

CORONAVIRUS AND ROAD FREIGHT SUPPLY CHAINS IN AUSTRALIA – IMPACT AND IMPLICATIONS



Dr Sarah Jones,
Managing Director,
Driven Strategy And
Policy Solutions



Jennifer River-
Gonzalez, PhD
candidate, Amy Gillet
Foundation

Abstract

The experience of Australian road freight during the pandemic has received very little academic attention, with only one publication devoted to the impact of COVID-19 on transport systems in Australia (Munawar, 2021). Infrastructure Australia's 240-page interim report on the national impacts of the pandemic devoted one page to road freight (Infrastructure Australia, 2020).

This paper aims to remedy the inquiry void by exploring the impact and implications of the pandemic on the road freight industry. It examines the government policy response, the impact of that response on road freight drivers and operators, and how lockdowns impacted the safety of truck drivers on the road.¹

Keywords: coronavirus, road freight, lockdown, Australia, government policy, trucking

1. Introduction

Road freight is vital to the economic and social health of the Australian populace. Australia has the world's ninth longest road network at 877, 651 kilometers. It is a network on which the population is unusually reliant. Australia's widely dispersed towns and regional centers means that freight must travel vast distances to service the far-flung population. Around 26,000 tonne-kilometers of freight is moved annually for every Australian (ALC, 2014). This is high by international standards.

The sheer scale of the Australian land mass and attendant challenge of supplying the population is illustrated in the map below (figure 1).

¹ This research was funded by the National Road Safety Partnership Program and Monash University. The complete findings will be published in late 2023.



Figure 1: Australian land mass superimposed on Europe (Beers, 2016)

Central to meeting the demand for goods are 55,000 trucking businesses employing some 200,000 staff including, crucially, drivers. The Australian road freight fleet consists of 924,860 registered heavy vehicles² and trailers including 353,759 heavy rigid vehicles and 103,083 articulated trucks. (Hughes, 2023).

About one third of the country's road freight crosses a state border (BITRE, 2022) accounting for 213.9 billion tonne-kilometers annually (ALGA, 2019). Some of the goods that cross borders cannot be sourced in-state. For example, Western Australia produces a water treatment chemical which is vital to the health of the New South Wales water supply. (Hannam, 2022). When the east-west rail link failed because of flooding in 2021 the reliance on a functioning cross-border supply chain became evident.

2. The regulatory system

Unlike aviation, which is governed by a single, nation-wide Commonwealth law, the heavy vehicle regulatory system is complex, multi-layered and differentiated by state boundaries. It is the only transport task in Australia that involves all three layers of government: the Commonwealth, states and territories (of which there are eight) and local councils (of which there are 588).

² A heavy vehicle is defined as a vehicle with a gross vehicle mass or gross combination mass of 4.5 tonne and above.

The Commonwealth does not own or manage any roads but it plays a role in the development of ‘model laws’ and is a significant investor in roads and road infrastructure.³ The Commonwealth also raises revenue through the fuel excise tax.⁴

States and territories manage vehicle registration (both light and heavy vehicles), the enforcement of traffic and road rules (themselves subject to model laws) and directly own and manage about 25% of the nation’s roads.

Local councils manage access to, and maintenance of, 75% of Australian roads by kilometre length. (ALGA, 2019). Local councils may refuse access to certain vehicles on the grounds of amenity, safety and unsuitability of the vehicle for the local infrastructure such as bridges.

The National Heavy Vehicle Regulator (NHVR) acts as a co-ordinator between parties seeking access and the parties that control access (local councils, state authorities and utilities) under the auspices of the Heavy Vehicle National Law (HVNL). The HVNL is designed to create a uniform, consistent legal framework for heavy vehicle movement in Australia. However, Western Australia and the Northern Territory are not signatories to this law and operate according to their own state/territory-based systems.

This complicated system was subject to criticism long before the pandemic. Cross-border operators voiced frustration with the inefficient and costly state-based vehicle registration systems (Toll, 2019) while peak industry bodies called for genuinely national reforms to promote safety, efficiency and productivity (ATA, 2019). Government recognised that different rules across states created ‘compliance stress’ (NTC, 2011).

