



WAIHANGA ARA RAU
Construction and
Infrastructure
Workforce Development Council

Building Pathways

Project Report

March 2025

*Supporting the building
workforce to thrive.*

Publisher

Waihanga Ara Rau Construction and Infrastructure
Workforce Development Council.

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We extend our thanks to the building business owners, industry organisations, training providers and apprentices who have provided feedback on building qualification pathways, including:

Construction/building businesses

- Residential Builders, Passive House Builders, Commercial Construction, Māori owned building businesses
- Apprentices training in those construction businesses

Māori business owners

- Jayden Thompson - Ora Build/Tāwharau Housing Rotorua
- Sam Rutene - Ihaka Construction Masterton
- James Thurston - Self-employed (Tologa Bay)
- Annette Wehi - Toitū Tairāwhiti Housing Ltd

Training providers

- BCITO
- Builders Academy New Zealand
- Māori Pasifika Trades Training Auckland
- Department of Corrections Trades Training

Industry associations

We invited consultation and feedback from the members of:

- New Zealand Master Builders Association
- New Zealand Certified Builders Association
- National Association of Women in Construction NZ
- National Association of Steel Framed Housing
- ConcreteNZ
- NZ Roofing Association

We have used their collective feedback to provide the recommendations and proposed micro-credentials identified in this report.

Ngā mihi nui



PURPOSE

This project aimed to understand how the qualification pathway for builders working in Onsite Construction can better respond to the way industry works and trains.

It grew out of feedback that suggested the current qualification pathway was contributing to issues with the retention, completion and progress of apprentices.

We wanted to consult with people working in a wide range of businesses and contexts to find out how building skills could be grouped together to create meaningful, flexible micro-credentials that will improve the current qualification pathway. This included exploring emerging skills and contexts that are not well covered by existing qualifications.

The findings in this report will inform the development of a new 'Building Pathway' – an updated suite of qualifications, micro-credentials, skill standards and guidance information that will support a clear, relevant, flexible and accessible pathway for a 21st century Onsite Construction workforce.



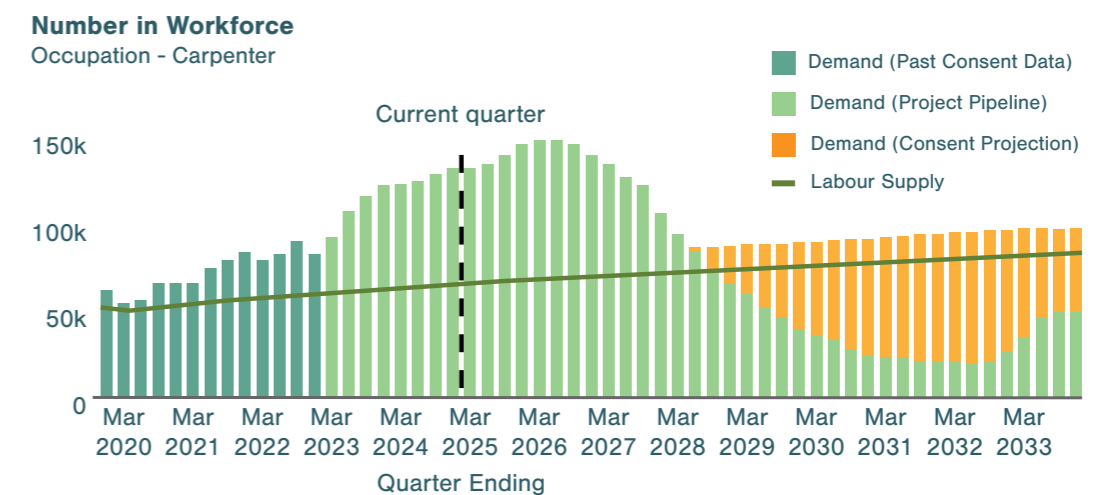
The role of Waihangara Rau

Waihangara Rau Construction and Infrastructure Workforce Development Council is the standard-setting body (SSB) for construction and infrastructure vocational training. This means that we ensure qualifications and skill standards reflect industry needs and empower the sector, Māori businesses and iwi development. We provide industries and employers with increased leadership and influence in vocational education.

Waihangara Rau is committed to upholding Te Tiriti principles and Te Tiriti partnership. Our success lies in employers, including Māori business owners, trusting that vocational education graduates are job-ready and that the system addresses future industry skills needs by providing high-quality training and education.

WHAT IS THE OPPORTUNITY?

In an industry that has struggled to keep up with workforce demand, it is essential that the qualifications pathway into and through the building trades is clear and accessible for learners (ākonga) and employers.



Data Source: Workforce Information Platform (WiP).

The industry struggles to retain new entrants and apprentices, and many learners face challenges completing full apprenticeship qualifications for various reasons. A more adaptable qualification pathway is part of the solution to address these challenges.

The introduction of 'skill standards' has created an opportunity for the sector to build a new pathway that is centred around a consistent set of common standards.

We wanted to identify meaningful micro-credentials based around this common set of 'skill standards,' to:

- Smooth the transition between pre-employment, pre-trade training, and apprenticeships.
- Smooth the transition when learners move between employers.
- Create more opportunities to recognise meaningful progress towards the New Zealand Certificate in Carpentry.
- Recognise specialisation in the building trade.
- Allow for flexibility within the qualification pathway.

SUMMARY OF INDUSTRY RECOMMENDATIONS





Industry told us that they needed:

- More flexibility in the Onsite Construction sector qualifications pathway
- Smaller credentials that align with specialisations that can lead on to larger qualifications
- More specific/targeted credentials to lead on to larger qualifications

Based on our findings we are planning to introduce new micro-credentials that will supplement, contribute to and build on the existing qualifications. These are scaffolded using an adapted version of the Poutama Model for Construction Training.

