Australasian Railway Association

Submission

Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts (DITRDCSA)

Triple Zero Legislative and Regulatory Review

30 June 2026

ABN: 64 217 302 489

Australasian Railway Association

The ARA

The Australasian Railway Association (ARA) is the peak body for the rail sector in Australia and New Zealand, and advocates for more than 230 member organisations across the industry.

Our membership covers every aspect of the rail industry, including the:

- passenger and freight operators that keep essential rail services moving;
- track owners, managers, and contractors that deliver a safe and efficient rail infrastructure network; and
- suppliers, manufacturers, and consultants that drive innovation, productivity, and efficiency in the rail industry.

Our members are driven to support vibrant, sustainable and connected communities through greater use of rail across Australia and New Zealand. We bring together industry and government to help achieve this ambition.

Our advocacy is informed by an extensive research program to ensure we offer solutions that are grounded in evidence and focused on delivering tangible value in our daily lives.

The rail industry has a crucial role to play in the region's sustainable development and growth and offers meaningful and rewarding careers for tens of thousands of people in the regions.

Our significant program of work is focused on supporting a strong advocacy agenda, and creating opportunities for the rail industry to network, collaborate and share information, and maximise the benefits we have to offer the wider community.

The ARA thanks the Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCSA) for the opportunity to make this submission, which has been developed in consultation with ARA member organisations. Any questions regarding this submission should be directed to [redacted], Policy Manager via[redacted]

Australia's Rail Industry

Rail is a significant industry in Australia, creating economic activity through its operations and capital investments. It is an industry with activities across every major metropolitan and regional area and is supported by the full spectrum of skills in the Australian workforce.

In 2024, the rail industry contributed around $39 billion to the Australian economy and employed more than 196,000 workers (directly and indirectly in full-time equivalent terms, FTE). There is currently $162 billion of investment in rail civil construction and maintenance projects forecast over the next 10 years.

Response

The ARA welcomes the opportunity to provide the following information to the DITRDCSA consultation – Triple Zero Legislative and Regulatory Review.

With regards to specific feedback on the questions asked in the consultation paper:

Question 1: What principles should guide Triple Zero service regulation in the contemporary telecommunications environment? How should these be reflected in the legislative and regulatory framework?

The ARA suggests the following additional principles should be included:

- Specialist private mobile networks used for the safe operation of transport and other critical infrastructure **MUST** be exempt from carrying public "camp-on" Triple Zero calls where:
  - the network is not supplied for general public telecommunications use;
  - the network is engineered and dimensioned for forecast operational or safety-critical communications demand; and
  - compliance would materially reduce the capacity, availability or integrity of operational communications.
- Private networks **MUST** provide application-specific emergency call functionality appropriate to their operational environment (e.g. a rail emergency call)
- Manufacturers **MUST** support and update devices supplied in Australia for a specified period where defects affecting Triple Zero or emergency call handling are identified.
- The possession of a carrier licence solely for the purpose of obtaining telecommunications numbering resources and Mobile Network Codes **MUST NOT** result in a transport authority being treated as a public mobile network operator for the purposes of emergency call service obligations.

Context:

The railway industry increasingly relies on private mobile networks to support safety-critical operational communications. These networks are engineered to support train operations, including driver-to-signaller communications, operational control, incident response, worker protection and other railway safety functions. Unlike public mobile networks, they are not designed, marketed or dimensioned to provide telecommunications services to the public.

The impact of applying public emergency telecommunications obligations to specialist railway networks was demonstrated during the nationwide Optus outage on 8 November 2023. During the outage, GSM-R based Digital Train Radio System (DTRS) networks operating in both Melbourne and Sydney experienced increased signalling activity caused by consumer mobile devices attempting to camp-on to these private railway networks.

This behaviour highlights a key risk associated with emergency roaming and emergency call obligations: Railway networks are dimensioned based on railway operational demand and are not engineered to accommodate large numbers of public mobile devices seeking service during a major carrier outage. A widespread public telecommunications failure could therefore introduce congestion and consume finite radio and signalling resources required for railway operational communications. During abnormal operating conditions or other periods of elevated operational demand, this additional traffic has the potential to reduce the availability or timeliness of safety-critical communications, including train driver-to-controller emergency calls and other operational emergency communications. This could significantly impair the railway's ability to safely manage train operations and respond to incidents, increasing risk to passengers, railway staff and the broader public.

