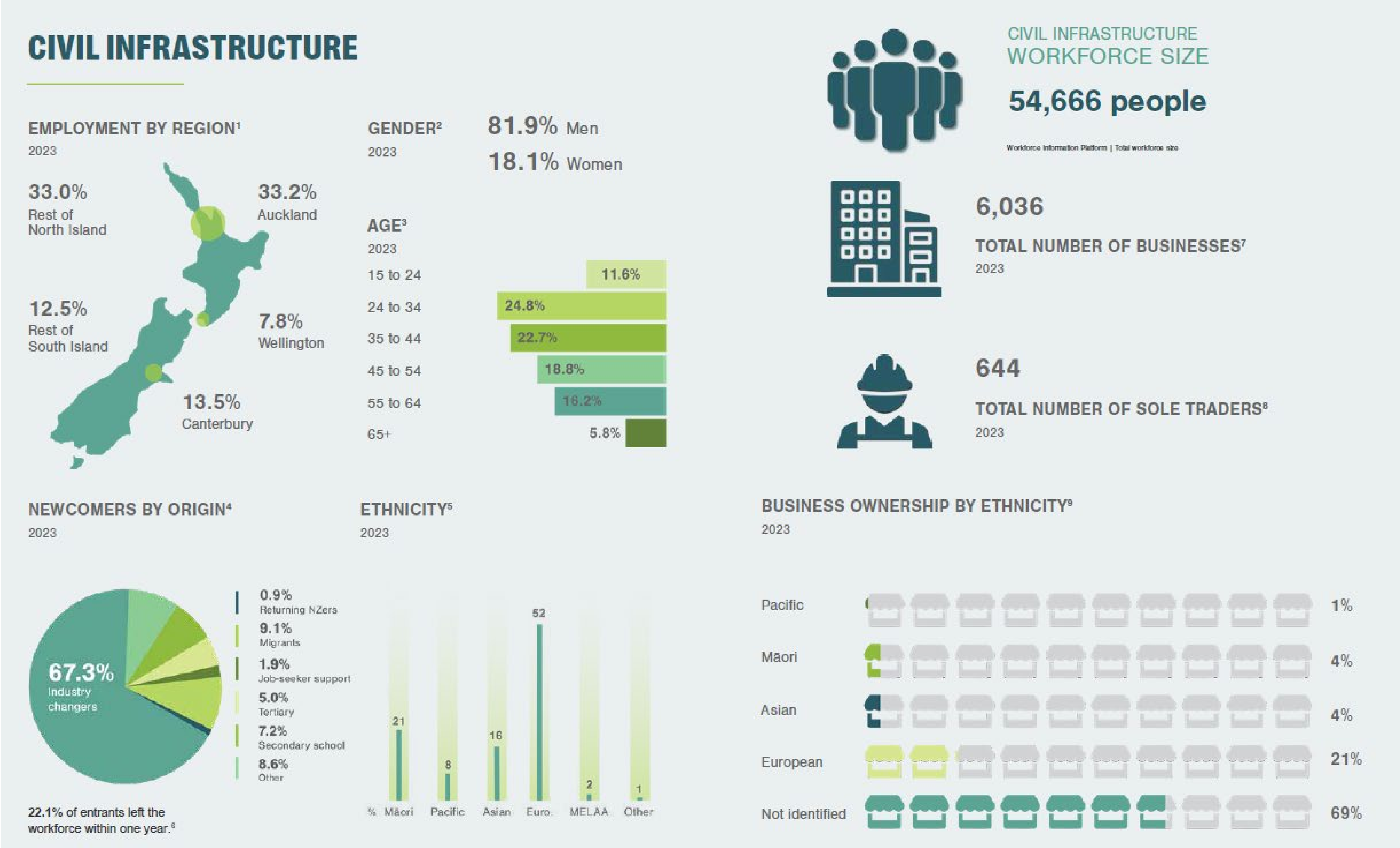
CIVIL INFRASTRUCURE

Advice to the Tertiary Education Commission for training investment in 2027

Published November 2025

WAIHANGA ARA RAU
Construction and Infrastructure
Workforce Development Council



This data is extracted from StatsNZ IDI and IRD and displayed in the Workforce Information Platform. Figures are defined by those who work for or own a business with a relevant ANZSIC (industry) code. The infographic can be found at workforce.nz