We'll be reviewing the existing qualifications and developing new micro-credentials concurrently to make sure they are aligned.

Proposed micro-credentials

	Pia New starter	<ol style="list-style-type: none"> 1. Building basics 2. Building site practices 		
	Taura Apprentice Early stages	<table border="0"> <tr> <td> <ol style="list-style-type: none"> 1. Introduction to structural principles and building basics 2. Introductory building skills </td> <td> <ol style="list-style-type: none"> 3. Building methods 4. Compliance for building work 5. On-site sustainability </td> </tr> </table>	<ol style="list-style-type: none"> 1. Introduction to structural principles and building basics 2. Introductory building skills 	<ol style="list-style-type: none"> 3. Building methods 4. Compliance for building work 5. On-site sustainability
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	Taura Apprentice Becoming qualified	<table border="0"> <tr> <td> <ol style="list-style-type: none"> 1. Working with others on site 2. On-site sustainability 3. Manage own professional development 4. Set out for a building 5. Construct timber foundations 6. Exterior cladding and weatherproofing </td> <td> <ol style="list-style-type: none"> 7. Metal cladding installation (roof and wall) 8. Exterior joinery installation and finishing 9. Interior fit-out, insulation, lining and finishing 10. Commercial/structural building – concrete </td> </tr> </table>	<ol style="list-style-type: none"> 1. Working with others on site 2. On-site sustainability 3. Manage own professional development 4. Set out for a building 5. Construct timber foundations 6. Exterior cladding and weatherproofing 	<ol style="list-style-type: none"> 7. Metal cladding installation (roof and wall) 8. Exterior joinery installation and finishing 9. Interior fit-out, insulation, lining and finishing 10. Commercial/structural building – concrete
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	Tohunga Advancing/specialist tradesperson	<table border="0"> <tr> <td> <ol style="list-style-type: none"> 1. Commercial building compliance systems 2. Residential retaining wall construction 3. New build – building performance </td> <td> <ol style="list-style-type: none"> 4. Passive house building 5. Advanced carpentry – residential building specialists 6. On-site modular building component assembly </td> </tr> </table>	<ol style="list-style-type: none"> 1. Commercial building compliance systems 2. Residential retaining wall construction 3. New build – building performance 	<ol style="list-style-type: none"> 4. Passive house building 5. Advanced carpentry – residential building specialists 6. On-site modular building component assembly
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While not the focus for this project, industry also provided insights that are valuable in relation to delivery of programmes and ākongā support. We have noted the themes that arose in Appendix 4: Feedback on the delivery of programmes.

IMPLEMENTATION PLAN



CONTEXT

The introduction of skill standards provides a timely opportunity to address what we've been hearing about the current carpentry qualification pathway.

Why the introduction of skill standards matters

Skill standards reintroduce a common currency of skills as they will be mandatory for all providers to use as the framework for learning and assessment.

With skill standards as the foundation of all qualifications and credentials in the new 'Building Pathway,' learners will be able to transfer their achievements between providers and across construction trades seamlessly.

This will solve "work arounds" that are currently required to recognise prior achievement when learners move between programmes, providers and even employers. Skill standards will also provide industry with greater confidence that learning and assessment is consistent and more clarity about what graduates of a qualification know and can do.

The introduction of skill standards provides consistency for learners and industry, without compromising a provider's ability to offer pastoral care, and innovative learning and assessment practices.¹

A more flexible pathway

Industry needs a qualification pathway that:

- allows for variation in employers' scope of work and their capacity to train,
- allows learners to continue training when employment and apprenticeships are impacted by businesses downsizing²,

- allows the transfer of skills between building on-site, and building off-site (e.g. in warehouses and workshops) and supports greater prosperity for Māori and Pacific communities.

The intended outcome is a pathway that creates meaningful 'way points' along the path to becoming trade qualified through the award of the highly valued Carpentry qualification.

The scope of this project did not extend to leadership and management roles within the building trades. These qualification pathways will be explored separately.

More information about micro-credentials

Micro-credentials are small NZQA approved credentials that reflect a cohesive set of skills valued by industry. Micro-credentials can duplicate parts of qualifications. This means, having micro-credentials that contribute to part of qualifications is a possibility for learners and employers who would like to choose shorter or more focused programmes.

Qualifications and micro-credentials based on a consistent set of skill standards will help with:

- Difficulties moving from school and pre-employment to employment
- Difficulties employers experience with supporting apprentices to graduate.
- Difficulties with retention and progress.
- Concerns that the current qualification pathway is not keeping up with industry changes.

¹ For more information about skill standards see [Introduction to Skill Standards Webinar](#), Waihangara Ara Rau, 2024

² Waihangara Ara Rau. (2024). ON SITE CONSTRUCTION. Advice to the Tertiary Education Commission for training investment in 2026. Wellington. Waihangara Ara Rau



PROJECT PHASES

This project was carried out in three phases:

1. An environmental scan of existing data and information.
2. Targeted consultation with a range of industry and provider representatives.
3. A survey to gather feedback about proposed micro-credentials that could be added to better reflect the building workforce skill needs and development.

PHASE 1: ENVIRONMENTAL SCAN

The environmental scan confirmed the need to ask industry directly about the causes and potential ways to address barriers within the current qualification pathway for those working in building trades. It also provided direction to focus the discussions with industry.

Some key information from the environmental scan included:

Current qualification pathway

These are the current qualifications and micro-credentials available for Onsite Construction. Common skills and knowledge have been identified through the pathway. These findings helped to inform initial discussions with targeted stakeholders.