The issue is further complicated by technology limitations. GSM-R networks are based on legacy GSM technology that was developed for railway operational purposes. Many contemporary consumer devices have reduced support for legacy GSM capabilities, and railway operators cannot guarantee that all devices capable of attaching to a GSM-R network will be capable of successfully establishing and maintaining an emergency call. As a result, attachment to the network does not necessarily equate to reliable access to emergency services.

Further, the licencing regime creates several additional challenges for private network operators. Both VicTrack and Sydney Trains hold carrier licences under the *Telecommunications Act 1997*. These licences were obtained primarily to enable access to Mobile Network Codes (MNCs) and mobile number allocations necessary for railway operational communications and interoperability. Rail carrier licences are not used for the purpose of providing telecommunications services to the public.

Other Australian rail operators that do not hold carrier licences have historically had trouble obtaining access to MNCs and mobile numbering resources. These operators include the Public Transport Authority of Western Australia, Queensland Rail and the Department for Infrastructure and Transport in South Australia. [1]

The current framework therefore creates an unintended outcome whereby railway operators may be required to obtain carrier licences solely to access numbering resources, while simultaneously becoming subject to obligations that were originally developed for public telecommunications networks and which may be inappropriate for specialist safety-critical operational networks.

Proposed changes to legislative and regulatory framework

The ARA proposes that a statutory exemption be introduced for transport authorities and other operators of safety-critical private mobile networks from obligations to provide public emergency call services under the *Telecommunications (Emergency Call Service) Determination 2019*.

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1. This issue has previously been raised by the Australasian Railway Association (ARA) with the ACMA and subsequently referred to the Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts for further consideration.

The *Telecommunications Act 1997* already recognises, through the transport authority exemptions in sections 47 and 92, that certain telecommunications networks operated by transport authorities serve specialised operational purposes and should not necessarily be regulated in the same manner as public telecommunications networks. The ARA proposes that the same underlying policy principle be extended to obligations under the *Telecommunications (Emergency Call Service) Determination 2019*

The objective is not to avoid supporting access to Triple Zero services. Rather, it is to ensure that public emergency call obligations are imposed only on networks that are engineered, dimensioned and technologically capable of providing reliable public emergency communications.

Specialist railway communications networks are designed to support the safe operation of the railway and are dimensioned accordingly. Imposing public emergency call obligations on such networks may create significant operational and safety risks, while not necessarily improving access to emergency services for members of the public. The regulatory framework should therefore recognise the distinct purpose and technical characteristics of safety-critical operational networks and provide an appropriate exemption where public emergency call obligations cannot be delivered safely, reliably or effectively.

Question 2: Are there any barriers in the current legislative and regulatory framework blocking access to the benefits of new delivery technologies which could be used to contact Triple Zero? If so, what aspects of the legislative and regulatory framework need to be amended to increase flexibility?

As communication technologies continue to evolve within the rail operational environment, including the planned migration from Global System for Mobile Communications – Railway (GSM-R) to next-generation 5G mission-critical communications technologies, we believe that the current legislative and regulatory framework, while effective in supporting access to Triple Zero across public telecommunications networks, does not sufficiently distinguish between public networks and closed, private operational networks.

This creates a potential barrier to appropriately incorporating new delivery technologies and introduces unintended risks when the framework is applied uniformly across fundamentally different network types.

The consultation recognises that the framework must evolve to accommodate new and emerging access technologies, while balancing innovation with system reliability and integrity. However, the current framework lacks the necessary flexibility to appropriately exclude certain classes of networks or carriage services where inclusion would be unsuitable or unsafe.

As outlined in our response to Question One, several ARA members hold carrier licences to operate a Digital Train Radio System (DTRS), a closed, private communications network that is purpose-built to support the safe and efficient operation of the rail network. While the networks have the technical capability to support Triple Zero calls, they are not designed, nor intended, to operate as part of the public Emergency Call Service ecosystem.

