



Commercial Road Transport

WORKFORCE DEVELOPMENT STRATEGY

DECEMBER 2019



EXECUTIVE SUMMARY

To future proof the success of New Zealand's Commercial Road Transport (CRT) workforce, this strategy provides a framework for the CRT industry to plan its workforce development priorities over the next 5 - 10 years.

The strategy presents a set of goals that are aimed at creating a sustainable workforce that has the capabilities and skills required to meet current and future challenges.

Key factors impacting the workforce in New Zealand includes an aging workforce, a male dominated industry, attractiveness of working in the industry, technology change and increasing automation, persistent driver shortages, regulatory change and changing skill requirements to become more customer centric.

The key priorities to meet current and future skill requirements and the outcomes the industry seeks for its workforce development include:

1. Promoting career pathways to attract talent and create a sustainable workforce
2. Supporting skill development to meet current and future technological changes
3. Growing our people to support a high- performing and innovative workforce
4. Improve retention of the workforce through skill development and career pathways
5. Increasing the diversity of the workforce to increase the supply of talent
6. Improving productivity through best practice sharing and collaboration.

This strategy was developed through consultation with Industry Associations and employers. It has been endorsed by the following organisations.



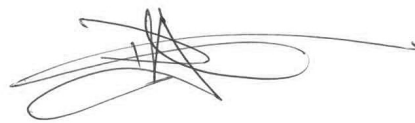
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INTRODUCTION

The Commercial Road Transport industry employs just over 50,000 people with a full-time equivalent workforce of just under 46,800 and a fleet size of just over 144,000 trucks.

Globally and domestically New Zealand's CRT industry competes for labour in a tough environment. Worldwide there is a shortage of truck drivers which has been influenced by continued growth in trade volumes, an aging workforce and challenges with industry attractiveness. New Zealand is experiencing tight labour market conditions, which means that the CRT industry is competing with other industries that are also facing labour shortages.

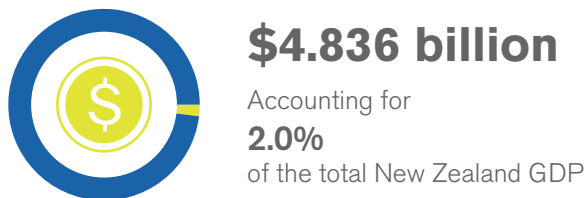
In a competitive economic environment, the CRT industry faces increasing challenges to attract and retain skilled employees. The largest single occupation within the CRT industry are truck drivers, who represent 46%¹ of the total CRT industry workforce.

The CRT industry has been a benefactor of New Zealand's strong economy. In 2018, the CRT industry contributed \$4,836 million to New Zealand's Gross Domestic Product (GDP), which is approximately 2% of the GDP and 2.1% of the workforce. The industry is projected to grow by 36% over the next 24 years².

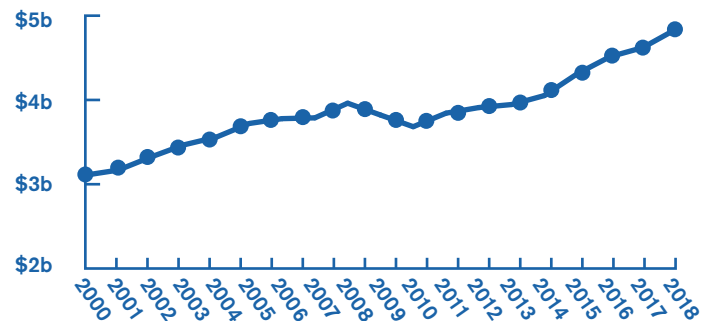
The ability to attract and retain truck drivers is central to the CRT industry's sustainability and future success. It is estimated that by 2024 there will be over 19,400 job openings created. The industry's aging workforce means replacement job openings are expected to outnumber new job openings by 4 to 1. Self employed people make up about 15.5% of the workforce. However, the number of self-employed has been declining due to smaller firms finding it harder to compete with larger firms.

The fleet size is also a good indicator of the demand for truck drivers. The fleet size has grown by an average of 2.5% per annum in each of the last five years.