NZC = New Zealand Certificate
MC = Micro-credential

Current qualification pathway

Level 5	NZC	Construction Trades Supervision with strands in Commercial Construction, Construction Related Manufacturing, Construction Related Trades, and Residential Building [Ref:4237]			
Level 4	NZC	Carpentry with optional strand in Metal Roof Cladding Installation [Ref:2738]	Concrete Construction (Commercial and Civil Infrastructure) with optional strands in Premanufactured Elements, and Post-tensioned Concrete [Ref:4188]		
	MC	Install Insulation [Ref: 4449]			
Level 3	NZC	Construction Trade Skills with strands in Allied Trades, Carpentry, and Joinery [Ref:2834]	Foundation Construction with strands in Concrete Foundation Walls and Concrete Slab On-ground, and Pile Foundations (with optional strand in Concrete Placing and Finishing) [Ref: 1814]		Concrete Construction Skills with strands in Formwork, Reinforcing, Placing and Finishing, Specified Concrete Finishes, Concrete Product Manufacture, Concrete Sawing and Drilling, and Precast Concrete Manufacture [Ref: 4189]
	MC	Basic Construction Skills [Ref: 4571]	Introductory Interior Linings & Joinery Skills [Ref: 4574]	Introductory Exterior Envelope Skills [Ref: 4573]	On-site Assembly Skills [Ref: 4575] Demolition and Renovation Skills [Ref: 4572]
Level 2	MC	Trades Essentials [Ref: 4971]			

BCITO Review of the New Zealand Certificate in Carpentry

The 2021 review of the New Zealand Certificate in Carpentry (Level 4) [Ref: 2738] qualification recommended:

- Smaller, stackable smaller qualifications to resolve the differences between main centres, where specialisation is common, and the regions, where a building business will carry out all technical work because of the lack of specialist trades people.
- Smaller carpentry-based skills credentials for the group homes construction workforce.
- Credentials to serve the commercial building apprentices³.

Where's the Front Door?⁴

This report includes useful insights about supporting attraction, retention and progression.

- Currently there are about 150-300 initiatives aimed at facilitating entry into the construction and infrastructure sector.
- People need access to “tasters” before committing to employment.
- 70% of graduates of construction or infrastructure pre-trade programmes in 2020 went into employment in the industry within the next three years.

Beyond Tuakana Teina – Exploring Māori vocational pathways.⁵

This research describes the “process to gain trade qualifications can be too long for learners to realistically achieve, or the learning milestones are too far apart to effectively traverse. This can be demotivating for some learners as it neither recognises that learning is a journey and process, nor does it give opportunity to celebrate what incremental progress has been made.”

“What the people said, what does Level 4 carpentry education and qualification look like for Māori?”⁶

Of the 2,445 Māori apprentices who began their Carpentry apprenticeships between 2018 and 2022 only 548 were successful (in attaining Level 4), 601 are still engaged and 1,296 are no longer pursuing a building apprenticeship. Recommendations related to this project include:

- Practical interventions and responsive need to account for sector capability and capacity constraints,
- Acknowledging unequal settings and understanding of employment settings prior to enrolment,
- Tracking progression and incremental success,
- Clear pathways and promoting continuing education.

2024 Advice: Onsite Construction⁷

The 2024 Waihanga Ara Rau advice to the Tertiary Education Commission for Onsite Construction recommended consideration for “transition between on-job and off-job training, especially where they [learners] have been laid off due to business down-sizing”

Kaitaka Paepaeroa Māori Workforce Development Plan Construction and Infrastructure⁸

This research found that pathways were a significant enabler for increasing attraction and retention in construction and infrastructure training. It recommended consideration for aligning levels with time and experience in the trade to support Māori Trades Training Initiatives.

Unleashing Pacific talent Construction and Infrastructure Workforce Development Plan for Pacific Peoples⁹

Recommendation 4 of this report closely aligns with the aspirations of this project - “Drive Key system shifts to support greater prosperity for Pacific communities”. Examples include enabling training as a “hammer hand” first and then becoming qualified with the New Zealand Certificate in Carpentry.

Learner data¹⁰

Enrolments in Carpentry programmes climbed to a peak in 2022 before dropping in 2023 in the face of economic downturn.

A closer look at the data reveals that learners early in their apprenticeship were disproportionately affected. Retention rates after the first year the New Zealand

Certificate in Carpentry dropped sharply in 2023 compared to overall rates in training. Retention and completion rates are also consistently lower for Māori and Pacific learners than for non-Māori and non-Pacific learners.

Despite significant increases in the number of people enrolling in the New Zealand Certificate in Carpentry (Level 4) between 2020 and 2024 this has not yet translated into more graduates. While this does reflect that it is expected to take 3-4 years to complete a carpentry apprenticeship it is also unclear what impact the recent downturn will have on those close to completion if they lose their job.

This suggests an opportunity to look at how the building qualification pathway can be strengthened to provide more opportunities for recognition and flexibility that suits different learners, businesses and economic conditions.



³ See Appendix 2: NZC Carpentry qualification review report (2021).

⁴ Scarlatti (2023). Where is the front door? An investigation of the workforce entry points into the construction and infrastructure sectors Auckland. ConCOVE

⁵ Kalan, J. (2024). Beyond tuakana teina | Exploring Māori vocational pathways. Wellington: Ako Aotearoa.

