CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Attention:

Independent Communications Authority of South Africa

Mr Davis Kgosimolao Moshweunyane

Email: dmoshweunyane@icasa.org.za

And

Mr Manyaapelo Richard Makgotlho

e-mail: rmakgotlho@icasa.org.za

Delivered by email

Response to the invitation to comment on the "Draft National Radio Frequency Plan 2025"

Submitted by:	Information Systems & Technology Directorate Corporate Services City of Cape Town
Date:	8 April 2025
Prepared by:	Andre Stelzner, Chief Digital Officer

Respond to:	Andre Stelzner
Email:	AndreMartin.Stelzner@capetown.gov.za

Response to the invitation to comment on the Draft National Radio Frequency Plan 2025

Introduction

The City of Cape Town provides the following commentary and suggestions regarding the "Draft National Radio Frequency Plan 2025" to enhance the document by addressing certain shortcomings and omissions.

The City's feedback focuses on allocating mobile broadband spectrum for public protection and disaster response (PPDR), as this has direct and indirect implications for the municipality's operations, service delivery, and management functions.

Public Protection and Disaster Response (PPDR)

Municipalities and provincial governments are crucial for providing safety and security services, managing disasters, and overseeing traffic and transportation at the local level. Category A municipalities, such as the City of Cape Town, have been delegated disaster management responsibilities from the provincial government.

Fulfilment of these responsibilities requires using dedicated communications technologies which must be secure and resilient in the event of disasters and catastrophes that would otherwise affect them. Reliable communications when such events occur are needed to respond to such events.

Reliable and secure communications depend on radio spectrum specifically dedicated to this purpose. This allows communication services to remain available even when commercial services are overloaded or compromised due to security incidents or disasters.

ICASA should allocate specific portions of the spectrum for use by municipalities to support Public Protection and Disaster Relief (PPDR) communications. This allocation aligns with the guidelines set by the International Telecommunication Union (ITU) for International Mobile Telecommunications, as well as South Africa's National Radio Frequency Plan.

The **Draft National Radio Frequency Plan 2025** does not recognise these needs, through the proposed stipulation for spectrum allocation. ICASA have in 2019 promised that the allocation of broadband spectrum for PPDR would be addressed by 2021. This has not happened.

The consequence of this omission is that public sector bodies must purchase mobile broadband services from licensed commercial operators. This situation poses challenges because:

- Commercial services are not designed to cater for public sector PPDR needs
- Prices are high because licensed commercial operators must generate profits on the portions of the spectrum allocated to them

The City therefore urges ICASA to make specific provisions for spectrum to be assigned to municipalities for Public Protection and Disaster Response (PPDR) use.

The spectrum should align with the ITU Region 1 allocation, which includes South

Africa. The designated Public Protection and Disaster Relief (PPDR) spectrum falls within the IMT600-700 and IMT700-850 waveband range. Applications for the licensing of these radio frequency bands to municipal and other public sector entities should be prioritized by ICASA. By doing so, ICASA would be adhering to the established practices of international agencies and regulators.

Motivation for the City's position

Municipalities are increasingly focused on becoming "smart cities" or "digital cities." This trend is driven by the rising frequency and scale of security and disaster challenges, as well as the ability of new digital technologies to enhance the management of large urban systems through remote monitoring and automation. These technologies also enable field staff to remain in constant communication with head offices and colleagues, even while on the move. Various municipal departments—including utilities, transportation, and public protection, disaster response (PPDR)—require wireless communication methods to connect with vehicles, field workers, and a range of remote devices that either provide real-time information, situational awareness or need to be controlled from a distance. However, these initiatives are currently hindered or obstructed by the lack of licensed spectrum available specifically for municipalities to use for these purposes.

