

NSW Government Submission

Expiring spectrum licences – stage 4

February 2026

Introduction

This NSW Government submission has been prepared jointly by the NSW Telco Authority (NSWTA) and Transport for NSW (TfNSW). The NSW Government appreciates the opportunity provided by the Australian Communications and Media Authority (ACMA) to comment on:

- Expiring spectrum licences (ESL), stage 4: Preferred views on ESL frequency bands and licensing arrangements, and response
- Expiring spectrum licences, stage 4: Proposed application and decision-making process
- Expiring spectrum licences, stage 4: Updated preliminary views of pricing

Our submission primarily relates to ACMA's preferred position on the 1800 MHz spectrum currently allocated to rail safety and communications, including the proposed transition from spectrum to apparatus licences, and opportunities for the expanded use of the band.

In parallel, TfNSW has also contributed to the Australasian Railway Association's (ARA) submission to support national rail interoperability objectives and offers responses to two of the consultation questions at the end of this submission.

The NSW Government shares the views of the Victorian Government, that ACMA should engage more proactively with state and territory governments regarding their spectrum needs and to support state and territory investments, which are publicly funded and should be considered separately to private, commercial investments.

1800 MHz spectrum

Reliable rail safety communications are essential to protecting lives and ensuring the safe, efficient operation of rail networks. Any change to rail-allocated spectrum must therefore guarantee that these critical communications remain uninterrupted and fit for purpose, as any degradation would introduce significant public safety risks.

The NSW Government welcomes ACMA's recognition of the importance that reliable wireless communications play in maintaining safe and efficient rail operations in the short to medium term, and the move to lower pricing for the 1800 MHz spectrum for rail if provided via an apparatus license.

However, it is likely that Sydney Trains will require use of 1800 MHz spectrum for rail safety communications for at least of 15 years beyond 2028. Until this occurs, we believe that there is strong public interest in retaining ongoing use of both 1800 MHz and 1900 MHz to deploy new generation of networks, to operate parallel networks for reliability and redundancy and to support high bandwidth future rail applications. Such an undertaking will likely exceed the timeframes proposed by ACMA.

While ACMA has advised that it will provide further practical detail of the transition to apparatus licences, there are some key areas that the NSW Government would like to be addressed:

- Will ACMA issue area wide apparatus licences to ensure safe and efficient rail communications or will individual apparatus licences be required? The latter will impact work being undertaken to upgrade rail communication systems from Digital Train Radio Systems (DTRS) to Future Rail Mobile Communication System (FRMCS), particularly if new licences are required where there is any change in the specification of the site. This will increase administrative burden to agencies.
- Although ACMA has not commented on the future of the band post any transition for rail spectrum licences to apparatus licences, will any unused capacity be reserved for ongoing government use? See more detail in NSW Government Purposes below.

- While ACMA has indicated that its preferred apparatus licensing solution is intended to only authorise the rail communication use case, will other use cases be considered?
- If other apparatus licensing use cases are granted, how will interference be managed? This is relevant given the existing geographical scope of the rail spectrum licence location e.g. metropolitan Sydney, Newcastle and Wollongong, areas where ACMA has traditionally avoided using apparatus licences for wireless broadband.
- Ensuring flexibility of apparatus licence duration given the uncertainty as to when standards and equipment aligned with upgraded systems in 1900 MHz will be available. For example, will it be possible to change the transmission characteristics of the apparatus licences from DTRS supporting 200 KHz to FRMCS supporting 15 MHz during the apparatus licence period?

Risks

Any reduction in the capacity or reliability of rail safety communications could endanger lives and lead to significant damage to property and infrastructure. Long-term, affordable access to the 1800 MHz rail allocation is critical to the safe and efficient operation of rail services, and to national objectives for interoperability, productivity and decarbonisation.

The ACMA needs to provide assurance to rail operators that allocation of 1800 MHz via apparatus licences will be available for as long as the spectrum is required, noting that an allocation of 10 MHz of 1900 MHz spectrum will not be sufficient for all rail safety communications requirements.

In addition, affordability is vital for publicly funded services and the ACMA will need to provide adequate time for state governments to apply through standard budget processes.

NSW Government purposes

The NSW Government proposes that broader government use be permitted in the 1800 MHz spectrum band for rail, where this will not increase any risks for rail safety operations. This could include additional transport modes and critical government communications. Within this broader context, rail communication will be guaranteed and prioritised but there could also be benefit to transport, public and community uses outside of rail operations such as:

- **Metro and light rail train control and communications**

Currently, Sydney Metro and light rails use Wi-Fi for train control and a TETRA network operating in the 400 MHz band for operational communications. As more TETRA-based networks transition to mission critical broadband systems, TfNSW anticipates that Sydney Metro and light rails may eventually need to migrate to 5G-based technology to support both train control and voice communication requirements operating on the 1800 MHz spectrum.

We note that there are plans to use 1800 MHz for a new Metro line between Sydney and Parramatta, which is due to be operational in 2032.

- **Radio communications to support intelligent transport systems**

TfNSW maintains approximately 14,660 intelligent transport system (ITS) assets that form the basis of active road network management across the state. Most of these assets are in metro regions. These assets are operated and managed remotely, connecting to centralised control centres through Mobile Network Operators (MNOs), NBN, wireless or satellite systems. TfNSW may be able to use the 1800 MHz to provide the radio communications to support some connections in challenging areas.

- **Resilient Internet of Things (IoT) for transport and public safety**

TfNSW deploys various sensors to support transport operations, including some that are used for safety-critical functions. These sensors currently rely on commercial mobile networks. However, utilising the 1800 MHz band may offer more resilient connectivity to meet operational requirements.

