



INTRODUCTION

ADVICE TO THE TERTIARY EDUCATION COMMISSION

for construction and infrastructure
training investment in 2026

November 2024



WAIHANGA ARA RAU

Construction and
Infrastructure

Workforce Development Council

CONSTRUCTION AND INFRASTRUCTURE DATA SNAPSHOT

Construction	254,669 Workforce 2022	75,496 Businesses 2022	70,530 Learners 2023
Infrastructure	63,113 Workforce 2022	6,006 Businesses 2022	7,455 Learners 2023
C&I Services	46,597 Workforce 2022	12,571 Businesses 2022	5,070 Learners 2023

Overarching Themes

The following are thematic topics relevant across sectors covering issues, challenges and opportunities that wrap around our investment advice. In some cases, there are additional sector-specific insights under their respective headings that more directly touch on the advice.

Leadership	Diversity	Workforce	Attraction & Retention	Progression	Training	Technology	Sustainability	Wellbeing
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Leadership

The sector consistency advocates for additional investment in leadership qualifications. Lack of leaders limits the sector's growth, and encouraging competent leadership and management skills within the workforce is seen as a clear enabler for construction and infrastructure. Having more leaders means the sector will have greater bandwidth to take on more workers secure in the knowledge that they will be managed safely and productively. Alongside the push to improve leadership skills overall is the importance of giving focus to nurturing the growth of Māori and Pacific leaders within the sector particularly if improving inclusivity from these communities is a sector goal.

Cultural Competency and Diversity

There is a need for increased cultural competency in training, including consideration of diverse groups and perspectives, especially those of Māori and Pacific learners. This, along with supporting gender and ethnic diversity, as well as neurodiverse and disabled communities within the workforce, is key to improving workplace environments and improving attraction from a broader talent pool.

Active engagement of Māori and Pacific Peoples is seen as essential, encouraging them to apply for positions within organisations and become association members. Historically, these communities tend to remain in entry-level roles, limiting their progression to higher positions. This is why creating meaningful pathways to enable Māori and Pacific Peoples to move beyond entry-level positions and into leadership roles and successful business ownership is noted as crucial.

Gender diversity was also a significant focus, with generally lower rates of participation of women across sectors (Civil Infrastructure at 6%, Plumbing, Gas and Drainlaying at 2%, and Access Trades at 1%, to name but a few). There are initiatives in play to help such as Girls in Hi Viz inspiring and attracting young women to the sector. There are obvious benefits to the inclusion of disabled individuals for both the sector, the wider economy and the individuals themselves through improving access to employment, decreasing underemployment, and utilising the talents of our disabled population.

Workforce Challenges and Opportunities

The sector is grappling with a range of workforce challenges including skills shortages, attraction and retention of skilled workers, an aging workforce, competition for talent and migrant worker integration. Top of mind right now, however, is the effects of downsizing due to a reduced pipeline of work. This is expected to improve in 12 to 18 months however it is having impacts on everything from attraction and retention to reduced industry appetite for training. The sector is looking forward to an increasingly certain pipeline of work as set out the narrative below, but it also wants to make sure that workforce planning is done wisely so that when there is an uptick in activity the flow on effects of the current trough has already been mitigated through smarter planning. This includes attraction and retention (covered below) but also includes decent investment in training, strategic use of immigration and good

planning around workforce mobility so that current workforce can be re-distributed as projects come online or in the event of a natural disaster deployed to where they are needed most.

Attraction and Retention

Labour shortages and the ability to attract and retain skilled workers is a common challenge across multiple sectors, significantly impacting productivity and project completeness. To ensure the long-term sustainability of the sector, effective succession planning and knowledge transfer strategies are vital. Leveraging the experience and wisdom of the aging workforce through pathways that allow them to become trainers/mentors ensuring the preservation/transfer of valuable skills.