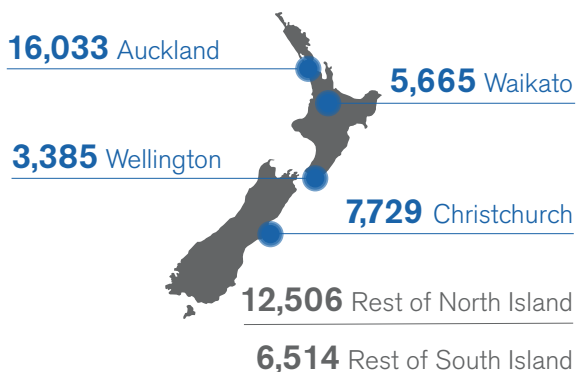
Commercial Road Transport GDP



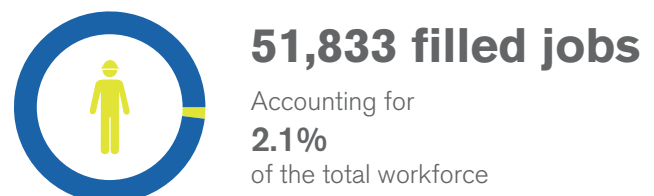
Commercial Road Transport GDP



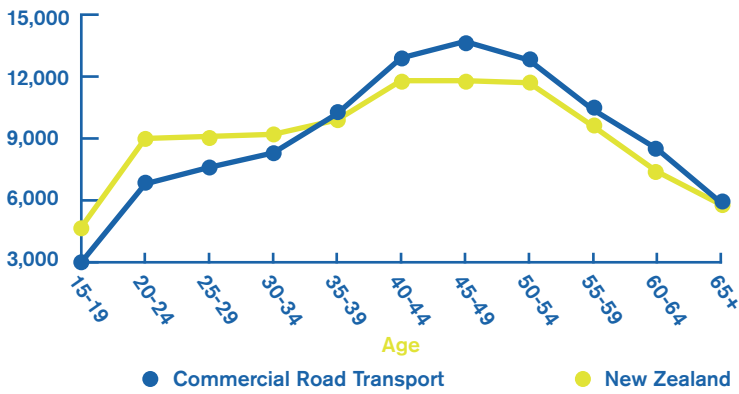
Regional Employment



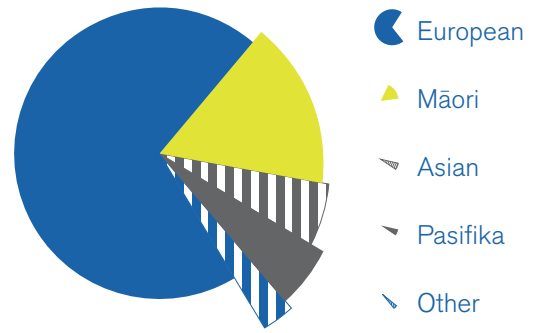
Employment



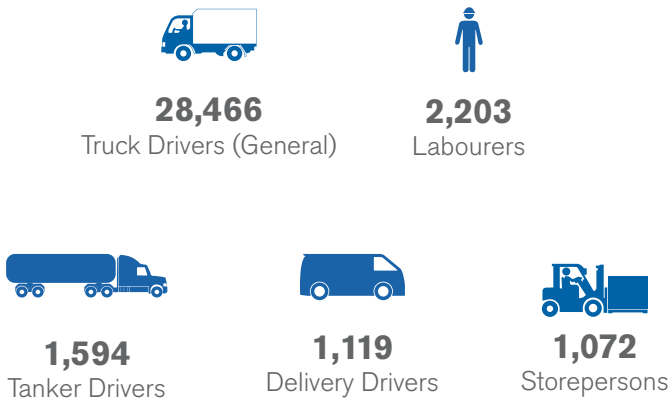
Industry Age Profile



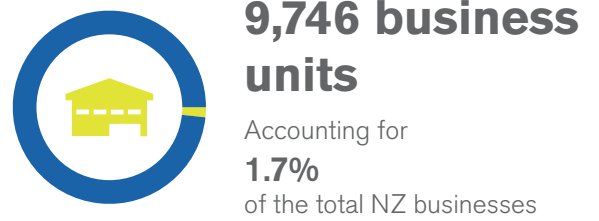
Ethnic Groups



Occupations



Business Units



Gender



FACTORS THAT WILL SHAPE THE INDUSTRY OVER THE NEXT 5-10 YEARS

Changing technological, environmental and Government initiatives, strong demand to move products, changing workforce demographics and a society that is increasingly environmentally aware will require a CRT industry that is responsive, adaptive and innovative to ensure continued success when planning its workforce requirements.