⁶ Bradbrook, T., Luke, S., & Smiler, J. I. (2023). What the people said, what does Level 4 carpentry education and qualification look like for Māori? He Ruku Hohonu. Te Whanganui-a-Tara Wellington. Aotearoa New Zealand. Te Pūkenga. Te Kōrari Rangahau

⁷ Waihanga Ara Rau. (2024). ON SITE CONSTRUCTION. Advice to the Tertiary Education Commission for training investment in 2026. Wellington. Waihanga Ara Rau

⁸ Waihanga Ara Rau. (2024). Kaitaka Paepaeroa – Māori Workforce Development Plan for Construction and Infrastructure Wellington. Waihanga Ara Rau

⁹ Waihanga Ara Rau. (2024). Unleashing Pacific talent - Construction and Infrastructure Workforce Development Plan for Pacific Peoples. Wellington. Waihanga Ara Rau

¹⁰ See Appendix 1: Enrolment, Withdrawal and Completion Rates 2020–2024 for NZC In Carpentry [2738]

PHASE 2: TARGETED CONSULTATION

The second phase aimed to understand if micro-credentials or smaller credentials might be useful to help businesses and learners succeed. It also aimed to discover what skill packages or micro-credentials might be valued by the sector.¹¹

A series of interviews were held around the country with builders, employers, and apprentices, individually or in small groups. This included visits to different construction sites, including Department of Correction trades training facilities. We also met with a small group to talk about the experience Māori and Pasifika learner/workers have with training for Onsite Construction trades.

What we heard:

Reasons for withdrawal or non-completion

During Phase 2 – Targeted Consultation, we asked employers and apprentices what made learning difficult and why they thought withdrawing from a training programme or apprenticeship programme was necessary.

Employers said:

“Apprentices in their first year were young and some do not have the experience or skills to cope with the pressure of fulltime employment and learning.”

“Actual work isn’t the same as the learning they need to do, apprentices get frustrated because they expect the business to focus on what they need to learn; that’s not why I’m in business.”

“When I did my trades training, we had an older guy whose job it was to show us younger fellas how to do the skills right. We can’t afford to have someone like in our business now, you lose money on the job if you go too slow.”

“You can see how getting that first bit of learning ticked off makes a difference to the guys and girls. They have more pride in their work and are hungry for the next sign off.”

Apprentices said:

*“When the sh** hits the fan at home I can’t do the learning, after ten hours on the tools I can’t be reading books.”*

“I had to drop out the first time because of covid, I never went back to that job. I had to start again in my apprenticeship with my new boss, that sucked.”

“We work fast, there is not time to ask about how to do things.”

Four key themes emerged about what led to withdrawal or non-completion:

- **Balancing a full-time job, home life and study.** Sometimes life presents challenges that are out of the control of the apprentice. The means learning can be seen as a luxury compared to dealing with the day-to-day of relationships, mental and physical wellbeing and finances.
- **Insecure work arrangements** particularly during political cycles and economic fluctuations in the construction sector.
- **Employers with a limited scope of work or specialised focus** may not provide apprentices with sufficient opportunities to learn, develop and master the skills required to demonstrate competency against the full qualification.
- **Supporting effective learning requires organisation and capability** that some employers can’t manage. Employers are primarily running a business and don’t always know how to support apprentices.

Exploring a pathway for Māori

A hui explored and confirmed Dr Joshua Kalan’s research, *Beyond Tuakana Teina Exploring Māori vocational pathways*¹² that describes a ‘Poutama Model for Construction Training’ focused on training in the workplace. The Poutama Model breaks down skill development into four stages:

- Stage 1** – Pia/ Pre-trade/ Labourer/ ‘Hammer hand’
- Stage 2** – Taura/Level 3 apprentice
- Stage 3** – Taurira/Level 4 apprentice
- Stage 4** – Tohunga/ Qualified carpenter

The representatives used this model to identify skill groups / potential micro-credentials that would be valuable to both ākonga (learner) and employer at different stages of career skill development. They also discussed how this approach could be an opportunity to respond to existing barriers for ākonga (learners).

Opportunities to improve the qualification pathway

The result of these interviews were the following recommendations for improvement to the qualification pathway, and a set of proposed ‘skill packages’ or micro-credentials. This set of proposed skills standards were consulted on with the wider industry in Phase 3.



Three themes industry recommended for improving the qualification pathway:

We need...	So that...
Common skill standards across qualifications ¹³	<ul style="list-style-type: none"> • Transferable skills and knowledge are recognised and open up more employment options during times of insecure work.
Smaller credentials	<ul style="list-style-type: none"> • Workers/learners can achieve smaller credentials if they are employed in business that have a specialised scope of work.
Support to step away from and return to learning pathway without penalty	<ul style="list-style-type: none"> • As a worker accumulates skills and knowledge and is recognised, they have more to offer another employer should they choose to move workplaces or must out of necessity (for example during a downturn). • Workers/learners can have their progress and achievement recognised but step away from learning to focus on addressing life challenges. • If a worker/learner starts to experience challenges sustaining their learning or loses their job, their current learning is recognised and reported, and at the right time they can return to the learning pathway without being penalised.

¹¹ Note: During discussion with industry, in almost all cases there was feedback related to the programme and its delivery. This is inevitable as the programme is what employers and their working learners experience. Feedback about the programme is listed in Appendix 4: Feedback on the delivery of programmes.

¹² Kalan, J. (2024). Beyond tuakana teina | Exploring Māori vocational pathways. Wellington: Ako Aotearoa.

¹³ In 2024, Waihangara Ara Rau completed work to define and document core construction skill standards, enabling the recognition of transferable skills across various trade qualifications. In 2025, further work is underway to develop these skill standards for carpentry, roofing, joinery, and concrete construction.

Opportunities to support meaningful recognition and progress

Feedback supported the introduction of micro-credentials as a way to recognise meaningful groups of skills and create markers of progress.