Even so, pre-pandemic the state and territory borders were unmarked and unpoliced, ‘[h]istorically important but...little more than symbolic and political boundaries’.(McGann, Thompson, 2022). As we shall see, during the pandemic the borders ceased to be notional. Instead, they became very real pressure points for drivers, operators and the supply chain more generally.

3. The Government Response

“The early days of the pandemic provided a graphic example of just how quickly societal cohesion can fracture when supply chains were compromised, or simply perceived to be compromised” (Australian Federal Parliament, December 2020)

The government’s policy response to the heavy vehicle industry during the pandemic was characterised by an inherent tension. On the one hand, all levels of government understood the imperative to keep supply chains functioning as optimally as possible to keep the population provisioned. Australia is a food secure nation, ranked 12th best in international food security ratings and exporting more than double the amount of food that it imports

³ Model laws are designed to resolve the inconsistencies and inefficiencies created by state-based differences, replacing them instead with an agreed national ‘model law’ drafted by an independent third party. While the model laws themselves have no legal status the intent is that the model law be introduced in each state parliament, or introduced in one state parliament and then ‘mirrored’ (or referred) in the remaining states and territories

⁴ The fuel excise tax is not hypothecated. Hence, the money is not directly returned to the states and territories for expenditure on roads.

(Australian Federal Parliament, 2020). Australia exports 86% of the sugar it produces, 75% of the beef produced, 71% of wheat and 40% of dairy (Davies, 2020). But in March 2020 panic-buying stripped supermarket shelves bare and Australians, en masse, were exposed to the potential for scarcity for the first time since the Second World War. Scarcity was then exacerbated by large numbers of freight workers unable to work because of covid-related illness (Yang, 2022).

Fear of scarcity drove increases in the purchase of perishable and non-perishable goods by 10.5% and 6.9% respectively in March 2020 (Godrich et al, 2022). In response, many supermarkets introduced product limits on staple foods such as pasta and rice. Truck drivers report being besieged by customers as they parked and unloaded, the customers wanting to know if the truck contained toilet paper and other necessities (Dyers, 2023). Half-jokingly, the *Northern Territory Times* printed 8 blank pages for readers to use as toilet paper (*Northern Territory Times*, 2020).

That the Australian government understood the destabilizing impact of scarcity is clear from the “Freight Movement Code for the Domestic Border Controls” released by National Cabinet in July 2020.⁵ The Code stated that:

“[t]he movement of domestic freight is critical to the cohesion of our society and economy” (Australian Government, July 2020).

Again, the government connected supply chain stability with social cohesion.

In opposition to the necessity to facilitate freight movement was a public health imperative to limit contact and the possibility of transmission by ‘locking down’ populations. Supply chains by their very nature are a vector of transmission: they cover vast distances and, in the case of road freight, make stops along the way to deliver, load and refuel. The Spanish flu of 1918 was probably the first instance of an epidemic amplified by transport systems (Rodrigue, 2020).

The opening sentences of the July Protocol were explicit about the tension between ‘movement’ and ‘containment’:

“The movement of domestic freight via heavy vehicles is critical to ensuring supply chains continue to operate smoothly and individuals, businesses and service providers can access the goods they need. While freight movements have not been identified as a source of community transmission of COVID-19 to date, any movement of people across the community needs to be risk-managed to ensure the safety of both the workforce and broader community” (Australian Government, July 2020)

Ironically, the more efficient the supply chain, the higher the chance of transmission (Rodrigue, 2020). This tension between the competing drives of ‘movement’ and ‘containment’ was never resolved. Government policies swung between the two poles, and

⁵ National Cabinet is a forum for the Prime Minister, Premiers and Chief Ministers to meet and work collaboratively. National Cabinet was established on 13 March 2020.

drivers and operators swung with them, chasing a compliance and a continued social licence to operate that – at times – felt impossible.

1.1. Movement

Truck drivers and logistics workers were designated as ‘essential’ workers by every state and territory when the virus took hold in 2020. Alongside frontline health workers, diplomats, resources workers and members of parliament, freight transport workers were permitted to continue attending their workplace.⁶ They were one of the few occupational groups permitted to move through and within intrastate and interstate boundaries when ‘hard borders’ were introduced. This freedom was predicated on industry compliance with conditions around social distancing.