In this context, particularly as rail communications transition toward a more advanced and integrated 5G mission-critical communications environment, the application of current Triple Zero obligations can act as a barrier to the safe and appropriate integration of new technologies.

To address these barriers and improve flexibility, ARA members recommend that the legislative and regulatory framework be amended to explicitly exclude specific networks or carriage services, such as closed, private operational networks, where inclusion would:

- Compromise safety-critical operations, or
- Undermine the integrity of either the network or the Triple Zero service itself.

Such exclusions should be clearly defined within the legislative and regulatory framework.

Question 3: How should the legislative and regulatory framework balance multi-modal access to Triple Zero, when compared to reliability and redundancy?

ARA members believe the legislative and regulatory framework should balance multi-modal access to Triple Zero with reliability and redundancy through a risk-based and context-aware approach, recognising the fundamental differences between public telecommunications networks and closed, private operational networks.

The consultation acknowledges the need to balance multi-modal access with reliability and redundancy in the evolving telecommunications environment. ARA members support the continued expansion of multi-modal access pathways (including mobile, IP-based services, satellite, and emerging device-based technologies), provided that such expansion does not compromise the integrity of the overall Emergency Call Service.

However, ARA members noted that this balance cannot be effectively achieved without explicitly excluding certain categories of networks from the framework where their inclusion would introduce unacceptable risks.

ARA members believe that the framework should exempt closed, private operational networks, such as rail communications networks, from obligations designed for public telecommunications environments. These networks are engineered for mission-critical operational purposes, with strict performance, availability, and prioritisation requirements that are fundamentally different from public network design.

ARA members operate dedicated rail communications networks that support the safe operation of the rail system. Within this environment:

- Communication systems are tightly controlled and optimised for operational safety and incident response,
- Network capacity and access are carefully managed, and
- The highest priority is assigned to railway operational and emergency communications.

Mandating multi-modal access to Triple Zero within such environments, particularly where it introduces requirements such as priority handling or external access mechanisms, would create conflicting system priorities and operational risks.

ARA members therefore consider that an appropriate balance between multi-modal access, reliability, and redundancy can be achieved by exempting private, closed operational networks (such as rail communications networks) from the Triple Zero regulatory framework where their inclusion would:

- Compromise safety-critical operations, or
- Undermine the integrity of either the network or the Triple Zero service itself

This approach ensures that

- Multi-modal access to Triple Zero continues to expand across appropriate public and consumer-facing platforms, while
- Critical infrastructure networks remain protected from obligations that are not aligned with their design or purpose

Question 4: Should the legislative and regulatory framework allow for the ACMA, and/or the Minister, to determine which class of devices or technologies should or should not be able to reach Triple Zero, in order to safeguard the integrity of access for the system?

The ARA supports the legislative and regulatory framework as described, however the ARA would not want to see classes of devices that have no reason to make a triple-zero call – be required to support triple-zero calls or be blocked. Examples of such devices include train cab radios and train control data-only radios.

The ARA suggests that the rail industry, RMR standards bodies, and device manufacturers be consulted should any rail specific class of devices be considered under such a framework.

The reliability of emergency calling is dependent not only on network capability, but also on the ability of end-user devices to correctly identify, access and utilise available telecommunications networks to establish a call to Triple Zero. Device manufacturers therefore have an important role in ensuring that consumer devices can reliably access emergency services.

Any additional requirements imposed on device manufacturers should focus on devices supplied for use on public telecommunications networks and should require manufacturers to demonstrate that devices can reliably access Triple Zero services on Australian public mobile networks under foreseeable operating conditions. Device requirements should not require consumer devices to attempt to access private operational networks that do not support Triple Zero services.

However, the ARA considers it important that any such requirements do not unintentionally apply to specialist operational devices used on private mobile networks supporting critical infrastructure operations.

The railway industry utilises specialised communications technologies and devices, including GSM-R and, in future, FRMCS-based equipment, which are designed and certified for railway operational and safety purposes rather than public telecommunications use. These devices are typically procured for use within controlled operational environments and are not intended to access public mobile networks or provide public telecommunications services.