Progression

There are a range of considerations around career progression including clear career pathways, mentorship programmes, promotion of trades careers and industry engagement with schools that the sector is thinking about. The sector is particularly mindful that developing clear career pathways and mentorship opportunities is vital for attracting and retaining talent, as well as ensuring knowledge transfer within the workforce.

Training

There is need for specialised training, and an awareness that currently there are limited training options needing more investment in training programmes and more support for internal training systems. There is also a call for multiple pathways for training to be delivered so training can meet people where they are so they can learn when they are ready. This has the flow on benefit that people will be optimally placed to enter or transition into the workforce when projects start. This includes on the job, face to face, extramural, gateway or in-school programmes. The key is more choice and flexibility in provision for learners and employers.

Emerging Technology

There is an eye over the influence of technology on existing roles, such as automated stop-go signals creating efficiencies, which require new skills to operate and maintain. Visibility of technology on the horizon is important to the sector as it changes the kinds of skills needed and consequently how we train for them leading to increased integration of AI, VR and digital tools as these are picked up by the sector. Integrating technology into training enhances learning experiences and prepares workers for modern industry demands.

Sustainability

There is momentum around turning towards renewable energy to help meet our growing energy needs as a country and the sector is very aware of this momentum. The implications of increasing reliance on renewable energy as a source of energy is translating into more work which in turn means the sector has to find a way to address the demand. This pipeline is relatively stable as it is often privately funded and therefore presents a consistent pull-on labour and skills demand. Over time that will lead to increasing re-direction of workforce into the development of renewable energy infrastructure. In terms of training this points to integration of sustainable practices in training and construction and promotion of green skills. Another connected part of this is climate resilience work in relation to the built environment and mitigating the impacts of climate change which is also a steady workforce presenting yet another draw on workforce supply.

Wellbeing

Workforce wellbeing is a key area of focus for the sector due to the fact that work can be physically and mentally challenging and operates within a boom-bust cycle. Construction experiences one of the highest rates of suicide for any one sector in New Zealand, with evidence suggesting rates of suicide are disproportionately high relative to the size of the workforce. This is a serious concern among employers setting aside the simple productivity benefit that comes with securing the physical and mental wellbeing of your workforce. Employers are always looking for ways to improve the safety, health and wellbeing of their workforce.

Evidence Supporting our Investment Advice

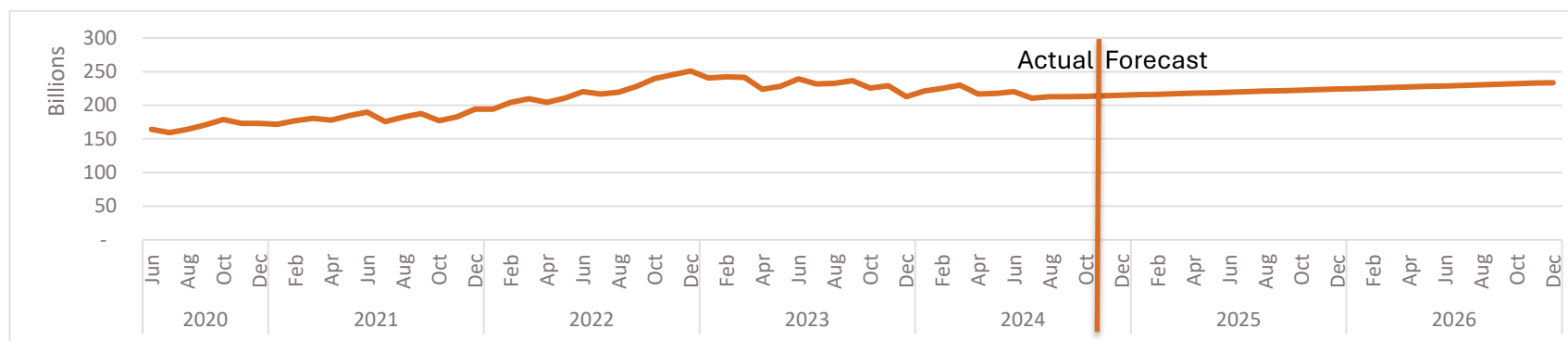
Construction Strategic Sectors:



Note: We are generally **only** including sectors and qualifications where we are suggesting growth (based on 2023) – refer to those highlighted in blue above.