The July Protocol had no legal effect in itself and required each individual state and territory to pass legislation to enable it. The protocol recognized that delays at the border affected not just surety of supply chains but driver health and wellbeing. It cautioned against self-quarantine and isolation for drivers unless they were symptomatic or were a close contact of an infected person.

Importantly, the Protocol emphasised “greater consistency in border management...to assist industry to comply”. The Protocol hence committed to border controls that were “streamlined, standardised and recognised across jurisdictions wherever possible”.

Coronavirus tests, the Protocol continued, should be available to heavy vehicle drivers at no cost to themselves. Workers (including support workers) that entered or left ‘hotspots’ should be tested within 7 days of the hotspot being identified, and no later than 14 days. State and territory governments committed to offering ‘pop-up testing’ at areas that protected driver safety and wouldn’t impact fatigue rules. Covid testing stations were established along some freight routes to minimise testing requirements ‘eating into’ drivers’ permissible hours of work. The Protocol defined a ‘hotspot’ and directed that transit through hotspots should occur without stopping overnight unless necessary to comply with regulatory requirements (e.g. fatigue rules).

Despite the recognized necessity for national consistency a nation-wide permitting system was not introduced. Instead, permitting systems were established by each state and territory. Drivers with the appropriate permits and other documentation⁷ could cross borders for the purposes of freight delivery and/or if they were support workers in the freight and logistics industry.

Movement was also facilitated through policy changes designed to remove or curtail barriers to the unfettered flow of freight. Curfews at delivery precincts imposed for amenity reasons were removed or relaxed so that freight could be delivered at more flexible times (NHVR, March 2020). During Easter 2020 New South Wales, Western Australia and Queensland suspended curfews on over-sized, over-mass vehicles. Parking was made easier by

⁶ Noting, however, that fewer staff were permitted in warehouse and distribution centers in order to meet square meterage rules.

⁷ The documentation changed over the course of the pandemic but included photo identification, a letter from an employer stating the nature of the task, close contact lists, ‘covid safe’ plans established by the employer and approved at the state level, specific forms for entry into vulnerable indigenous communities (e.g. Entry into Designated Bio Security Areas form in WA)

amendments that permitted truck drivers engaged in the delivery of food or personal hygiene products to pass a ‘no trucks’ sign to deliver at any time of the day. Loading zone restrictions were also eased.

An exemption was issued so that roadhouses and service stations were able to remain open and serve drivers while other food outlets were forced to close (Department of Infrastructure, Transport, Regional Development and Communications, April 2020). This was important in maintaining driver health and wellbeing.

Some financial concessions were introduced to incentivise operators to keep working through the challenging environment. The Transport and Infrastructure Council⁸ froze heavy vehicle charges at their current levels for the year 1 July 2020 to 30 June 2021, saving businesses \$132.8 million in 2020-21 compared to 2019-20 (ATA, 2020). Direct financial assistance was also available to smaller road freight operators who could prove loss of greater than 30% of their earnings.

The NHVR introduced a raft of administrative concessions to support the industry. Drivers operating under the concessional fatigue schemes were permitted to delay the medical assessments ordinarily required under fatigue accreditation until it was practical to obtain them. This benefited about 7000 operators enrolled in the National Heavy Vehicle Accreditation Scheme. The NHVR also suspended face-to-face audits for the purposes of accreditation compliance and pushed out supplementary record concessions for drivers who lost, completed or destroyed their National Work Diaries from 7 days to 30.

More substantive measures, such as enhanced flexibility in hours of work and rest while the pandemic persisted, were not possible because the Heavy Vehicle National Law does not provide the Regulator this power.

1.2. Containment

Oppositional to movement was a policy drive towards containment which revealed itself in restrictions on driver movements during personal, non-work time; rapidly changing and sometimes contradictory compliance directions; workplace space limitations and coronavirus testing requirements that – at times – were virtually impossible to comply with. Interestingly, the federal instrument (The Protocol) swung more towards the ‘movement’ pole while the state and territory directions were stronger on ‘containment’.