Industry feedback highlighted several groupings of useful skills that could form the basis of micro-credentials and consistently suggested that any micro-credentials should follow the ‘journey’ of the learner as they developed mastery of the trade. This was considered especially important to balance concerns

about fragmentation with the desire for flexibility. A scaffolded approach also supported clarity about what someone can be expected to know and do as their experience and capability grows.

Learner profiles

The feedback on potential micro-credentials is summarised using an adapted version of the ‘Poutama Model for Construction Training’.¹⁴ Each working learner profile aligns to a stage of skill development and level on the New Zealand Qualification and Credentials Framework (NZQCF).¹⁵

	Proposed micro-credentials
 <p>Pia or New starter NZQCF Level 2/3</p> <p>Someone new to the trades, who is developing new worker skills, learning from others, and needs direct supervision.</p>	<ol style="list-style-type: none"> 1. Building basics 2. Building site practices
 <p>Taura or apprentice (early stages) NZQCF Level 3</p> <p>Someone who has fundamental building skills and knowledge. They are working towards being able to do familiar or routine building work without direct supervision.</p>	<ol style="list-style-type: none"> 1. Introduction to structural principles and building basics 2. Introductory building skills 3. Building methods 4. Compliance for building work 5. On-site environmental sustainability
 <p>Tauira or apprentice towards qualifying NZQCF Level 3/4</p> <p>Someone who applies knowledge and is working towards performing a broad range of skills for the trade, is technically proficient, and meets the level of performance needed to contribute productively</p>	<ol style="list-style-type: none"> 1. Working with others on site 2. On-site sustainability 3. Manage own professional development 4. Set out for a building 5. Construct timber foundations 6. Exterior cladding and weatherproofing 7. Metal cladding installation (roof and wall) 8. Exterior joinery installation and finishing 9. Interior fit-out, insulation, lining and finishing 10. Commercial/structural building – concrete
 <p>Micro-credentials for the tohunga, advanced tradesperson, or specialist tradesperson NZQCF Level 4/5</p> <p>This person is trade qualified. They are competent, and the quality and level of their work are up to the standard expected of a “well-rounded carpenter.” They can be developing advanced or specialist technical skills.</p>	<ol style="list-style-type: none"> 11.

¹⁴ Kalan, J. (2024). Beyond tuakana teina | Exploring Māori vocational pathways. Wellington: Ako Aotearoa.

¹⁵ For more information about the NZQA qualifications and Credentials Framework (NZQCF) [About the NZQCF - NZQA :: NZQA](#)

PHASE 3: WIDER INDUSTRY SURVEY

A draft set of proposed micro-credentials¹⁶ were confirmed based on feedback from Phase 2 - Targeted consultation.

An online survey gave industry and training providers the opportunity to give feedback. The online survey was available via the Waihanga Ara Rau website and directly mailed out to industry association members and employers with apprentices or learners currently in training.¹⁷ Respondents to the survey were a mix of industry and training providers.¹⁸

What we heard

Responses to the survey were low. However, the results of the survey, and information gathered during the previous phases of the project:

- reiterated that the New Zealand Certificate in Carpentry is a well-regarded qualification, and if integrated well, the new micro-credentials will be a valuable addition to the new “Building Pathway”
- consideration needs to be given to ensure each micro-credential recognises a meaningful, cohesive set of skills
- confirmed support for the development of the proposed micro-credentials.



¹⁶ For more information about micro-credentials visit [Micro-credentials :: NZQA](#)

¹⁷ Via Training Providers

¹⁸ See Appendix 3: Proposed Micro-credentials Survey Results

INTRODUCING A NEW “BUILDING PATHWAY”

Our goal was to understand how the qualification pathway can better respond to the way industry works and trains.

To action our findings, we will undertake both new developments, and a review of the existing pathway in order to complete the transition.

The result will be updated qualifications, supplemented by relevant micro-credentials and underpinned by a common set of skill standards. The foundation of this work is having a cohesive set of skill standards to act as the common building blocks for new and updated credentials.

This work has already begun with the development of a suite of new core construction skill standards and a set of soon to be approved Carpentry skill standards.¹⁹ The remaining work to introduce the new ‘Building Pathway’ has been broken down into seven main actions for 2025:

ACTION 1

On-site environmental sustainability

Q1 2025

Develop a micro-credential(s) and supporting guidance information for onsite environmental sustainability across construction environments. The development of this/these micro-credentials will extend to the broader construction environment and will be based on core construction skill standards.

ACTION 2

Taura and Taurira - Technical trade skills

Q1 2025

Review of the NZC Carpentry (Level 4) and NZC Construction Trades Skills (Level 3). The reviewed qualifications will include mandatory skill standards. While consulting with tāngata whai mana (interested parties) on the qualifications we will confirm focus/scope and develop for areas of technical trade skills identified for:

- Taura / Apprentice (early stages)
- Taurira / Apprentice (becoming qualified).

Co-ordinating the development of these micro-credentials at the same time as the qualification review will ensure the micro-credentials recognise meaningful ‘packages’ of technical skills that:

- support recognition of skill progression or specialisation,
- use a common set of core construction and carpentry skill standard,
- integrate well with the existing qualifications in the building pathway.

ACTION 3

Commercial construction skills

Q2 2025

We are aware of the intersect between building and concrete construction, especially where people are working on commercial construction project. Two proposed micro-credentials are more related to the commercial construction environment, and will be of value to both the building and concrete construction pathways:

- Commercial/structural building concrete
- Commercial building compliance systems.

We will consult with industry and develop the required micro-credentials when the of the current suite of **Concrete Construction** qualifications are reviewed and the skill standards are developed.

ACTION 4

Trade Professional Skills

Q3 2025

We will explore opportunities to support tradespeople to further develop skills that support them to be effective trade professionals, for example, developing skills around onsite relationships and staying current with industry practice.