Construction has always been the dominant feature of building activity in New Zealand over and above infrastructure with residential construction on its own, consistently representing 50% or more of overall activity **nationally**. Currently the **construction pipeline appears relatively stable** following a drop in 2023 from 2022 levels and as a result **we expect to see workforce demand remaining relatively stable across both residential and non-residential construction over 2024/25**. We expect **that trend to continue in 2026** picking up more of a positive trajectory in response to improved conditions around inflation and interest rates impacting on residential building in particular.

Construction five-year rolling Project Pipeline value nationally (2020 – 2026)

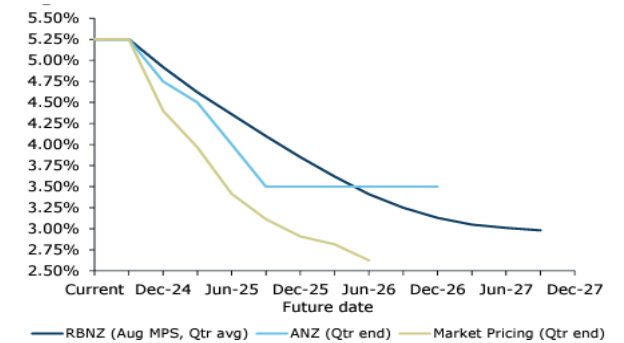


Source: Actual pipeline data is sourced from [Waihanga Ara Rau Workforce Information Platform](#) forecast is linear forecast to a midyear 2023 result in Dec 2026.

Forecast of continued reduction in the Official Cash Rate (Current – 2027) | Source: ANZ Research Data Wrap 16 August 2024

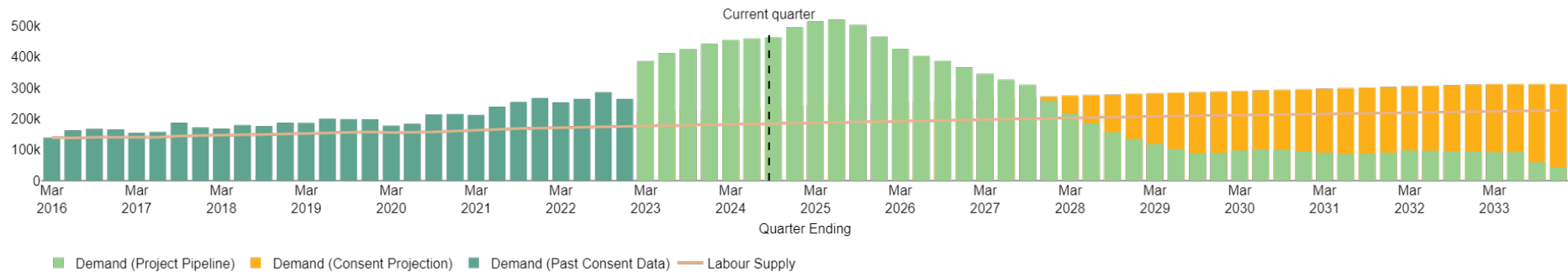
The [ANZ forecasts \(16 August 2024\)](#) make the case that monetary policy has indeed already gained sufficient traction to return inflation to target, and they are now expecting Official Cash Rate (OCR) cuts at each meeting to take the OCR to a terminal rate of 3.5% in Quarter 3 2025.