CIVIL INFRASTRUCTURE NARRATIVE

Civil infrastructure contractors are essential partners in delivering the core services that underpin New Zealand's economic productivity and quality of life. They are responsible for building and maintaining the transport networks that connect our cities, towns, and regions, supporting efficient freight movement and daily travel. These contractors also install and maintain critical water infrastructure, ensuring the reliable delivery of clean water to households and the safe conveyance of wastewater to treatment plants. Additionally, they play a key role in enabling digital connectivity by laying the physical networks that support internet access across urban and regional communities. Their work directly supports national infrastructure priorities, contributes to public health and safety, and underpins the services that New Zealanders rely on every day. Continued investment and partnership with this sector are essential to sustaining a resilient, connected, and competitive economy.

Key insights from the Waihanga Ara Rau Civil Infrastructure Strategic Reference Group (SRG)

The Civil Infrastructure Strategic Reference Group[1] welcomes the opportunity to once again provide the Tertiary Education Commission (TEC) with recommendations they believe will enhance the learning and development needs of the nation's civil infrastructure workforce. SRG group members have met formally six times in 2025 to support the various Waihanga Ara Rau workstreams and to progress their Workforce Development Plan[2], which centres on two key goals:

1. Growing a domestically sourced workforce
2. Strategic use of immigration levers to support sector workforce needs

SRG group members believe that by 2027 the current economic headwinds of the past two years, which have included delays in projects coming to market will have abated and a significant upswing in the training needs of the civil workforce will be well underway. Hiring and retaining key staff in the right locations will be key to delivering the 9,200 projects, which are listed in the National Infrastructure Pipeline[3] (as at June 2025) as either underway or planned. What remains unknown right now are the projects that will be stood up as part of the Water Service Delivery Plans[4] which were submitted to DIA in September. These Plans are expected to result in a significant water infrastructure spend across the country over the next 10 years, work that will be carried out by civil infrastructure contractors.

---

[1] https://www.waihangaararau.nz/strategic-reference-groups/civil-infrastructure-srg/
[2] https://www.workforce.nz/civil-infrastructure
[3] Infrastructure Pipeline continues to grow | Beehive.govt.nz
[4] https://www.dia.govt.nz/Water-Services-Policy-Water-Services-Delivery-Plans

The Civil Contractors NZ 2025 Construction Industry Survey[5] (August 2025) provides current employer views regarding workforce development. The skillsets most needed by civil infrastructure businesses are machine operators (excavator, roller, bulldozer etc), supervisors/team leaders and experienced field workers (traffic control, site safety, and staff with at least some industry experience). Several machine operator roles are included in the Green List[6]. However, while industry appreciates the opportunities the Green List provides, SRG group members' preference is to grow the domestic workforce. To support this goal the SRG asks the TEC to consider the following priority areas for training investment:

1. **Flexible funding models that encourage collaboration and innovation in training delivery:**

    i. The SRG would like to see incentives to encourage collaboration between schools, industry and training providers with delivery models that blend on-job training with structured delivery. Industry requires innovative delivery models that ~~will~~ provide industry the opportunity to scale up.

    ii. The SRG recommends increased investment and support for foundation training in the infrastructure sector. Successful models have been piloted in partnership with CCNZ, MBIE, MSD and education partners. For there to be an adequate pipeline of new talent into the sector to build the infrastructure projects and contribute to NZ INC greater investment is required in schools. Additionally, securing an early trained pipeline of new talent supports succession planning in an industry that has many highly skilled people close to retirement. Capturing those skills in new talent is critical for sector productivity.

    iii. The SRG views the proposed vocational pathways and NCEA changes as positive for the sector and industry is keen to support pathways through exposure to work experience, bringing industry into the classroom and having more visibility and input into longer term education sector strategies and investment.

    iv. Training providers will need to be agile to match their programmes with workforce needs as projects come to market. For example, there are likely to be significant water infrastructure projects as Council water service delivery plans[7], which are designed to support growth and urban development come to market, along with Roads of National and Regional Significance. In March, this year Watercare announced a $13.8 billion infrastructure investment plan for the next decade, with the focus on reliability, environmental protection, and Auckland's growth[8].