Several states and territories introduced restrictions designed to limit contact between drivers and the communities through which they travelled. Between the 20th and 26th March 2020 all states and territories except Victoria and New South Wales introduced ‘hard borders’ with restrictions on cross-border movement. In March 2020 Tasmania and the Northern Territory introduced rules requiring that freight and logistics personnel must sleep in a single room and not reside in a shared room or dormitory style accommodation. The truck cabin was an acceptable ‘accommodation’. Most other states and territories applied the same measures.

⁸ The Transport Infrastructure Council comprises transport, infrastructure and planning ministers from the Commonwealth, states and territories, and the Australian Local Government Association. It is now known as the Infrastructure and Transport Ministers’ Meetings or ITMM.

Truck drivers' interactions with the local community were restricted to the purchase of food and fuel and emergency medical care. The exemption that permitted roadhouses and service stations to remain open to drivers only permitted drivers to remain in the facilities for a period of up to one hour.

Tasmania and the Northern Territory were also the first jurisdictions to require freight and logistics workers to complete forms when crossing borders (introduced in March 2020). Queensland and Western Australia followed a few days later. These forms were, and remained, unique to each state and territory. Despite the National Protocol commitment to standardized border controls this was not achieved at any point during the pandemic. Nor was mutual recognition of forms across borders introduced. A driver moving through various states and territories was therefore required to comply with the permitting system in effect in *each* state and territory, even as the conditions under which they began a journey changed enroute.

4. The industry response

*"It is just chaos here at the borders – it's a debacle." – Cam Dumesney, CEO
Western Roads Federation, (Graham, November 2021)*

For regulated parties to comply with any given rule, they must be given a clear and unambiguous picture of what compliance looks like. This precondition is hard to meet in a rapidly changing environment with divergent compliance regimes in each state and territory and the generally lowered capacity for concentration and comprehension that comes with stress and anxiety.

The most reliable source of information for the freight industry were the 'directions' or 'orders' released by states and territories to govern freight movement. There were three compliance challenges associated with the directions. The first was that they would typically be published just hours before they took effect and usually took effect at midnight, leaving operators little time to read and digest complicated rules.

Secondly, the orders were often hurriedly drafted as governments scrambled to stay ahead of the virus. The result was orders that lacked essential information, were equivocal on what operators were supposed to do or were downright incoherent. For example, a Northern Territory direction introduced at midnight on 17th July 2020 imposed mandatory quarantine on a person who was in a covid-19 hotspot during the 14 days prior to entering the Territory. The only exception was if "the person provides services for the transport or freight of **essential, critical or urgent items** into, within or out of the Territory" (s. 28, author emphasis).

No advice or definition was provided as to what constituted "essential, critical or urgent items" leaving operators to take their best guess as to whether what they were carting would satisfy the condition. If an enforcement officer judged that the goods did not meet the "essential, critical or urgent" criteria, the vehicle would be turned around at the border. To the industry's profound relief, the Australian government eventually opted not to attempt to distinguish between essential and non essential freight.

On the 10th May 2020 South Australia updated its cross border travel directions to require freight and logistics personnel to maintain records of persons with whom they came into ‘close contact’ during their trip. It explained being in an ‘enclosed space’ with another person for two hours or longer created a ‘close contact’ situation. However, ‘enclosed space’ in terms of metreage per person was not defined in the direction.

Simple drafting errors could render directions impossible to comply with. In April 2020 drivers crossing the border into Western Australian were instructed to drive by the most direct route to a specified address where they were to remain quarantined for 14 days. These “centre direction[s] must be given unless a person falls into an *exception*”. [Author emphasis]. The directions in place⁹ referred not to “exceptions” but “exemptions”, including for persons involved in transport, freight and logistics. Because of this drafting error, drivers were being directed into quarantine. Non compliance was punishable by imprisonment for up to 12 months or a fine of up to \$50,000 for an individual. The error remained for 8 days until it was corrected.