The [NZIER Quarterly Predictions, September 2024](#) comments on households fixing for shorter periods in anticipation of lower mortgage rates. Expectations of an imminent decline in interest rates saw a marked shift in the fixing of mortgage rates at the shorter end, with 48 percent of mortgages in New Zealand fixed at six months or shorter in June 2024. This is a step up from the 38 percent of mortgages due for repricing within the coming six months. The more recent decline in interest rates means that many households should face lower mortgage repayments as they roll off their fixed-term mortgage rates over the coming year.

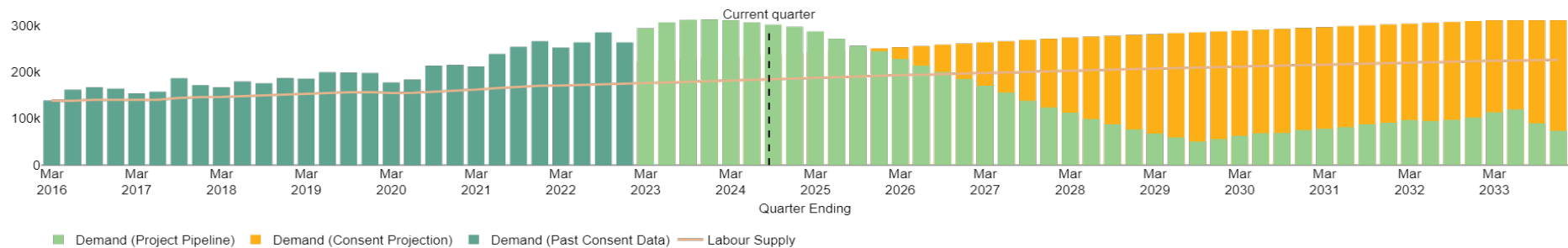


How the current (September 2024) project profile translates to workforce forecasts.

Workforce forecast based on the unadjusted pipeline of work using planned activity and the workforce required to put it in place



Workforce forecast based on the most likely pipeline of work using planned activity and the workforce required to put it in place



Source for both figures above: Actual pipeline data is sourced from [Waihanga Ara Rau Workforce Information Platform](#)

Infrastructure Strategic Sectors:

Civil Infrastructure	Electrical Supply	Gas Infrastructure	Water Services	C&I Services
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Note: We are only including qualifications where we are suggesting growth (based on 2023).

We are expecting to see **consistent growth in workforce demand for infrastructure between now and 2026**. This is **based on increasing infrastructure activity driven by a steady pipeline of infrastructure funding** being signalled from central and local government projects covering hospital rebuilds, roads of national significance and road maintenance etc. Budget 2024, for instance, highlighted the increasing investment in infrastructure, with:



\$4.1 billion of Crown funding for the National Land Transport Fund – a **\$1 billion** increase to the amount previously signalled - to accelerate priority projects including the Roads of National Significance.



\$1.2 billion for the new Regional Infrastructure Fund to invest in resilience infrastructure and regional projects that support economic growth.

Indication of major infrastructure projects:

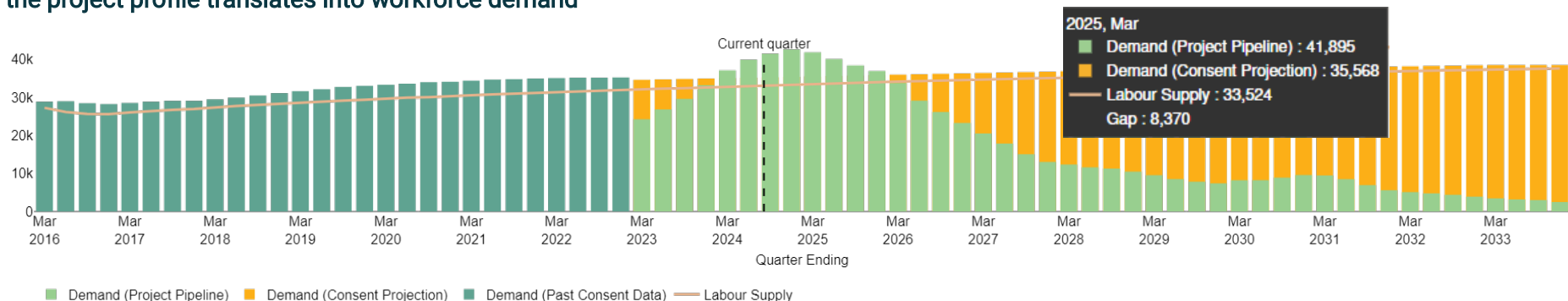


Source: Te Waihanga (NZ Infrastructure Commission)