ACTION 5

Pia - New starter skills

Q3 2025

We will co-ordinate the development of micro-credential(s) for new starters with the **Trades Essential micro-credential review**. There was a strong demand for a micro-credential for new starters to the construction environment which resulted in the Trades Essential micro-credential. However, no programme has been developed. It is hoped that replacing this micro-credential with a similar one using existing core construction will be part of the “Building Pathway” and a great taster/entry level credential

ACTION 6

Tohunga - Advancing tradesperson/Specialist tradesperson skills

Q3 2025

Four areas arose for new development for either areas of specialised skill or an opportunity to recognised as advanced carpentry skills:

- New build – building performance
- Passive house building
- Advanced carpentry – residential building specialists
- On-site modular building component assembly.

We will consult with businesses undertaking work in each of these industries to understand the skill sets industry requires for each proposed micro-credential and to confirm support and demand for these.

ACTION 7

Skill standard transition information

Updated as new skill standards, micro-credentials and qualifications are approved.

Provide transition information between micro-credentials, current building qualifications and the new skill standards in the Carpentry Programme Guidance document.

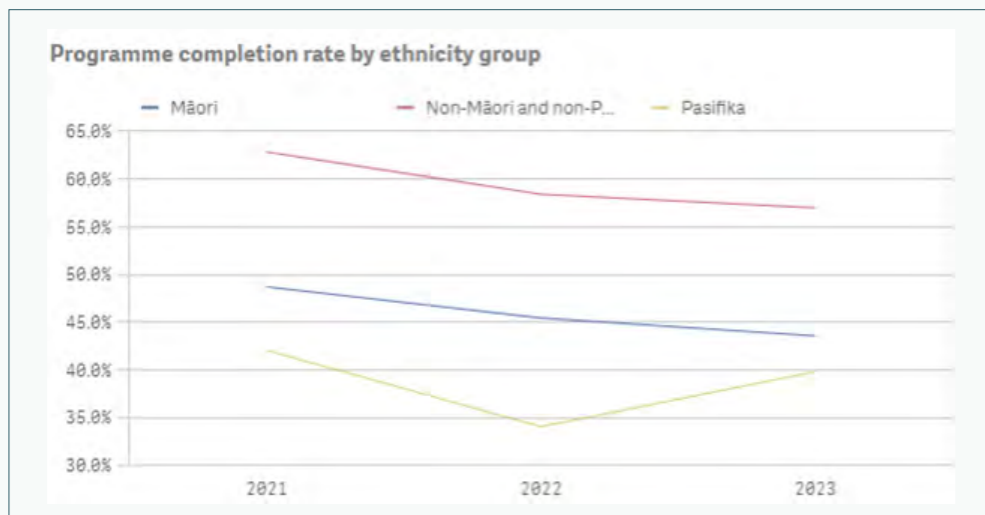
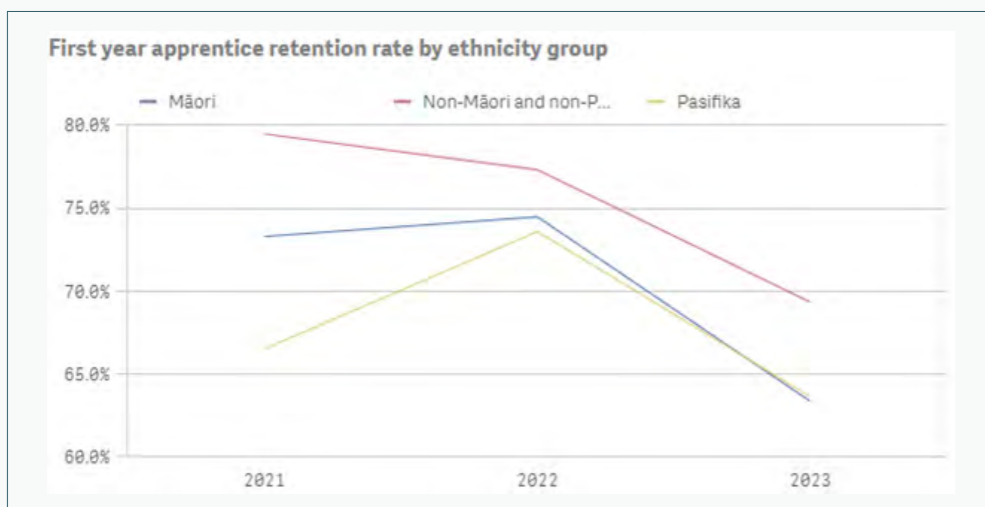
APPENDICES

APPENDIX 1: ENROLMENT, WITHDRAWAL AND COMPLETION RATES 2020–2024 FOR NZC IN CARPENTRY [2738]

Level 4 Carpentry learners (2020-2023)

Qualification	2020	2021	2022	2023
National Certificate in Carpentry (Level 4)	6740	2710	80	15
New Zealand Certificate in Carpentry (Level 4)	11370	18500	22245	20835

New Zealand Certificate in Carpentry (Level 4) retention and completion rates



Data source: TEC DPX Ngā Kete

Learner type in New Zealand Certificate in Carpentry apprenticeship (2021 – 2023)

	2021	2022	2023
Workplace based	16135	19500	18296
Provider based	2365	2745	2540



*Note all learners in this programme are in employment. 'Provider based' in this context refers to a managed apprenticeship supported by polytechnics (i.e. Te Pūkenga Ara and others) or private training establishments (i.e. Builders Academy New Zealand) rather than the former industry training organisation (i.e. Te Pūkenga BCITO).