Ben Maguire, at the time the CEO of the Australian Trucking Association (ATA), expressed his frustration with the lack of clarity in a New South Wales order issued in July 2020:

“The NSW Government announced overnight that freight workers crossing the border from Victoria should have a COVID-19 test every seven days. The first paragraph of the NSW Government announcement says it is announcing ‘new requirements,’” he said. “Paragraph four says that enforcement has not commenced, and that it’s just a recommendation. The paragraph then reverses course and, at the end, says it’s a requirement. Is it a recommendation or a requirement? It’s completely unclear, and we need clarity most of all in these uncertain times.” (ATA, July 2020)

The third challenge arose because the rules for covid management in the supply chain were super-imposed on the existing heavy vehicle regulatory framework, they did not replace it. The super-imposed rules were issued by different authorities and sometimes competed to regulate the same space – orders issued by WorkSafe and orders issued by transport authorities is a good example. This created inevitable conflicts and inconsistencies and created compliance headaches for industry in an already difficult environment.

For example, at one point Western Australia required that persons entering the state by road that had been in New South Wales or Victoria at any time in the 14 days before entry into WA had to be tested. WA only permitted testing at designated public hospitals. But placarded vehicles transporting explosives are subject to restrictions about where they may travel. Nor are drivers permitted to leave some Dangerous Goods loads unattended so they could not simply ‘park’ the load and drive the prime mover to the hospital to be tested.^{10 11}

⁹ See Emergency Management Act 2005 (WA), Sections 61, 67, 70 and 72A Quarantine (Closing the Border) Directions in place at the time.

¹⁰ Workplace Relations Ministers’ Council, *Australian Code for the transport of explosives by road and rail*, third edition, 2009, 8.3.11(3)

¹¹ Western Australia was not the only jurisdiction to experience conflicts between dangerous goods rules and Covid rules. In March 2020 there were reports of placarded vehicles entering Queensland being directed into tunnels to comply with the cross-border designated routes.

Achieving compliance in these circumstances is difficult. The operator could switch the operation to a ‘two-up’ task so that one driver could take the prime mover to the hospital for testing while the other stayed with the trailer. But this relies on access to additional workers at a time when long-standing labour shortages were afflicting the industry. Further, it requires the operator to be able to pass on rate increases to customers at short notice outside the contract review period. This is not always possible.

The sheer geographical scale of the state of Western Australia meant that a driver could be required to be tested several times as s/he completed the transport task. As reported in *Big Rigs* on 24 November 2021 (Graham, 2023), truck drivers were being turned around at Kununurra in the state’s north and ordered to drive up to 500kms in the opposite direction for PCR tests at the designated public hospital in Katharine. If the driver was carting perishable food items, this could compromise the quality of the produce and exacerbate scarcity.

The nature of the road freight industry is that it is overwhelmingly comprised of small owner operators that control one to five vehicles. Owners are often operators who drive as well as run the business. They do not have extensive administrative or legal resources to read and advise on government directions. Technically, time spent reviewing and implementing directions is ‘work in relation to a heavy vehicle’, hence it counts as ‘work’ time under the Heavy Vehicle National Law and the Western Australian regime. An owner/driver crossing state borders could burn through large chunks of their available hours doing nothing but reading and responding to government directions.

Sometimes operators faced very difficult choices about risk and compliance. Orders restricting the number of people that could occupy a space at any one time meant that consignors and consignees restricted drivers’ access to onsite amenities such as toilets, shade and tea-rooms. This could impact a driver’s access to the restorative rest that mitigates against impairment by fatigue.

In a fast moving, constantly evolving crisis the kinds of errors, misinterpretations and inconsistencies outlined above are inevitable. But in such an environment industry must have access to a single repository of truth empowered to resolve and advise on problems so that industry can remain safe and compliant. Unfortunately for truck drivers and operators the National Protocol was unenforceable and there was no body or tribunal they could appeal to for definitive answers about what constituted compliance in an environment of clashing rules. Each state and territory was left to resolve these tensions in their own fashion.

Victoria stands out as an exemplar of good practice in accountability for resolving issues and problems. Freight Victoria held online meetings with industry every 2-3 days during the peak of the pandemic. This provided industry with the opportunity to share feedback on the workability of the various orders and identify discrepancies between government mandates. Freight Victoria then undertook to resolve the issues. In other states and territories operators and drivers relied on advice from industry peak bodies, their own interpretations of directions and orders or guidance from others in the industry. A national emergency management approach rather than the fragmented inconsistency of the current federated system might better serve industry when the next crisis emerges.