1. Industry Image

Truck drivers are by far the largest occupational group in the Commercial Road Transport (CRT) industry, with New Zealand's road transport market made up of large transport companies, smaller regional operators and owner-drivers³. New Zealand's rising population, economic activity, international trade and overseas visitor arrivals will mean continued growth in road freight services and the current government's planned investments in the rail and shipping networks is unlikely to mark a significant shift away from road freight, given road's inherent advantages of flexibility and speed.

Despite recent increases in the number of migrants finding work in the CRT industry and industry initiatives to attract more New Zealanders, the CRT industry still has an image problem. The truck driving profession is perceived as being male dominated, offering poorly paid, low skilled work and long working hours, and the cost and time required to attain a class 5 licence acts as a deterrent to many potential entrants.

Since the Global Financial Crisis (GFC), smaller operators have found it more difficult to compete resulting in an increasing proportion of the workforce employed in larger firms. People employed in the CRT industry work longer hours than the national average, meaning the overall level of industry earnings remains relatively high. However, the CRT industry is highly competitive where profit margins are slim, and this makes it difficult for employers to raise wages to attract more staff.

Transportation and logistics managers need to work together with government to make sure programmes are in place to train future employees. Development programmes, which align strategic corporate goals with personal ambitions, can help transportation and logistics companies meet their staff's expectations.

The CRT industry is male dominated with women under-represented in the workforce. The hours of work and conditions are deterrents to more women entering the industry. Employment flexibility and improved conditions will be required to tap into this underutilised pool of talent.

The industry age profile is older than that of the general New Zealand workforce. In part this is due to the licencing regime which creates hurdles to young people directly entering the industry from secondary school. There is a need to attract younger, more ethnically diverse people to the industry. An aging workforce creates future replacement and succession challenges.

Creating 'elder friendly' workplaces is also needed as they make up most of the overall talent pool because continuing to work, even in retirement, is increasing. One way to aid this group is to ensure appropriate assistance and training is provided, given technological advances and rapidly changing workplaces. As with women, some flexibility will be required to meet their changing needs as they age.

Skills and occupation outcomes for Māori and Pasifika have seen considerable growth in the last 20 years but still lag behind other ethnic groups. Strategies and programmes to achieve better workforce outcomes for Māori and Pasifika need improvement, with more focus from the government and tertiary education organisations to achieve this goal⁴.



Research on what employees find important when looking for a new job indicates that there are multiple reasons for people seeking to change employment. While better compensations and benefits are important, there are other factors which are just as, or more, important.

The research findings are;