Source: Waihanga Ara Rau Te Mata Raraunga – Workforce Skills, Data and Insights

Workplace based enrolments and completions 2021 - 2023

		2021	2022	2023	2024
Withdrawals	at Year End	5,139	4,936	6,159	5,602
Competions	at Year End	2,656	2,549	3,030	2,756
Sign-ups	at Year End	10,264	9,529	6,947	5,689

Carpentry trainee in 'hold' status as of January 2025 is 2,094

*Note that majority of learners enrolled in a year are not expected to complete until 3 or 4 years later.

Source: BCITO January 2025

APPENDIX 2:

NZC CARPENTRY QUALIFICATION REVIEW REPORT (2021)

Extracts from the 2021 Carpentry Qualification Review Report

The review of this qualification and apprenticeship programme confirmed the qualification for the most part is adequate for the residential carpentry context. We also found through consultation with stakeholders the apprenticeship programme does not meet the needs of the Group Homes construction workforce and does not fully meet the needs of the commercial construction sector

What we found out

Barriers to completion

Initial phone survey and interviews with providers revealed four perceived barriers to completion.

- **Install roof claddings** – industry said in the main centres roofing is subcontracted, in the regional locations the building contractors will do all aspects of roof cladding. industry said a carpenter must be able to install roof cladding and suggested it was essential alongside installing flashings to achieve weather-tightness.
- **Working with precast concrete** – this is a knowledge component so should not be a barrier – industry said the apprentice should learn about it.
- **Completing demolition work** – Industry said this it is an essential competency for carpenters and needed to remain in the qualification. An issue for apprentices employed by group homes construction contractors who were unable to provide a full scope of work
- **Steel Frame** – this is a knowledge component so should not be a barrier – industry said they should know about it.

Minor changes needed to the qualification

The current carpentry qualification is a high value credential – those who operate in the residential building sector wanted to protect that value and continue to support the development of well-rounded residential carpenters.

Address the needs of the commercial construction sector

Commercial employers value carpentry skills and knowledge but find it necessary to train qualified carpenters in aspects of construction that are not covered in the 3-4 year apprenticeship. Examples being seismic restraint principles and systems, compliance system that works beyond 3604, retention and passive fire systems, engineered timber, compatibility of systems, fixtures and fittings in a commercial setting.

Addressing the qualification needs of the Group Homes workforce

This workforce operates in high pressure environments with little time for learning and skill mastery. The workers are paid minimum hourly rate, quantity is priority over quality and the scope of work is limited to standing wall frames and setting roof frames, some exterior cladding and basic joinery.

Qualifications to meet varied regional needs.

Carpentry qualification needs vary from one location to another. The Auckland construction workforce is increasingly split with the carpentry trades being carried out by a range of specialist contractors including foundations, roofing, interior systems, exterior cladding, final fit and joinery. This situation is similar in Tauranga, Hamilton, Wellington, Christchurch, Dunedin and Queenstown.

In the regional towns we found building and construction businesses covering all building work including that work typically subbed out to specialist contractors in the main centres. The regions are where we find ideal training opportunity for an apprentice to engage in the full range of work and become a “well rounded commercially competent residential carpenter” This is where the current qualification is meeting needs.

APPENDIX 3:

PROPOSED MICRO-CREDENTIALS SURVEY RESULTS

Participants

Of the 18 people who completed the survey, they described their area of work .as:

- residential building either as a business owner or an employee - 68%
- employers with active apprentices - 55%
- from a Training providers - 30%
- commercial building business owners - 25%
- design and build building business - 20%

Support for proposed micro-credentials

The survey asked respondents to agree or disagree with each proposed micro-credential. In general, there was support for all proposed micro-credentials (with between 85-94% support for each).

The following micro-credentials received 85% support from participants:

- Compliance for building work
- Metal cladding installation (Roof and Wall)
- Commercial building compliance systems
- Residential retaining wall construction

Other feedback

Survey respondents were invited to provide any related general feedback. Feedback included:

- That the proposed new micro-credentials would allow for clarity around apprentice progress.
- Breaking down learning into small bite size pieces would make it a more manageable and achievable process for the learner and employer.
- The need to be clear about what the apprentice to be able to do at the end of the carpentry qualification and each micro-credential.
- Agreement with the concept and its value, but concern about its integration with the current system.
- The need for information for employers and learners to understand the ‘Building Pathway’ and the options for learners.
- Concerns about subdividing and specialising the trade further and the need to consider coordination, costs and quality.
- The need to ensure that the pathway considered both short-term need and long-term impacts.
- Questions about access to funding for the micro-credentials.

APPENDIX 4: FEEDBACK ON THE DELIVERY OF PROGRAMMES

During interviews and in survey results we received comments and feedback related to the delivery of programmes.

This reflects the fact that employers and learners most direct interaction and experience of what works and what is challenging relates to the support and materials provided by education providers. The feedback reflects a range of experiences and preferences.

In some cases, the existing pathway is likely to be a contributing factor to some of these concerns.

The development and implementation of a new 'Building Pathway' will be an opportunity to consider and address these themes.

Feedback

- Wanting clarity for employers around apprentice progression, which could also allow apprentices to change employers without too much disruption.
- Clarity for employers around the assessment process and responsibilities of Training Advisors [verifiers].
- Allowing more time to for practicing skills and not expecting expertise too soon.
- Varied feedback on the effectiveness of different supporting resources (textbooks, online learning), including:
 - the investment potentially required for another change,
 - how to support learners with their “bookwork,” and
 - supporting resources do not replace the need for practice “on the tools.”
- The need for more support for employers who are training, such as “train the trainer” programmes and/or resources.
- We repeatedly heard from employers having a mix of on and off job learning (either night or off-job courses) would be helpful, especially for those learners who struggled with the theory. Building science, maths, compliance systems and advanced communication and team skills where difficult to teach on-job.