5. Road safety and the truck driver experience

The first immediately identifiable impact of the pandemic on road safety is the reduction in road fatalities. As illustrated by figure 2 below, 2020 saw the lowest incidence of on-road fatalities in Australia since 2012 (BITRE, 2021).

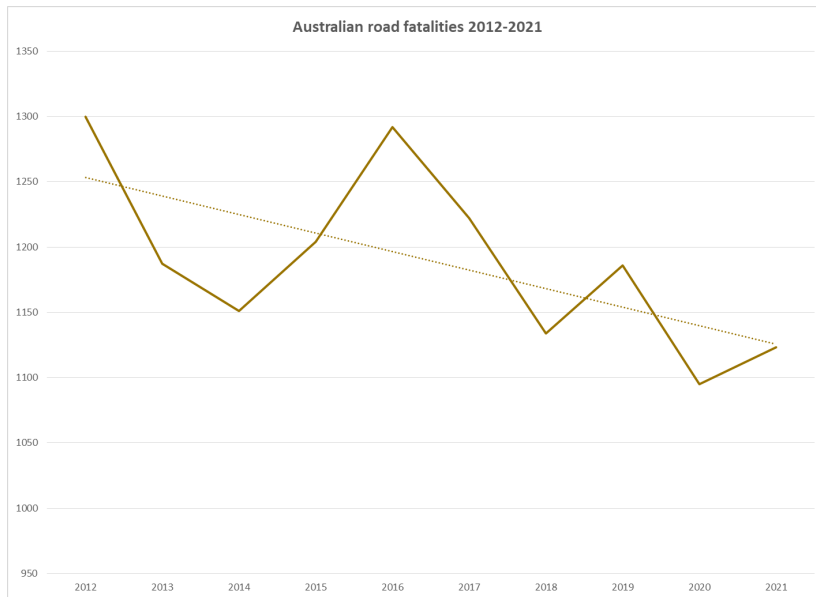


Figure 2: Australian road fatalities 2012-2021

This reduction reflects stay at home orders across the country which confined people to their households and restricted movements within a small, local radius. Put simply, fewer kilometers travelled resulted in lower exposure to risk and a reduction in the road toll. For the same reason, on-road injuries also fell dramatically (Australian Institute of Health and Welfare, 2022). The freight task volume did not radically change during the pandemic.

A deeper look at the fatalities data shows that the reduction in road fatalities is not commensurate with the reduction in kilometers travelled. Using fuel sales as a proxy for kilometers travelled, Jones showed that while petrol sales in Australia fell by 21.4% over the March to July 2020 period compared to the same period in 2017, the road toll fell by only 10% (Jones, 2022). March to July 2020 is broadly equivalent to the national lockdown (Storen and Corrigan, 2020).

Jones posits four theories explaining why the road toll did not fall proportionate with the reduction in kilometers travelled: greater driver inattention/distraction, increase in vehicle as workplace, increase in vulnerable road users, and proportionately more risk-takers on the road.

These theories are not mutually exclusive and may be operating in tandem with one another. The following section expands on the road safety implications specifically as they apply to truck drivers.

5.1 The impact on truck drivers

Truck driver on-road fatalities fell from 7 in 2018 to 3 in 2019, 2 in 2020 and 3 in 2021. The toll began rising again in 2022 as Australia emerged from the pandemic, resulting in 5 truck driver deaths. (BITRE, February 2023). This suggests that, in terms of threat to life, truck drivers were direct beneficiaries of reduced traffic on the road.

Jones posits that the generalised anxiety experienced during the national lockdown created a cognitive deficit that led to driver distraction and increased on-road incidents. This general motorist trend appears to be replicated among truck drivers. The NTI's large loss data suggests that despite the lower volume of traffic during the pandemic truck drivers made more errors as a result of distraction and inattention than prior to the pandemic. (See figure 3 below, NTI 2022).