Key points around infrastructure pipeline certainty

- ▶ Infrastructure pipeline funding predominantly originates from local and national government, while this can make it less susceptible to economic trends decision and activation processes can create timing issues in key areas such as transport and water (e.g. work programmes for water remain uncertain until direction is provided on prior administrations reforms).
- ▶ There is an effort to raise certainty levels with long term windows and phased approaches. For instance, spending on roads of national significance is taking a phased approach with three tranches of work occurring over a 10-year window. Design and delivery of wave 1 and early planning for wave 2 taking place between 2024 and 2027.
- ▶ There is significant regional variation in the pipeline driven by larger long-term planned projects and shorter-term projects responding to natural disasters, e.g. cyclone and earthquake recovery.

How the project profile translates into workforce demand



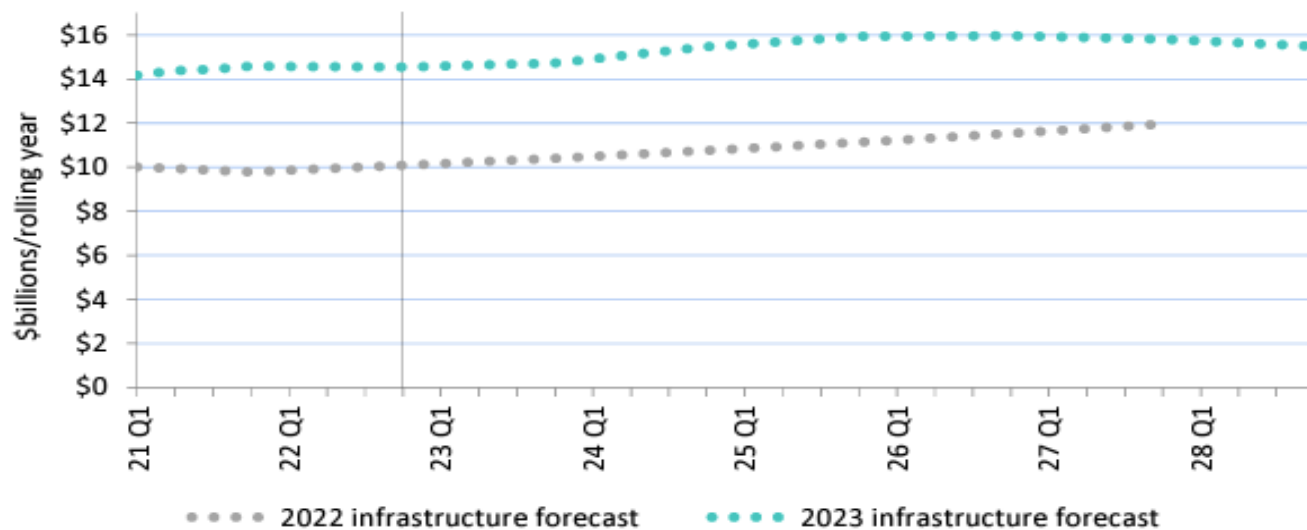
Source: Waihanga Ara Rau Workforce Information Platform [Link](#)

Infrastructure activity from the National Construction Pipeline Report 2023 forecast (BRANZ/Pacifecon)

Infrastructure activity fell slightly between 2021 and 2022 to \$14.5b but is forecast to increase steadily year on year and reach \$16b in 2026 (an approximate increase of 12%).