APPENDIX 5: DETAIL OF PROPOSED MICRO-CREDENTIALS

Pia or New starter NZQCF Level 2/3

Micro-credentials	Topics
Building basics	Use common manual measurement tools Use digital measurement tools/equipment Calculate quantity, length, area and volume Know basic structural principles related to buildings Know about employment agreements and worker responsibilities Responsibilities of workers in construction trades Follow on-site compliance guidance Comply with manufacturer's instructions and user guides Read building information Use written, verbal and digital work instructions Communicate with others to complete work tasks Have awareness of personal wellbeing needs, taha Māori Use physical wellbeing strategies and practices Use mental wellbeing strategies and practices Safety of self and others on site
Building site practices	Sort waste and recyclable materials Protect waterways and the natural environment Know the impacts of unsustainable building practices Apply site access and security rules Follow site safety rules and reporting Follow reporting practices on site Set up and use of common building tools, plant and equipment Storage and maintenance of tools Apply safe handling and logistics on-site

Taura or apprentice (early stages)

NZQCF Level 3

Micro-credentials	Topics
Introduction to structural principles and building physics	<p>Know about building physics – thermal performance, air movement, moisture control, light, climate, acoustics</p> <p>Know structural principles related to building – forces/loads, materials, structural members</p>
Introductory building skills	<p>Know timber treatments, processing and sources</p> <p>Construct of floor structures, wall frames and roof trusses</p> <p>Handle and storage timber on-site</p> <p>Know the properties and uses of concrete</p> <p>Know in-situ concrete construction processes</p> <p>Comply with regulations for concrete construction</p> <p>Handle and work with light steel frames</p> <p>Comply with regulations when working with light steel frame</p> <p>Know timber properties, common grades and dimensions</p> <p>Use tools and equipment for cutting, joining and finishing timber</p> <p>Comply with regulations when working with timber</p> <p>Know precast concrete construction processes</p> <p>Use of tools and equipment for concrete construction</p> <p>Know the properties, uses, manufacturing processes for light steel frame</p> <p>Use tools and equipment to work with light steel frame</p>
Building methods	<p>Know on-site building methods using timber, light steel, concrete, and alternative materials</p> <p>Know off-site building methods – Panels-components, modular-relocatable and volumetric</p>
Compliance for building work	<p>Understand regulations and systems for compliance</p> <p>Compliance with regulations, standards and codes of practice</p>
On-site sustainability	<p>Apply on-site waste management plan</p> <p>Identify and recycle on-site waste</p> <p>Protect the natural environment and waterways</p>

Tauira or apprentice towards qualifying

NZQCF Level 3/4

Micro-credentials	Topics
Working with others on-site	<p>Recognises conflict</p> <p>Support others to deal with conflict</p> <p>Responds positively to a conflict situation</p> <p>Tuakana – Support the development of others on-site by evaluating their skills and supporting them in developing new skills</p>
On-site Sustainability	<p>Leading on-site waste management plans</p> <p>Role model sustainable trade practices</p>
Manage own professional development	<p>Evaluation of own professional development needs</p> <p>Professional development activity</p>
Set-out for a building	<p>Set out a foundation – plans, co-ordinates and datums boundaries</p> <p>Confirming set out against plans</p>
Construct slab foundations	<p>Compliance requirements during and at the end of construction</p> <p>Proprietary systems for concrete slab foundations</p> <p>Suitability of ground conditions for slab foundation</p> <p>Construction methods</p>
Construct timber foundations	<p>Construction methods for timber foundations</p> <p>Compliance requirements during and at the end of construction</p> <p>Requirements of ground conditions</p>
Exterior cladding and weatherproofing	<p>Materials and installation methods</p> <p>Weatherproofing compliance during and at the end of construction</p>
Metal cladding installation (roof and wall)	<p>Materials and installation methods for roofs</p> <p>Compliance requirements during and at the end of construction</p> <p>Materials and installation methods for exterior walls</p>
Exterior Joinery installation and finishing	<p>Installation methods and finishing</p> <p>Weatherproofing requirements and strategies</p>
Interior fit-out, insulation, lining and finishing	<p>Insulation types, properties and installation</p> <p>Joinery types and fitout</p> <p>Interior lining types, properties and installation</p> <p>Hardware and finishing types and installation</p>
Commercial/structural building – Concrete	<p>Concrete structural systems</p> <p>Compliance requirements for structural concrete</p> <p>On-site building methods of concrete – precast and in-situ</p>

Micro-credentials for the tohunga, advanced tradesperson, or specialist tradesperson NZQCF Level 4/5

Micro-credentials	Topics
Commercial building compliance systems	Engineer compliance systems (Including, PS1, 2, 3) Quality assurance practices
Residential retaining wall construction	Types and construction methods Environmental protection Compliance requirements
New build – building performance and workmanship	Acceptable tolerances for new builds Levels of workmanship expected Resolving problems to progress a work plan for new builds
Passive house building	Passive building methods Building life and social health outcomes Types, principles and benefits of passive homes Confirmation of passive home compliance
Renovation and alteration of existing building	Analysing existing structures and planning safe demolition Hazardous materials identification and management resolving problems Past building methods Demolition and deconstruction processes Planning building methods
Light steel frame installation	Regulations and compliance for light steel frames Erection and assembly of frames on-site practices Logistics and handling Properties and uses of light steel Tools and equipment used
Advanced carpentry – Residential building specialist	MOn-site project co-ordination Complex building projects Work quality leadership
Assembling modular building components on site	Building methods – Panelised and volumetric Regulations and compliance On-site preparation and logistics

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