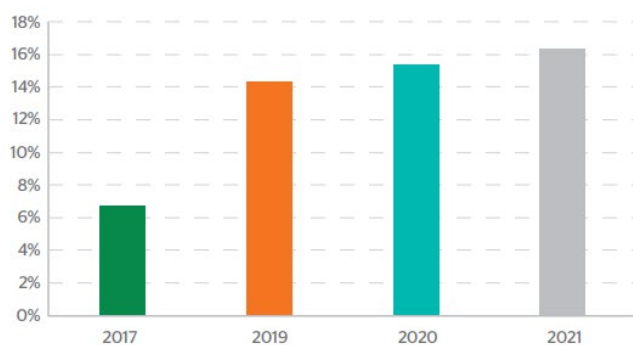


Figure 3: Proportion of incidents due to inattention/distraction per year

Part of this increase may reflect increased uptake of in-vehicle distraction detection technology rather than an empirical increase in distraction events. However, it is reasonable to infer that the generalized pandemic-related anxiety coupled with the industry-specific compliance anxieties outlined above would result in increased inattention/distraction.

In addition to the cross-border complexities explored by this paper truck drivers faced rapid change and a raft of personal and professional challenges which cannot be fully explored in this paper. These included exposure to important but invasive covid tests (one driver reported being tested 70 times during the course of his work), restricted access to suitable areas of rest and even bathrooms, the introduction of new contactless technologies, pressures at port infrastructure as container space became increasingly limited and exposure to new and potentially unsafe on-road conditions resulting from an influx of inexperienced delivery drivers, cyclists and motorbike riders and risk-celebrating 'online challenges'.

Intriguingly, the NTI's data suggests that the proportion of fatal truck/car crashes in which trucks were at fault *increased* during the pandemic. (See figure 4 below, NTI 2022).

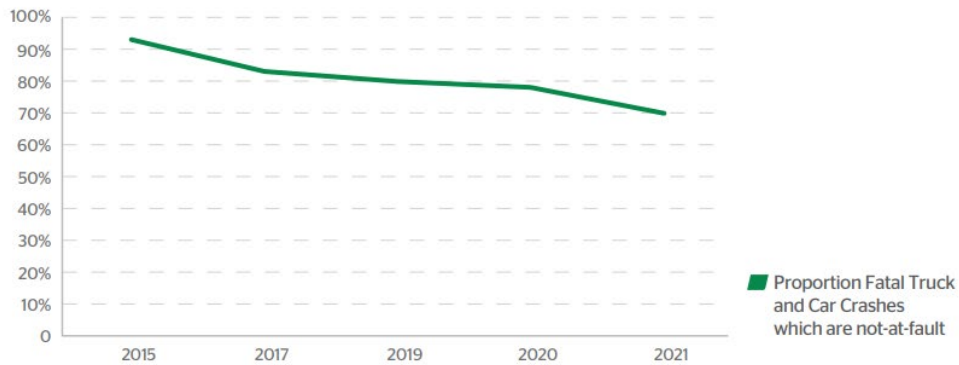


Figure 4: Proportion of fatal truck and car crashes which are not-at-fault

Research into why this might be is embryonic and definitive answers are not yet possible. It could be as simple as a greater proportion of trucks relative to general traffic. It may also reflect a shift away from delivery into CBD areas with which drivers were familiar to more residential addresses as online shopping and working from home increased (Infrastructure Australia, 2020). Unfamiliarity may have played a role in increased truck driver error.

6. Conclusion

Australia's reliance on road freight was heightened during the pandemic due to changes in consumption and distribution models, panic-buying and weather events that damaged alternative transport modes.

Projections suggest that road freight will increase exponentially over the coming decades (Department of Infrastructure, Transport, Regional Development, Communications and the Arts, 2022). This makes it even more vital that governments respond efficiently and proportionately to enable the supply chain under crisis conditions. In its recent report on supply chain resilience BITRE notes that:

"While there are many examples of government and industry responding effectively to blockages in the road and rail supply chain network as a result of various hazards...there is currently no single avenue that focuses on supply chain resilience gaps and solutions to address issues. Similarly, while various existing initiatives focus on aspects of the freight network, there is no analysis or visibility of where common or unique issues may be nationally". BITRE, 2023

The authors endorse BITRE's assessment.

7. Acknowledgements

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