---

[5] https://civilcontractors.co.nz/member-survey-hope-on-the-horizon-for-hardhit-civil-construction-industry/10912-127a20af-0853-4855-9a3e-11a492ceb5c7/
[6] https://www.immigration.govt.nz/work/requirements-for-work-visas/green-list-occupations-qualifications-and-skills/green-list-roles-jobs-we-need-people-for-in-new-zealand/?page=1&filter_0=Civil+machinery+operators
[7] https://www.dia.govt.nz/Water-Services-Policy-Water-Services-Delivery-Plans
[8] https://www.watercare.co.nz/home/about-us/latest-news-and-media/we-unveil-a-13-8-billion-plan-to-ensure-reliable-water-services

v. Prime Minister Christopher Luxon in his keynote presentation at the Civil Contractors NZ (CCNZ) Conference in Tauranga in July said that “analysis from the Infrastructure Commission suggests that every billion dollars of infrastructure investment ... generates about 4,500 jobs ... we are potentially looking at tens of thousands of new construction jobs... 97,000 people will be needed in the sector within the next three decades ... and it's not just the quantity of workers, it's also the quality.[9]

vi. The civil sector needs a funding model that can flex to meet this demand. Employers will not employ people in advance of the work unless there are funded training support structures in place.

2. Funding support for leadership, trainer the trainer and management programmes

i. Team leaders, foremen/women and supervisors are the enablers of new entrants to industry and their ability to effectively lead individuals and teams are key drivers of efficiency, quality, and productivity.

ii. Re-work is a significant cost to industry.

iii. Team leaders who understand the business drivers within a project, i.e. commercial acumen are also in high demand[10].

iv. Continued investment in adult and tertiary teaching qualifications, for example zero fees programmes[11]

3. Funding support for multiple training pathways including bolstered Gateway programmes

i. The sector needs multiple pathways for training delivery, including work-based learning, e-learning, off-job regionally delivered block courses and increased opportunities to explore blended delivery models.

ii. Bolstered Gateway programmes are key to supporting young people to make a seamless transition from school to work with Level 2 credentials that employers understand and respect and teachers and parents value, e.g. NZC in Infrastructure Works Level 2[12].

iii. Funding support for training providers who include driver licensing (DL) pathways into their programmes, especially for young people who significantly improve their chances of securing a job when they have a full licence. The driving of work vehicles is a core part of

---

[9] https://www.youtube.com/watch?v=vFnn7g6syTA
[10] https://www.waihangaararau.nz/infrastructure-site-supervision-qualification-reviewed-to-address-industry-recommendations/
[11] https://learningworks.co.nz/new-zealand-certificate-in-adult-tertiary-teaching-level-4/
[12]
https://www.nzqa.govt.nz/nzqf/search/viewQualification.do?selectedItemKey=2522&_gl=1*91p1ke*_ga*MTE0MTUzMDAyMC4xNjk4MzU5MTMw*_ga_TFQQ681L2E*czE3NTc1NjA2MzIkbzQ4MiRnMSR0MTc1NzU2MDY0NiRqNDYkbDAkaDA.

every infrastructure role. A new entrant to industry who holds a DL is a more valuable employee because they can take plant and equipment to and from site and/or collect materials from a supplier. A DL is a core and transferable skill.

4. **Funding support for a recognition of current competency process for civil infrastructure staff with more than 10 years' experience.**

    i. The Civil suite of Apprenticeships (bitumen surfacing construction, road construction, road maintenance, earthworks, piling, forestry earthworks and pipe-line construction and maintenance, pipe installation) were only introduced to the sector in 2015. Consequently, there are a significant number of workers across the country who are currently competent, skilled, and experienced but not yet qualified and many of them are in leadership positions.

    ii. A dedicated funding pool for these candidates would recognise their contribution to the sector, which through no fault of their own excluded them from taking up apprenticeships during the early years of their career. Holding a specified Level 4 qualification is also the only way to progress to Civil Trade Certificate, which was developed by CCNZ in consultation with industry, to better recognise and encourage skill development within the industry and put the civil infrastructure workforce on an even footing with other trades.[13]

5. **Apprenticeship Boost (AB) must be re-instated for the Civil sector**

    i. Employers with Civil and Water sector apprentices were excluded from AB payments from 1 January 2025[14] despite these programmes providing a clear and valued career pathway, which is understood and valued by industry. Currently Connexis (work-based learning division of Te Pukenga) delivers more than 90% of the training for the civil sector on-job with the employer providing the on-job training, task specific verification and in many cases on-job assessment.

    ii. Civil employers believe their efforts to induct, on-board and up-skill new and existing staff remain unseen and undervalued. AB must be reinstated for the Civil and Water sector.