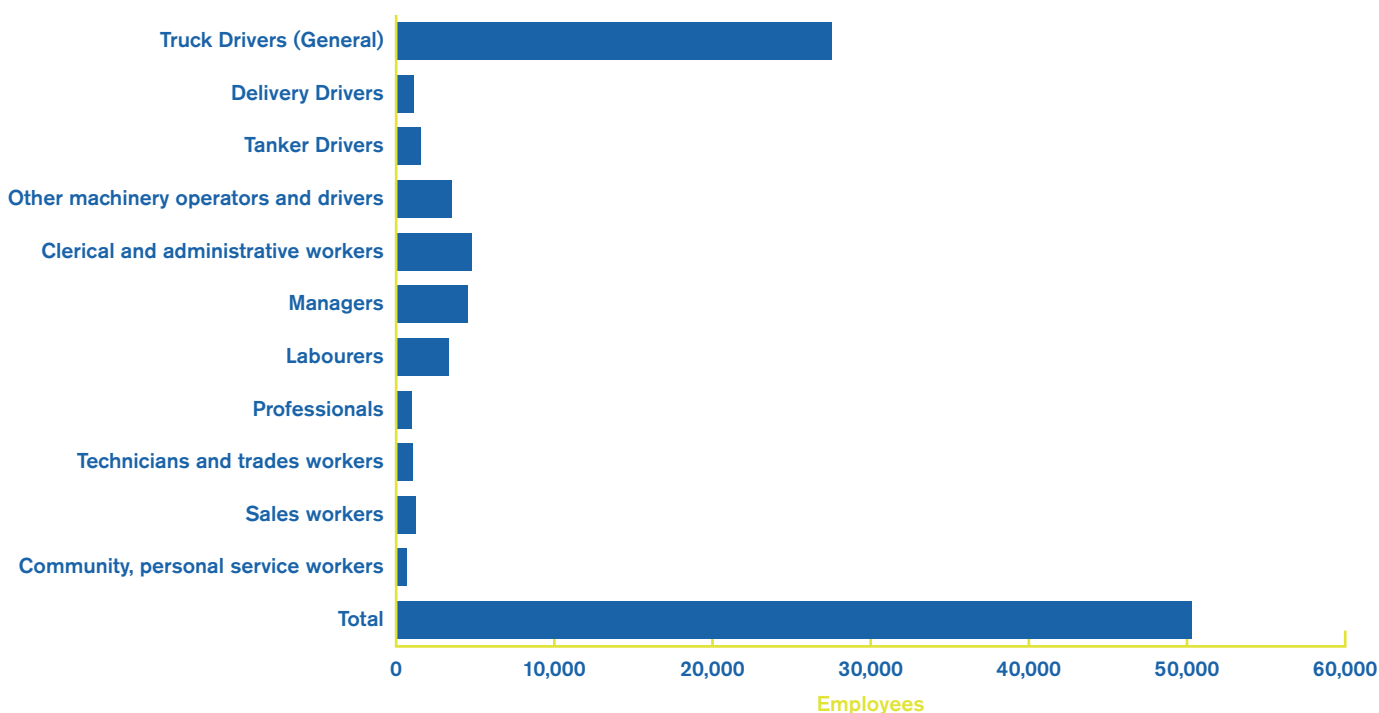
REASONS	GLOBAL TOTAL %	NEW ZEALAND %
More challenging work	26	30
A role that is a better fit for skills	25	30
Improved work/life balance	20	27
Better compensation and benefits	30	27
Opportunities for better advancement	31	22
To have greater impact	13	20
More learning opportunities	22	19
Unsatisfactory leadership/management	13	18
Increased job security	14	13
Better quality company	13	5

LinkedIn⁵

The Ministry of Business, Innovation and Employment (MBIE) figures show truck drivers earn between \$32,000 and \$67,000 a year, while Careers New Zealand reports show that pay rates for truck drivers vary between \$16 and \$30 an hour. The current adult minimum wage is currently \$17.70 an hour and the national average ordinary time hourly earnings is \$30.96⁶.

Wages are not the only form of compensation, however. Truck driver benefit packages can include a variable cash bonus, expense reimbursements, healthcare and pension plans.

Occupations



Source: Commercial Road Transport Industry Environmental Scan (2018) Infometrics

Over recent years, the industry has also put in place, and participated in, a wide range of initiatives to attract, recruit, train and retain skilled truck drivers. These initiatives include⁷:

- The Industry Wide Engagement Program (SWEP)
- Women in Road Transport
- The Targeted Review of Qualifications
- Sending trucking magazines into schools
- Improved liaison with careers advisors
- Development of a Student Career Guide in Transport and Logistics
- Road user working group workshops
- The NZ Truck Driving championship
- Introduction of High Productivity Motor Vehicles (HPMV)
- The driver licensing review
- The Safety MAN Road Safety Truck initiative (New Zealand Trucking Association)
- The Rollover Prevention Safer Journeys programme (see Workplace Safety)
- Improved freight hubbing
- Improved driver remuneration.

2. Technology

The transport industry, like many parts of the economy, is going through an unprecedented period of innovation in vehicles, infrastructure, and services. Transport could be at the forefront of a 'fourth industrial revolution' - a fusion of the physical and digital worlds that are transforming how people live and work. This is being driven by breakthroughs in fields such as artificial intelligence, the Internet of Things (i.e. everyday objects becoming digitally connected), and energy storage.

Our transport system will become increasingly connected, automated, shared, and electric. New technologies will create many opportunities to boost the safety, efficiency, reliability, and convenience of travel while reducing environmental impacts. New technologies and tools could also play a useful role in expanding capacity in some areas, and spreading traffic more evenly, without building more/larger roads⁸.

