pathways

Redevelopment

How Kāinga Ora delivers homes from land it controls:

Construct only

Kāinga Ora undertakes the design process itself, and engages a partner on a 'construct' only basis. Building to standard plans for highly repetitive housing typologies. Reduces cost exposure. Suitable for construction suppliers who do not want to take on design risk.

Design and Build

Kāinga Ora completes the design to the resource consent stage only, and the build partner undertakes detailed design work and construction. Suitable for construction partners with development expertise, and complex sites/projects.

Capacity Partnering Agreement (CPA)

Kāinga Ora secures construction capacity for multiple years for selected housing typologies through a commitment to a minimum volume of homes per year. Can be Construct Only or Design and Build.

Early Contractor Involvement (ECI)

Kāinga Ora engages a contractor early in the design process to work alongside the professional consultancy team. This suits complex or bespoke projects, where early involvement enables good collaboration, designing out construction cost and good construction outcomes.

OSM direct source

Kāinga Ora procures volumetric OSM directly from the manufacturer (onshore or offshore).

Acquisition

How Kāinga Ora delivers homes from market sources:

Acquire new

Kāinga Ora acquires newly built homes directly from the market. We work with developers to acquire new homes to be completed on land we currently do not own.

Acquire new lease

Kāinga Ora leases newly built homes directly from the market. We work with developers to lease new homes to be completed on land we currently do not own.

Buy or lease land

Kāinga Ora acquires land for urban development, expanding public / supported housing supply and to support partners through leasing land.

Collaborative contracting

Kāinga Ora acquires newly built homes directly from the market. For large projects, we contract early and share some of the development risk.

Construction pathways

Common construction terminology includes:

OSM

This enables faster and more reliable construction due to a large part of the construction process occurring within a controlled manufacturing environment.

Cross Laminate Timber (CLT)

Large-scale, prefabricated, solid engineered wood panels, consisting of several layers of kiln-dried lumber boards stacked in alternating directions, bonded with structural adhesives, and pressed to form a solid, straight, rectangular structurally sound panel.

Tilt-slab concrete

Tilt-slab is construction methodology that consists of standing up (tilting) structural concrete exterior walls and floors (slabs) onsite, where the slabs that have been manufactured off site and shipped to site for building assembly.

Traditional Stick Build (TSB)

Building construction using timber framing, assembled onsite, similar to construction for 100s or 1,000s of years. Off-site manufactured elements limited to modular components only, such as pre-nailed truss and frame. Conventional methodology, can be high in materials wastage, comparatively slow construction timeframes and productivity.

procurement pathways:

Construct only

	39%
Design and Build (includes ECI on larger projects)	39%
CPA	
OSM direct source	
17% Acquisition	
17%	

Volumetric: construction of entire homes off-site, which are assembled onsite.

Panelised: construction of panels off-site, which are assembled onsite.

 Modular (components): construction of components, like bathroom pods, off-site, and installation on-site during construction.

Kāinga Ora currently has over 5,800 homes in progress between business case approval and delivery. These homes have used the following