6. **Funding support to improve workforce capability for the Temporary Traffic Management (TTM) sector**

    i. Over 50,000[15] workers in New Zealand hold some form of TTM authorisation and are active across road maintenance and construction projects, utility services, emergency response, public events, and private developments. There is growing demand for upskilling due to the shift from a compliance-based training model anchored in the Code of Practice for Temporary Traffic

[13] https://civiltrades.co.nz/
[14] https://www.connexis.org.nz/news/changes-to-apprenticeship-boost-2025/
[15] https://www.parallaxx.co.nz/nzs-history-of-temporary-traffic-management-ttm/

Management (CoPTTM), which was owned and managed by NZTA Waka Kotahi to an industry designed Credentials Framework[16] made up of NZQA assessment standards and micro-credentials.

ii. In response to this changing training landscape several new (PTEs) have been stood up to respond to the 'risk-based' learning and development needs of the nation's TTM workforce. The Waihanga Ara Rau TTM Programme Guidance supports the programme delivery[17] document, which reflects industry expectations and NZQA requirements about the skills, knowledge and industry standards that should be incorporated into programme delivery.

iii. The BECA report[18] (commissioned by ConCOVE in 2023) identified seven recommendations for the consideration of industry, training providers, and Waihanga Ara Rau. These recommendations include more practical application of knowledge, use of a wider range of training tools, targeted language support for learners, the embedding of literacy, numeracy and digital skills into all delivery, provision of digital devices to support the learner journey and that learner achievement is recognised and celebrated with colleagues and whanau.

iv. The sector needs funding support to improve workforce capability.

7. An expectation that providers embed workplace culture into programme delivery

i. Embedding workplace culture into programme delivery is vital for preparing learners, whether school leavers or new arrivals to Aotearoa for success in the New Zealand workforce for these many upcoming infrastructure projects. A well-rounded programme should integrate key cultural pillars such as Health, Safety, and Wellbeing**,** which are foundational to New Zealand's workplace standards and duty of care.

ii. Emphasising a strong work ethic and commitment to quality helps instil professional pride and accountability, while fostering inclusion ensures that diverse backgrounds and perspectives are respected and valued. Embedding these elements not only equips learners with practical skills but also nurtures the attitudes and behaviours that contribute to safe, productive, and culturally aware workplaces across the motu.

---

[16] https://www.ttm-isg.org/resource-library/training-and-competency
[17] https://www.waihangaararau.nz/qualifications-and-programme-endorsements/programme-guidance-documents-for-providers-developing-programmes/
[18] https://www.concove.ac.nz/concove-projects/temporary-traffic-management-credentials-framework/

INVESTMENT ADVICE

Overarching Narrative

This document should be read alongside the overarching narrative document which provides the introduction and overarching assumptions for Waihanga Ara Rau's 2025 investment advice to the Tertiary Education Commission (TEC), focused on training provision for 2027.

The sector versions outline our approach to qualifications relevant to each sector, regardless of whether they meet TEC's investment threshold. This ensures that all stakeholders, from policymakers to industry leaders, can engage with advice that aligns with their areas of interest.

2027 Investment advice baseline year

We're applying a similar approach as we did last year. **<u>The baseline year is 2024</u>,** which provides the most recent full year of training data. All active learners across the 2024 calendar year set the minimum level of provision we expect in 2027, with any recommended growth, reduction, or no change based on that starting point.

Investment advice threshold (for 2027 delivery)

The threshold is intended to ensure our advice prioritises qualifications that could materially impact current TEC funding. Qualifications below the threshold generally fall within the margins of existing funding activity and therefore do not significantly affect funding availability. It is made explicit throughout that the overall growth percentage should be applied to all relevant qualifications, regardless of whether they meet the threshold. Publishing our approach for all qualifications under our coverage also enables providers to understand the provision landscape.