A range of factors will contribute to and shape the current and future technological aspects of the CRT Industry, so it is essential for the industry to adapt and adjust with these ongoing advances.

Autonomous Driving Systems

Autonomous driving systems should be thought of as existing along a spectrum and includes many technologies that already exist such as: anti-lock brakes, cruise-control, lane keeping assist and self-parking.

The development of autonomous driving technologies will most likely be accompanied by the parallel development of "transfer hubs". Key industry players envisage a system in which "driverless trucks" will operate on motorways where the environment is relatively predictable, but they will then transfer their cargo to human drivers who will be needed to navigate the more challenging local environments.

Most industry experts believe that fully autonomous vehicles will not be feasible until 2035 or perhaps even later because the on-board technology needs time to be made more efficient, reliable and cheaper, and because the transport infrastructure needs to be modified so that autonomous vehicles can accurately and reliably detect their surroundings^{9 10}. Furthermore, fully autonomous vehicles will initially be limited to specialised domains. Uptake in New Zealand is expected to be lower than other countries because we tend to be technology followers¹¹ and our motorways are not as long and predictable as those in other countries such as the US and Australia.

Platooning

Platooning involves electronically “tethering” vehicles in convoy, so they can follow each other more closely than would be safe with human reaction times. Platooning makes vehicles more fuel efficient (via reduced aerodynamic drag) and safer (via immediate and automated reactions). It also reduces traffic congestion by enabling more vehicles in a given space¹².

Heavy freight is seen as one of the most promising prospects for platooning technology, mainly because of the potential for energy saving associated with aerodynamic drag reductions. Truck platooning technology could be adopted in the freight industry in several different ways¹³.

Electric Vehicles

Some freight operators will find that it makes economic sense to purchase electric trucks instead of diesel trucks as the relative life-time cost of the electric trucks continues to fall. Heavy electric trucks have a higher upfront cost than diesel trucks, but the subsequent operating costs are lower.

Heavy electric trucks take time to recharge, unlike heavy diesel trucks which can be refuelled immediately. This means a heavy electric truck’s capability is for short distance trips, and factors such as undulating terrain needs to be factored, as the vehicle will consume more energy to operate uphill. In terms of long-haul freight, heavy electric vehicles will not become commercially viable until comprehensive battery recharging infrastructure is in place. Governments will need to fund and build that infrastructure in anticipation of subsequent demand.

However, New Zealand is expected to follow international trends, and the CRT industry will need to be retrained to work with electric machinery instead of combustion engines. This will have a particularly pronounced impact on mechanics and parts suppliers. Drivers may also need to be retrained to operate, maintain, and recharge electric vehicles.

Drones

Drones are projected to have a small impact on the industry in the next 15 years, delivering parcels from intermediate hubs to the customer. A 2019 Ministry of Transport (MoT) study sees the potential for drones to be adopted only in certain contexts such as rural deliveries using motorbikes, cars, and some courier services. The potential for drones to carry heavier freight and people is currently limited by drones’ carrying capacity.

Connectivity and the ‘Internet of Things’

The Internet of Things creates value in the freight industry when it enables information regarding the truck to be collected and transmitted. This information includes a truck’s GPS coordinates, odometer readings, speed, accelerator pedal position, brake pedal status, ABS engagement status, parking break status, transmission gear position, ignition status, windshield wiper status, headlamp status, fuel level, oil level, tire pressure, engine temperature and outside temperature.

As the technology develops, objects that are in the truck’s external environment will also communicate with it. These information feeds will communicate the presence and location of nearby vehicles, the location of a truck’s trailers, the location of transport infrastructure, and the signals being sent by traffic lights. Finally, all this information can be combined with information sent through the “traditional” internet, such as weather reports, traffic conditions, accident alerts, etc. These technology changes will demand drivers who have the technical skills to interpret and operate them.

Vehicle Monitoring

Telematics enables on-board diagnostic (OBD) systems to monitor the engine and provide information about whether it is malfunctioning. These systems provide real-time data for a range of possible engine malfunctions¹⁴. They enable drivers and/or fleet managers to stay ahead of maintenance by informing them about upcoming maintenance issues.