Based on this forecast increase in infrastructure activity from the baseline year of 2023 and 2026 forecast year, we are allocating a **12% increase in learner numbers** to the qualifications in this sector.

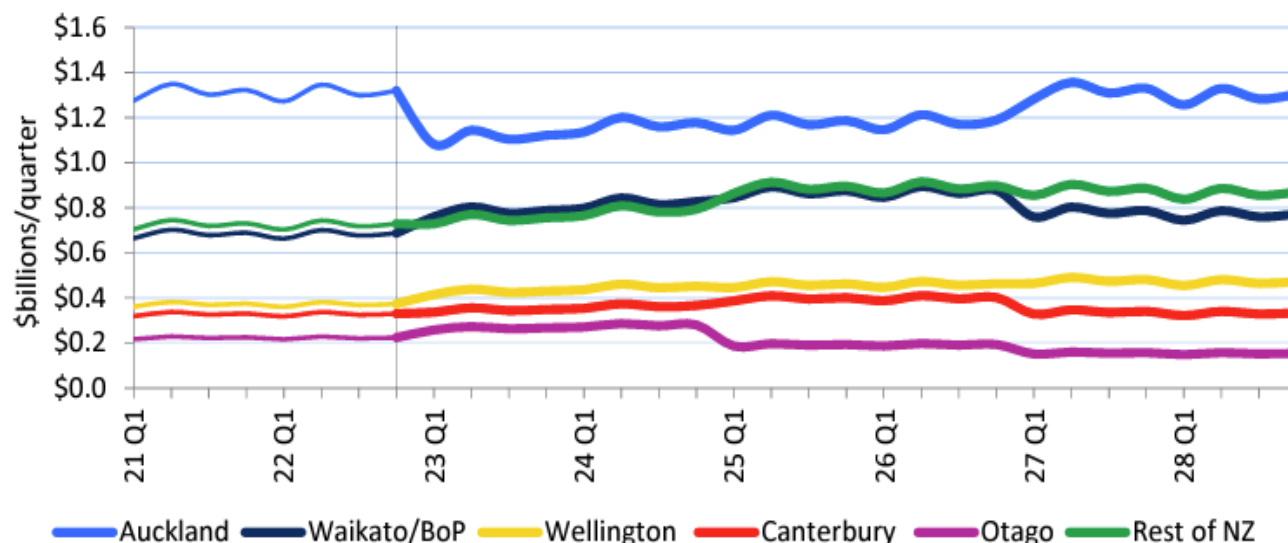
We note that some qualifications [in section B1](#) have low learner numbers therefore resulting in minimal increases in some qualifications. We acknowledge that the distribution of the overall increase of training in the sector might differ at a qualification-specific level from the forecast provided.



Source: [BRANZ/Pacifecon National Construction Pipeline Report](#)

Infrastructure activity regional comparison

Pacifecon’s research data indicates strong intentions throughout the forecast period and overall are expected to be relatively consistent through to 2028. However, regional variations are likely, with activity forecast to decrease 15% in the Auckland region in 2023 before returning to 2022 levels in 2027. The Wellington region and the Rest of New Zealand are expected to show steady growth over the forecast period – 10% and 15% respectively. Infrastructure continues to be driven by transport, water and subdivisions.



Source: [BRANZ/Pacifecon National Construction Pipeline Report](#)

Sector validation of 2026 Investment Advice

Waihanga Ara Rau has Strategic Reference Groups (SRGs) for each industry sector cluster. This advice has been developed in collaboration with and validated by SRGs. The scope and members of each group can be found here:

[Access Trades](#)

[Off Site Construction](#)

[Gas Infrastructure](#)

[Finishing Trades](#)

[Civil Infrastructure](#)

[On Site Construction](#)

[Water Services](#)

[Electrotechnology](#)

[Electricity Supply](#)

[Plumbing Gasfitting & Drainlaying](#)

[Construction & Infrastructure Services](#)

INVESTMENT ADVICE TABLES

What is our baseline year and the training narrative/forecast?