Applying public emergency calling requirements to such devices could impose unnecessary compliance costs and technical constraints without delivering any corresponding public safety benefit. For example, requiring railway operational terminals to implement public emergency calling functionality may necessitate software modifications, interoperability testing and additional safety assurance to demonstrate continued compliance with railway certification requirements, despite the devices being intended solely for operation on private railway networks. It may also create unnecessary divergence from internationally standardised railway communications implementations, increasing procurement costs and reducing interoperability.

Accordingly, any new legislative or regulatory requirements relating to device manufacturers should include a clear exemption for specialist devices that:

- are not supplied for general public use;
- are intended solely or primarily for use on private operational communications networks;
- support critical infrastructure, transport, utility, defence, emergency management or similar operational functions; and
- are not intended to provide access to public telecommunications services.

This approach would strengthen the reliability of Triple Zero access for consumer telecommunications users while ensuring that specialised operational communications systems continue to be regulated in a manner appropriate to their intended purpose and risk profile.

The ARA also notes that future railway communications systems are expected to transition from GSM-R to the FRMCS, which is being developed using 5G-based technologies. As communications technologies continue to converge, it will become increasingly important that any regulatory distinction is based on the intended purpose and operational context of a device, rather than the underlying technology platform used to implement it.

A technology-specific exemption may become ineffective over time as critical infrastructure sectors adopt newer communications technologies that are also used within public telecommunications networks. For example, future FRMCS devices may utilise technologies derived from 5G standards but will remain specialised operational devices designed for railway safety and operational communications rather than public telecommunications services.

The ARA therefore recommends that any exemptions be based on the function and intended use of the device and network. This would ensure that specialist operational communications systems supporting rail transport and other

critical infrastructure remain appropriately excluded from consumer-focused Triple Zero requirements, while allowing the regulatory framework to remain technology-neutral and adaptable to future communications technologies.

These issues are of high importance to the rail sector and no changes to the standards or regulations around the devices used on specialist operational networks should be made without further reference to the ARA and its members.

Question 5: Should mobile device manufacturers be considered more centrally in the Triple Zero legislative and regulatory framework (such as under the ECS Determination)? What, if any, additional requirements should apply to mobile device manufacturers to ensure mobile devices can reliably contact Triple Zero on Australian networks?

No response.

Please see response to Question 4 above and ensure the ARA and rail industry manufacturers are included on any future consultation on this matter.

Question 6: What outcomes should carriers, CSPs and ECPs be accountable for in delivering Triple Zero calls, and what minimum requirements are needed to achieve those outcomes?

No response.

Question 7: How could the framework be amended to further provide obligations to support the proactive identification and rectification of systemic issues? What mechanisms (for example incident learnings, mandatory improvement plans, directions, audits) are most effective, and why?

No response.

Question 8: Should new and ongoing performance reporting for carriers and/or CSPs providing access to Triple Zero be introduced? If yes, what metrics should be reported and how often?

No response.

Question 9: What information is and should be shared across industry and/or ESOs to support the proactive, reliable and future-proof delivery of Triple Zero. What governance arrangements are needed to enable timely, secure and usable information sharing?

No response.

Question 10: Does the objective of the single national emergency call system encourage, or hinder, the ability for state and territory organisations to innovate in their delivery of emergency calling and dispatch services?

No response.

Question 11: Is there information that carriers, CSPs, and ECPs hold which is not currently, but should be made available to ESOs through regulation to support the delivery of emergency services?

The ARA supports appropriate information sharing between telecommunications providers, emergency services organisations and critical infrastructure operators during major telecommunications outages where this assists operational decision-making and emergency response. Any such arrangements should be proportionate, secure and aligned with operational requirements.

Question 12: Are there any additional regulatory powers and mechanisms the ACMA requires to regulate Triple Zero, especially to support a framework which is proactive and future-focused?

No response.

Question 13: Are there barriers to the ACMA considering systemic Triple Zero issues, or linking related infringements, to ensure issues indicating broader problems are addressed appropriately? If yes, what should change?

No response.

Question 14: Do recent changes to the TCPSS Act effectively balance the role of the ACMA as the regulator with the role of the Custodian as an entity which oversees the Triple Zero ecosystem as a whole?

No response.

Question 15: Does the Triple Zero Custodian have all the powers needed to fulfil its functions under the TCPSS Act?

No response.