The main impact of OBD systems on the CRT industry will be a blurring of the fields of mechanics, maintenance and data analysis. The CRT industry will need to develop professionals that monitor and manage vehicles from a distance. Truck drivers may also need to develop data analysis skills to monitor their own cargo, especially if they transport hazardous or refrigerated goods.

Monitoring Freight

Telematics will eventually revolutionize the logistics industry through “smart freight”: freight with RFID sensors embedded into it. Historically, freight operators used “track and trace” methods to identify where objects are at certain points in their journey. However, it is difficult to keep track of objects, especially if they travel down a highly fragmented series of carriers. It is also difficult to know what has happened if one of these objects fails to reach the next checkpoint. These delays in tracking make it difficult for freight operators to plan, respond and predict delivery of freight. The presence of sensors in freight will mean that freight operators know exactly where an object is, in real time.

Threats to Cyber Security

As more connected vehicles drive on the road, the threat of cyber-attacks against integrated transport infrastructure will increase. Preventing these sorts of attacks will require protocols for secure communication between vehicles and infrastructure to be defined.

Smartphone Applications

A smartphone is a mobile phone that performs many of the functions of a computer, typically having a touchscreen interface, Internet access, and an operating system capable of running downloaded applications. E-Learning allows Learners to conduct their training and complete the theory elements of their programme – in their own time and at their own pace – using their mobile phone, tablet or computer.

Online Shopping

In New Zealand, online shopping retail sales have grown faster than “brick and mortar” sales for the past three years. It is reasonable to expect this to continue. The main impact on the CRT industry will be increased demand for delivery drivers and couriers.

Remote work technology

The MoT’s 2017 report: Transport Outlook – Future State explores the impact of remote work on transportation patterns, including freight. The report notes that a continued preference for face-to-face communication will further increase population growth in the ‘Golden Triangle’ (i.e. Auckland, Bay of Plenty and Waikato) and will necessitate the transportation of larger quantities of freight through narrow transportation corridors.

3. Political and Government

Government regulation and policy changes can make a big difference to how the CRT industry operates, how it is perceived by the public, and the barriers to potential industry entrants.

The current government plans to boost investment in rail, shifting some of the freight burden away from roads. The road freight percentage is forecast to remain static at 74% over this period due to the inherent cost, speed and flexibility of the industry¹⁵.

The government has steered away from building new roads, but it still expects to maintain and improve the existing road network, particularly for Heavy Productivity Motor Vehicle (HPMV) use. Increasing adoption of HPMV’s is creating opportunities to improve efficiencies and government-pending plans indicate it recognises the benefits of these efficiencies.

Regulation allowing HPMV vehicles has enabled productivity gains in the CRT industry. HPMV trucks can operate on State Highways nationwide along with most local roads up to 50 tonnes¹⁶. In addition, some vehicles can operate at higher mass (up to 62 tonnes) on certain routes if a HPMV permit has been issued.

The 2018/19 Approved Transport Rules Programme report outlines planned changes to road transport rules and projects relevant to the CRT industry include:

- Reviewing the vehicle classifications and standards system to reflect changes in technology
- Streamlining the heavy vehicle licence process
- Amending the Setting of Speed Limits Rule to accelerate the implementation of the Speed Management Guide.

However, increases in the minimum wage, Road User Charges, Fuel Taxes, and the potential for congestion to be addressed by road pricing, are the challenges businesses operating on slim profit margins are facing. These conditions have exacerbated driver shortages by making wage increases difficult in a industry characterised by intense competition and slim profit margins.

The licencing regime and associated high costs is a handbrake for people, especially young people, entering the industry. Gaining a full Class 5 heavy vehicle drivers' licence can take up to 30 months for someone over the age of 25 and longer for someone younger. Adding to the burden of getting licenced to drive in the CRT industry, many CRT operators have phased out the use of class 2 vehicles in their fleet in favour of larger vehicles to increase productivity.

4. Workplace Safety

In 2015, New Zealand underwent its most significant workplace health and safety reforms in 20 years when the new Health and Safety at Work Act 2015 (the Act) was introduced and WorkSafe New Zealand was formed.

Under the Act, employers have a responsibility to do everything 'reasonably practicable' to make their employees and the public safe. Improvements in road safety and driver wellbeing are an important element in the attraction of a younger, more diverse workforce. Truck-related fatal accidents are now less than half the level they were in 1995.