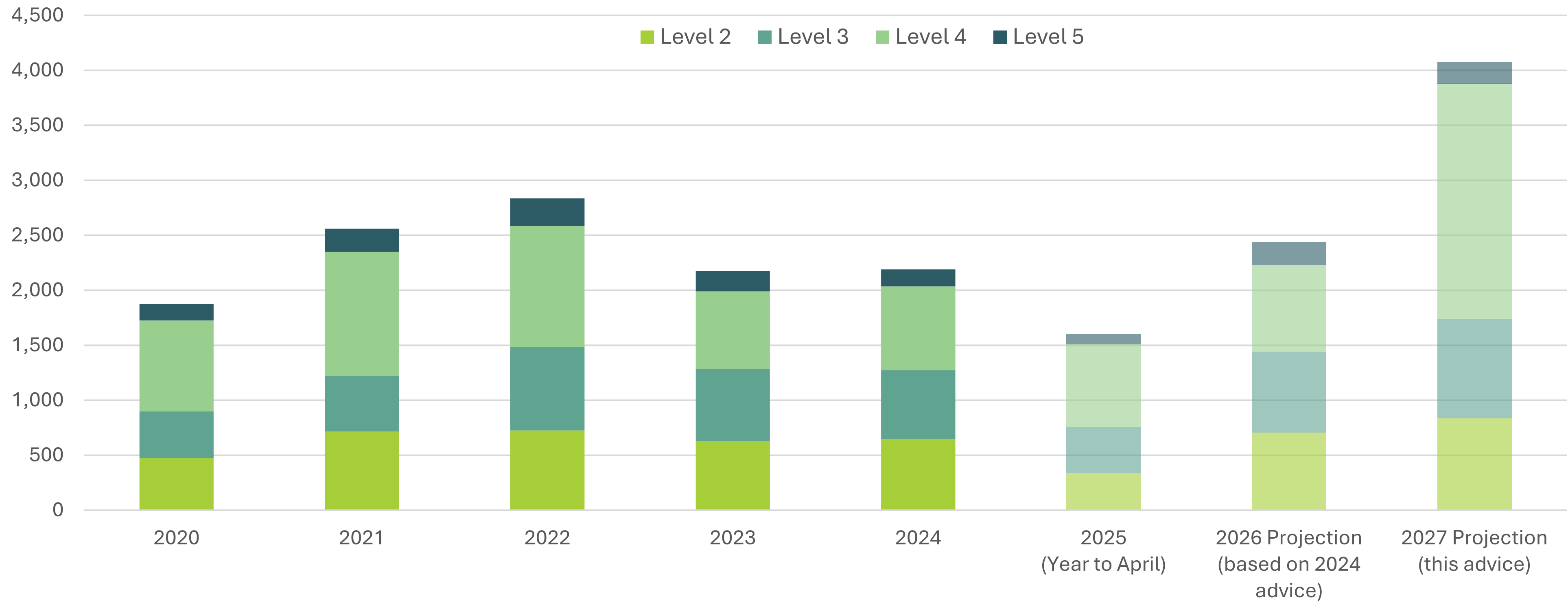
For qualifications within our scope, only those meeting the threshold are included in our formal submission to the Tertiary Education Commission (TEC). The 2027 threshold includes:

- Growth or reduction of more than 20 learners compared to the 2024 baseline.
- Not registered or not TEC-funded learners in 2024 but expected activity in 2027.
- Fewer than 20 learners in 2024 with projected growth that more than doubles by 2027.
- Qualifications where specific context and narrative are important to articulate are treated with particular attention.

This advice covers a total of **32 qualifications, programmes, and credentials within Waihanga Ara Rau's Civil Infrastructure sector. Together, these show a projected growth of 1,884 learners based on the 2024 baseline.** Of these, 14 qualifications meet the TEC advice threshold and are included in the formal advice document submitted to TEC. These 15 account for 1,774 of the total projected learner growth.