We are using **2023 learner numbers as our baseline**, as this is the latest full-year training data.

Training interventions such as the Apprenticeship Boost and Fees Free influenced 2021/21 learner numbers significantly, where we saw historical highs for many sectors. The five-year project pipeline of work was also just coming off its all-time high of approximately \$300B total (\$251B construction-specific) in December 2022.

In 2023, learner numbers started to fall, which is almost a return to ‘business as usual’ pre-Government interventions. Learner numbers in most industry sectors have continued to fall in 2024, but we anticipate government investment indicators and a falling Official Cash Rate (OCR) will see 2024 as the bottom of the training volume trough in both the civil infrastructure and construction sectors with enrolments building in 2025.

The 2026 projected learner numbers for construction reflect an expectation that 2024 will see the bottom of the trough and start to rebound in 2025 to be back to 2023 levels in 2026¹. Plumbing Gasfitting and Drainlaying is the only construction sector where a forecast graph is provided. For the other construction sectors, these are not included given any growth suggestions are not directly related to the project pipeline forecasting.

The 2026 projected learners’ numbers for construction reflect an expectation that 2024 will see the bottom of the trough and start to rebound in 2025 to be back to 2023 levels in 2026.

TEC Advice Threshold

Our threshold for including qualifications in our advice, as advised by TEC, is to focus on qualifications:

- ▶ Where our advice may have a significant impact (i.e. suggestion to increase provision by more than 20 learners).
- ▶ That have replaced older versions, and we have included the 2023 learner numbers in our 2026 forecast.
- ▶ Where we are suggesting an increase, and there are 3 or more providers delivering provision.

¹ highlighted above in the Construction five-year rolling Project Pipeline value nationally (2020 – 2026)
Waihanganga Ara Rau Advice to TEC for training investment in 2026 - Introduction

FUTURE WORKFORCE NEEDS

Area of need or project	Occupations or skills impacted	Timeframe	Who is involved
<p>Changes to Industry/occupation setting and impacts on Immigration system.</p>	<p>All (scaffolding, cranes and rigging may have slightly bigger impacts)</p>	<p>2024 - ongoing</p>	<p>Stats NZ, MBIE (Immigration NZ) are involved in a piece of work where adjustment of industry classifications (ANZSIC) are likely to have flow on effects on immigration operational policy. The work is around making ANZSIC (and later ANSCO) more accurate so INZ can ensure the right skills are coming through the immigration system.</p>
<p>Opportunity to expand gas distribution: Increasing momentum around generation of renewable natural gas by converting waste into biomethane.</p> <p>The need for skills grows as plants upgrade to be able to leverage bio-methane alongside current gas sources.</p> <p>There are a significant number of hydrogen projects either complete or under development requiring workforce.</p>	<p>Gas network technicians Specialist gas network technicians</p>	<p>TBC</p>	<p>Industry, Government, Tertiary Providers and Waihanga Ara Rau.</p> <p>Skills needs are increasingly relevant with plants already in operation in Reporoa. However, workforce needs become increasingly more relevant from 2025 onwards with upgrades to natural gas plants in Manawatū.</p>
<p>Off Site Manufacturing</p>	<p>A list of some of the roles that may be impacted: Project Managers, Site Supervisors, Architects and Designers, Engineers, Quality Control, Inspectors, Estimators</p>	<p>2024-2026</p>	<p>Offsite NZ, Hanga-Aro-Rau, industry, and other Government agencies are exploring opportunities to conduct further research into the Offsite Manufacturing (OSM) Sector, particularly how to improve efficiency, reduce waste, and enhance.</p> <p>There is potential for the development of an OSM apprenticeship. The project is still in its infancy; however, it has the potential to accelerate quickly. If this will impact delivery in 2026, we will provide out-of-cycle advice.</p>