Truck driving can be an unhealthy lifestyle, with long periods away from home, long hours, a sedentary lifestyle, poor sleep, poor hygiene and diet. Drivers are susceptible to obesity, sleep apnea¹⁷, diabetes, and heart disease and life expectancy can be lower than other occupations¹⁸.

The industry has taken steps to reduce accidents and improve drivers' overall wellbeing through education programmes. Industry associations provide safety advice to drivers and operators as well as members of the public through initiatives such as¹⁹:

- The Rollover Prevention Safer Journey's Programme, which involves seminars delivered to industry employees; a key theme of the programme is that, as professional drivers, more is expected of them than of other drivers on the road.
- The Healthy Truck Driver program delivered by the Safety MAN Road Safety Truck has been designed to help drivers identify the symptoms and causes of common truck driver health issues and accidents.
- Share the Road Safely with Big Trucks and the Safety MAN Road Safety Truck allows other road users, particularly children, to learn about how to stay safe around heavy vehicles, including awareness of blind spots etc.
- A new primary school curriculum resource has been released by NZTA which is based around trucks and truck safety (Keeping Safe Around Big Trucks).
- The Log Transport Safety Council's Sleep Apnea Program which involves identifying drivers with an elevated risk of sleep apnea and supporting their treatment.

New Zealand has a Graduated Driver Licensing System for drivers of heavy motor vehicles. To drive heavy motor vehicles in New Zealand, drivers need a Class 2, 4 or 5 licence. Each licence class covers different vehicle types and weights, with Class 2 being the lightest and Class 5 the heaviest truck and trailer combination.

5. Environment

New Zealand is committed under the Paris Agreement on Climate Change to reduce greenhouse gas emissions by 30% below 2005 levels by 2030. The transport industry produces 18% of New Zealand's domestic greenhouse gas emissions. The vast majority (90%) of these emissions come from road transport. Fuel emissions are a function of:

- The vehicle itself (e.g. engine size and fuel type)
- How the vehicle is operated (e.g. driver behaviour and loading).

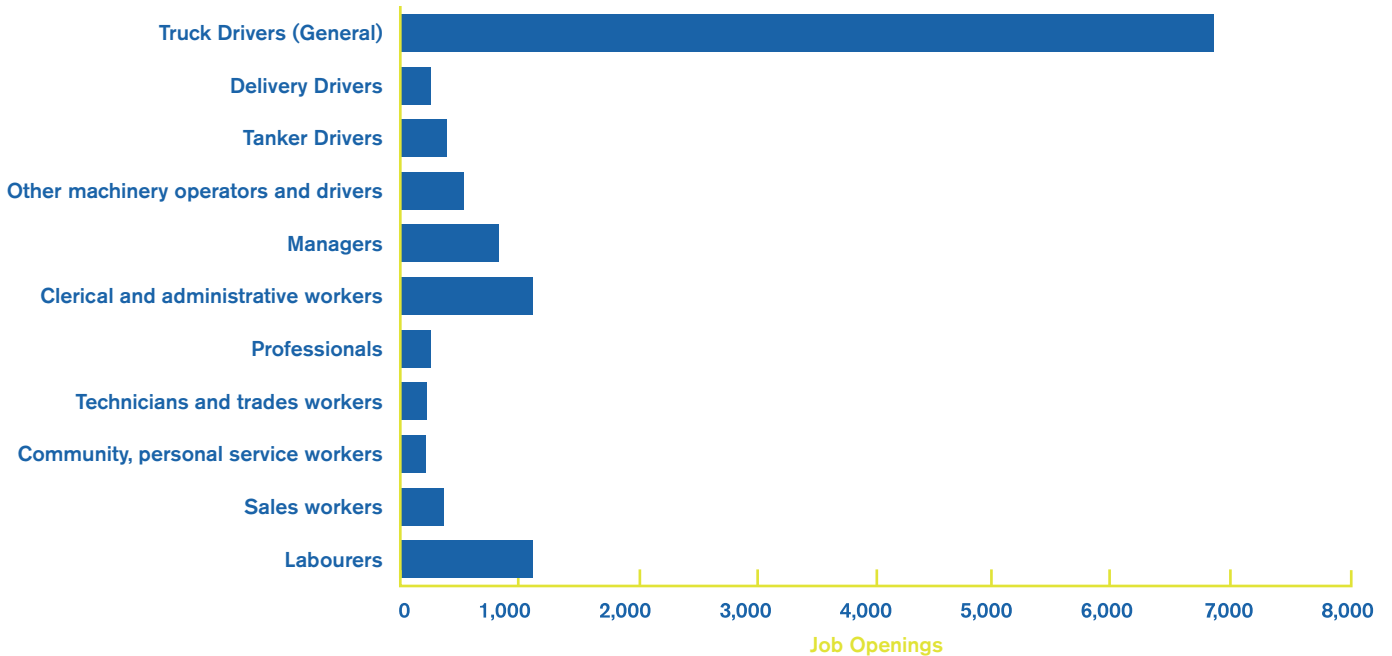
The government has already taken steps to encourage road freight efficiency through the Voluntary Heavy Vehicle Fuel Efficiency programme operated by the Energy Efficiency and Conservation Authority.