In addition, many devices used to support emergency operations use Wi-Fi to connect, such as cameras attached to emergency services organisation (ESO) equipment and uniforms, including body worn sensors to track the health of first responders. 1800 MHz could provide a more robust solution with much greater building penetration to ensure that ESO IoT devices remain connected, increasing safety for ESO personnel and improving their capacity to save lives and property.

- **Vehicle-as-a-node (VaaN)**

1800 MHz can provide significant benefits to VaaN solutions that are being used with ESO vehicles across NSW. Currently, VaaN solutions use Wi-Fi (2.4 GHz) because it is easily available. If 1800 MHz were made available for broader government use, this spectrum could provide significantly greater range and offer a more robust solution for public safety purposes, including allowing services to be propagated into buildings where first responders are operating.

- **Dedicated capacity**

With dedicated capacity available for public safety purposes, 1800 MHz could be extremely valuable for emergency scenarios where commercial networks are at capacity, such as during large concerts, sporting and major events. This could include boosting Public Safety Network signals indoors, in tunnels and stadiums so that ESOs can more effectively respond to emergency call outs. Support for cross-governmental use-cases mean that in the event of a rail disaster, ESOs could be well supported by the rail communication network.

- **Emergency Calling Blackspots**

There are existing blackspots for commercial networks within the area designated to the 1800 MHz rail spectrum. If this spectrum were made available for critical government communications, mobile assets could use the spectrum to provide extended coverage in emergency situations, or a fixed capability to provide coverage in repeat or high-risk areas that lack commercial coverage such as beaches without coverage and multiple drowning incidents, or national parks where people often become lost.

NSWTA is in discussions with TfNSW regarding other critical government communication uses of 1800 MHz outside of rail corridors, with the intent to increase efficient use of the band, and work towards multiple use cases, facilitating continued use for train safety systems, and expanding the efficient and effective utilisation across the larger licence area.

Taking an all-of-government approach to the provision of government services to the public facilitates innovation that a commercial telecommunications model is not designed to deliver; by allowing greater cross-agency synergies, providing emergency service in non-commercially viable areas, and building resilience into the most critical infrastructure by offering a redundant telecommunications network affiliated with state government assets.

Given the uncertainty around the implications of a transition to apparatus licences, it will be critical that there is early and sufficient consultation and engagement with rail and other government stakeholders to ensure the certainty, protection or performance required for critical rail safety communications.

This approach not only aligns with ACMA's plans to transition 1800 MHz licences to the apparatus licences, but also ACMA's public interest criteria and should continue to be provided at public interest pricing to achieve the greatest value for critical publicly funded services.

Expiring spectrum licences, stage 4: Proposed application and decision-making process

As to the proposed application and decision-making process, from a practical perspective, TfNSW has expressed that providing information regarding **planned** DTRS base station sites in the three-years post licence expiry date as part of the application process requirements, would be challenging as this work is in development. For current sites, this is unlikely to be problematic.

Expiring spectrum licences, stage 4: Updated preliminary views of pricing

NSW welcomes ACMA's updated preliminary views on pricing which will result in a lower price for the 1800 MHz spectrum for rail under an apparatus licence, should rail entities elect to transition to that arrangement.

However, if the 1800 MHz spectrum licence for rail is renewed, payment of the Spectrum Access Charge (SAC) will be due in full approximately five months after the renewal application is made. TfNSW anticipates there may be challenges in paying SAC as a lump sum in full prior to license issue based on ACMA's preferred pricing model and preferred license duration of eight years.

Regarding the pricing for spectrum more broadly, the NSW Government concurs with ACMA's position that spectrum is a public resource and that licensees should pay a fair price that appropriately reflects the value of the spectrum licences they hold but also reflects the significant public benefit that those licences help to deliver.

Notwithstanding this position, we refer to the GSMA Intelligence *Global Spectrum Pricing* report published in May 2025. The report concludes that spectrum pricing has a direct and measurable impact on connectivity outcomes. In particular, it finds that higher spectrum prices are associated with lower network coverage and reduced download speeds, which in turn can undermine broader public policy objectives, including digital inclusion, regional connectivity, and equitable access to essential services.

The NSW Government encourages ACMA to consider recent international regulatory developments, including the Office of Communication's decision in the United Kingdom to reduce annual licence fees, with reductions of up to 26 per cent for the 1800 MHz band. This decision reflects a deliberate policy choice to balance the recovery of fair value for public assets with the need to support sustained investment in network infrastructure and the delivery of wider public benefits.

TfNSW responses to relevant consultation questions

Q1. Do you foresee any practical reasons that would prevent you from providing information that is accurate as of a date closer to when the application is made? (For example, accurate as of 30 days prior to when the application is made.)

TfNSW can supply current site information without issue, but future sites are a different matter. TfNSW will not be in a position to commit to exact future base-station locations by June 2028. At that point future site selection will not yet be locked down.

Furthermore, Sydney Trains may deploy new sites or modify existing site configurations in response to operational needs that arise and are not planned well in advance. Such changes are expected to be minimal within the three-year period.

Q4. Do you foresee any practical issues that would prevent you from paying the spectrum access charge in full in the proposed timeframes?

As raised in previous consultations, TfNSW anticipates that there may be challenges in paying the spectrum access charge in full within the proposed timeframes. As a state government entity, TfNSW can only access the necessary funds through budgetary processes, which may not align with the required timeframes.