Learner Trends and Projections (2020-27)

Like many parts of the C&I sector, Civil Infrastructure saw a significant increase in learner numbers during 2021–22, largely driven by Government interventions such as Targeted Training and Apprenticeship Fund, First Year Fees Free, and Apprenticeship Boost. With the conclusion of most of these initiatives, aside from Fees Free shifting to final years, learner volumes have returned to more 'normal' levels.



Notes:

- *Learner data is sourced from TEC's Ngā Kete as of April 2025. It includes all active TEC-funded learners within a calendar year and excludes non-TEC funded training.*
- ***2025** data reflects learner numbers as of April. Based on sector conversations, end-of-year figures are expected to be similar to 2024 levels or slightly lower.*
- ***2026** figures are based on advice provided in 2024, which projected 12% growth on 2023 learner numbers.*
- ***2027** figures represent projected provision based on this year's advice. **Noting the development of new micro-credentials (listed below) are contributing to what appears to be abnormal growth.***

Context: Investment Advice Table

The general growth in provision for qualifications under the **Civil Infrastructure sector is 23.8%**, unless specifically stated otherwise.

As highlighted in both the overall and sector narratives, some components, such as the scale and pace of infrastructure projects, are evolving rapidly. There is a lag between publicly available data and industry conversations, many of which remain commercially sensitive. This delay means current data does not fully reflect actual demand, which will become clearer in the coming months.

An example of this is a major roading project in the upper North Island. This will be the biggest roading project in New Zealand's history and the workforce required will be on a scale not previously seen. Consequently, and as mentioned throughout the advice documents, **<u>industry will want to revisit this advice in 2026 as details on this project are made public.</u>**

- **3234:** No registered 2024 provision in Ngā Kete but we expect to see an uptake in 2027 based on industry consultation.
- **3235:** Growth numbers have been informed by industry and expected learner activity.
- **3856:** This advice relates to the specific Plant Operation strand with advice about the Water Services related strands provided in their section. The qualification will expire at the end of 2025 and be replaced by **4440** with the provision and growth included.
- **4190:** Learners typically received this only after completing the relevant casual credits, meaning it was not TEC-funded and has no historical delivery data. Following a recent qualification review, it will expire at the end of 2026. A new, better-suited qualification will be developed, which **may require TEC funding for delivery in 2027 however as this stage can't comment on the levels**.
- There are a number of micro-credentials, all listed below, that have been developed recently and **<u>well supported by the industry</u>**. We provided advice last year on three of these (4922, 4923, and 4924). For **4922 and 4924**,our holding advice remains the same as last year, same level of provision.
- **4923** Temporary Traffic Management Risk Assessment (Micro-Credential) is currently not eligible for TEC funding. The Ngā Kete data suggests that there were 20 learners in 2024.
- **5148** Temporary Traffic Management (TTM): Applying Controls to Low-risk, Low-impact Activities in the Road Reserve (Micro-Credential), **5149** Temporary Traffic Management (TTM): Assist with TTM within the Road Reserve (Micro-Credential), and **5150** Temporary Traffic Management (TTM): Mobile Operations (Micro-Credential) **are currently not eligible for TEC funding**. Although these four micro-credentials are not eligible for TEC funding and are therefore excluded from the investment advice table provided to TEC, it is important to highlight their value to the sector. They play a critical role in ensuring the workforce is equipped with the right skills. While discussions are ongoing regarding funding eligibility, their relevance to sector capability should not be overlooked.

- **5248:** This qualification will replace 2617 by 2027, with a key focus of the recent review being to improve uptake. The projected growth of 345 learners includes the 2024 baseline of 230 learners from the 2617 programmes, plus an additional 115 learners. This growth reflects our advice assumptions, with further uplift based on last year's recommendation to increase provision in leadership-related qualifications, beyond general growth assumptions, recognising the critical role of strong leadership in supporting the pipeline of learners and workers entering the sector.
- The structure of micro-credentials **5285, 5286, and 5287** aligns with the full qualification, which we expect around 1,000 learners to undertake. Learners typically progress in the sequence of 5286, 5285 and then 5287, which informs the differing weightings across the three micro-credentials.
- **5456:** Has been recently developed and approved by NZQA. The development of the qualification was due to demand and need from industry in response to changes to sites that require paving solutions that manage stormwater while remaining durable; porous paving meets both needs. This will recognise paving as a stand-alone trade, supporting industry entrants and specialised skill development.