Fuel efficiency programs are an opportunity for the CRT industry to reduce its fuel costs, better adapt to upcoming government regulation around fuel use and efficiency, and possibly encourage the government to soften regulation and policies affecting CRT businesses.

6. Skills and Career Pathways

Projections of the occupations in which job openings will occur provides insight into the skill needs of future labour demand. Based on this 'business as usual' scenario, between 2018 and 2022 an additional 6,850 truck driver job openings are expected, as well as 375 tanker driver, 1,100 labourer, 1,100 clerical and administrative, and 800 managerial jobs.

CRT Industry forecast Job Openings by Occupation 2018-22



Source: Commercial Road Transport Industry Environmental Scan (2018) Infometrics

Jobs in the CRT industry fall within the Manufacturing and Technology industry vocational pathway. The achievement of a vocational pathways award in manufacturing and technology is therefore considered a necessary first step towards a job in the CRT industry (as well as many other industry's that fall within the broad manufacturing and technology industry).

The proportion of school leavers who achieved a vocational pathway award in manufacturing and technology was much higher among male school leavers than female: 17% compared with just 1.6% respectively. The proportion was also higher among Asian and European/Pākehā school leavers compared with Māori and Pacific school leavers.

New Zealand's tertiary education sector is rapidly evolving. Courses provided by training institutions are typically seen as pre-employment requisites, with a driver's licence (usually class 4 or 5) awarded upon completion. Learners on courses provided through industry training (MITO) are already employed as truck drivers (and therefore already have the relevant licence), which enables them to apply their skills as they learn. On-job training is the most cost-effective. Overall, on-job training generally leads to better retention outcomes upon completion.

PRIORITIES FOR THE COMMERCIAL ROAD TRANSPORT INDUSTRY

GOAL 1

Elevating Industry Image

Strategy (Attract)

- Raise the industry profile by promoting the career opportunities to school leavers, industry employees and others seeking work
- Promote qualifications, training programmes and continuous professional development as an enabler to increase skill levels and relevance
- Increase participation of a much more diverse demographic, including youth and women

GOAL 2

Adopting Technology

Strategy (Adapt)

- Provide training and re-training that enables employees to keep up with technology advancements
- Lift the digital literacy of the workforce
- Research and implement technology opportunities to support skills growth

GOAL 3

Retaining Our People

Strategy (Retain)

- Develop employers' people management practices to strengthen industry retention
- Continue implementation of initiatives to encourage healthy lifestyle for employees
- Promote continuous professional development
- Promote best practice leadership to support a high-performing and innovative workforce
- Support industry to meet regulations around road safety and health and safety

GOAL 4

Developing Skills and Professional Training

Strategy (Train)

- Increase employer participation in formal industry training
- Develop qualification pathways that support career development and progression
- Increase business management skills
- Improve Literacy and Numeracy levels of the workforce
- Internal and external recognition of employer engagement in workforce development

GOAL 5

Ensuring Sustainability and Future Success

Strategy (Futureproof)

- Promote continuous professional development to meet changing technology requirements and ensure skills remain current, relevant and utilised
- Improve productivity through best practice sharing and collaboration
- Benchmark best practice to optimise the training return on investment
- Increase number of women participating in industry and industry training

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