Investment Advice Table

Code	NZQA Qualification Title	2027 Total Provision	Growth on 2024 base	Meets threshold
2522	New Zealand Certificate in Infrastructure Works (Level 2)	805	155	*Yes*
2617	New Zealand Certificate in Infrastructure Works (Single Site Supervision) (Level 4) – *replaced by 5248 in 2027*	N/A	N/A	No
2618	New Zealand Certificate in Infrastructure Works Contract Management (Level 5)	93	18	No
2619	New Zealand Certificate in Infrastructure Works Projects (Level 5)	93	18	No
2692	New Zealand Certificate in Civil Engineering Laboratory (Level 4) with strands in Aggregate, Asphalt, Bitumen, Concrete, Field Investigations, and Soil	44	9	No
2693	New Zealand Certificate in Civil Engineering Laboratory (Level 5) with strands in Aggregate, Asphalt, Bitumen, Concrete, Field Investigations, and Soil	7	2	No
2725	New Zealand Certificate in Infrastructure Works (Civil) (Level 4) with strands in Earthworks, Road Construction, and Road Maintenance	397	77	*Yes*

3234	New Zealand Certificate in Roadmarking (Level 2) with optional strands in Piloting, and Raised Pavement Markers	30	30	*Yes*
3235	New Zealand Certificate in Roadmarking (Level 3)	20	15	*Yes*
3236	New Zealand Certificate in Roadmarking (Level 4) with optional strand in Testing	10	5	No
3775	New Zealand Certificate in Infrastructure Works (Bitumen Surfacing Construction) (Level 4)	38	8	No
3782	New Zealand Certificate in Infrastructure (Forestry Earthworks) (Level 4)	13	3	No
3856	New Zealand Certificate in Infrastructure Works (Level 3) with optional strand in Plant Operation *– replaced by 4440*	N/A	N/A	*Yes*
3966	New Zealand Certificate in Infrastructure (Piling) (Level 4)	69	14	No
4164	Infrastructure - Erosion and Sediment Control Plans (Micro-credential)	44	9	No
4190	New Zealand Certificate in Civil Infrastructure Bituminous Product Manufacturing (Level 4)	No activity	No activity	*Yes*
4263	New Zealand Certificate in Traffic Incident Management (Level 3)	38	8	No
4416	Horizontal Directional Drilling (Level 4) (Micro-credential)	25	5	No
4436	New Zealand Certificate in Infrastructure Plant Operations (Level 3)	75	15	No
4439	New Zealand Certificate in Civil Infrastructure Bulk Earthworks (Level 3)	81	16	No
4440	New Zealand Certificate in Infrastructure Works (Level 3)	577	192	*Yes*
4922	Temporary Traffic Management Design (Micro-Credential)	100	100	*Yes*
4923	Temporary Traffic Management Risk Assessment (Micro-Credential)	N/A	N/A	*Yes*
4924	Underground Utility Location (Micro-credential)	110	110	*Yes*
5148	Temporary Traffic Management (TTM): Applying Controls to Low-risk, Low-impact Activities in the Road Reserve (Micro-Credential)	N/A	N/A	No
5149	Temporary Traffic Management (TTM): Assist with TTM within the Road Reserve (Micro-Credential)	N/A	N/A	No
5150	Temporary Traffic Management (TTM): Mobile Operations (Micro-Credential)	N/A	N/A	No

5248	New Zealand Certificate in Infrastructure Site Supervision (Level 4) *– replacing 2617 by 2027*	345	110	*Yes*
5285	Temporary Traffic Management (TTM) System: Foundation Principles (Micro-Credential)	350	350	*New*
5286	Temporary Traffic Management (TTM): Monitoring TTM controls (Micro-Credential)	450	450	*New*
5287	Temporary Traffic Management (TTM): Mobile Supervision (Micro-credential)	200	200	*New*
5456	New Zealand Certificate in Streetscape Paving (Level 4)	60	60	*New*
	Total	**4,074**	**1,884**	

Products in Development

Reference	Title	Type	Status	Likely Year
TBC	New Zealand Certificate in Temporary Traffic Management Supervision	Qualification	In Development	2026/27