Municipal Safety & Security (Public Protection and Disaster Response) requirements can be categorised as follows:

- Municipalities need access to a secure and highly available private Mission Critical mobile broadband network for public safety and disaster management. This network must be capable of supporting both voice communications and data applications essential for real-time decision-making. Key requirements for such a network include the ability to accommodate user mobility, comprehensive coverage of the metropolitan area, and management control by the municipality to ensure necessary security and availability. Commercial networks are not a suitable alternative, as they often become overwhelmed by public traffic during emergencies or may be unavailable due to direct impacts from the situation.
- Public safety agencies rely on broadband wireless communications to safeguard property and save lives. However, the current systems and frequency bands primarily support narrowband applications, which are inadequate for high-bandwidth needs like video streaming. In today's broadband era, safety and security agencies have an urgent requirement for dedicated, highly available mobile broadband communication services to effectively fulfil their missions.
- Mobile CCTV and streaming video surveillance for crime prevention and community safety are currently used by municipalities on a somewhat limited scale. The deployment of these systems is restricted due to the high cost of commercial mobile broadband connections. To enable broader use of such systems—including applications in natural disaster response management, in-vehicle dashcam monitoring, and body worn cameras—expanded coverage through mobile broadband is necessary. Additionally, the introduction of Unmanned Aircraft Systems (UAS), commonly referred to as Drones, into the PPDR environment require the ability to share the images with various role-players in real-time in order to be effective.
- The World Radio Communication Conference of 2015 (WRC-15) has, as part of its

agenda (item 1.3), consideration of the broadband needs of PPDR agencies around the world. The WRC-15 resolved to harmonize 694-894 MHz as a global standard frequency range for public safety mobile broadband.

- In April 2016 the European Commission adopted an Implementing Decision on the harmonisation of the 694-790 MHz (700 MHz) frequency band for wireless broadband, including its use for PPDR.
- The City of Cape Town currently has narrowband spectrum allocated for voice-based PPDR communications in the 410 – 430 MHz range. The Radio Plan 2025 indicates the intention to move the narrow band PPDR allocation to a lower frequency. Changing the radio configurations and re-planning the network takes time and effort and any downtime in PPDR networks can be extremely costly in terms of property lost, crimes committed and disaster responses.
- In September 2020 the Communications Regulators Association of Southern Africa (CRASA) recommended for BB-PPDR the 698–703 Mhz (UL) and the 753–758 Mhz (DL) frequency bands together with the 733-736 Mhz (UL) and the 788-791 Mhz (DL)

As a signatory to the ITU, South Africa has aligned its *National Radio Frequency Plan* (NRFP) to comply with the international guidelines for International Mobile Telecommunications (IMT). This alignment is supposed to be enforced by ICASA through its frequency spectrum licensing process, which is supposed to allocate the various frequency bands to South African entities accordingly, including the allocation of spectrum for Public Safety.

The use of appropriate licensed radio frequency by the public sector therefore aligns the public sector with international norms and also ensures that frequency spectrum is dedicated for public sector use.

Use of Commercial LTE Services for Public Protection and Disaster Response

Commercial mobile broadband LTE services are <u>not</u> suitable for PPDR for the following reasons:

- Reliability: The PPDR network requires a system availability of at least 99.99%. This level of reliability is often not achievable with commercial network operators due to the high costs involved in providing such services to a relatively small user group compared to the general public.
- Capacity: PPDR systems need to have dedicated capacity available during emergencies when commercial systems are normally overloaded. Commercial networks are designed to provide for average acceptable use, rather than peak use, to maximise financial returns.
- Priority: In an emergency, PPDR users require the highest order network priority. Commercial networks cannot offer this as it would mean moving all other users off the network during emergencies.
- Coverage: PPDR networks require full coverage and equivalent services over the total area of operation, including remote areas. Commercial systems are often designed to scale with demand to maximise profitability, with the result that areas

with low population density and low demand experience lower quality of service.

- Risks During Emergencies: Municipalities face significant risks when relying on commercial networks for Public Protection and Disaster Relief (PPDR) during emergency events, as highlighted by various international incidents. For instance, in 2013, following a bomb blast in Boston, USA, mobile networks were shut down to prevent potential detonations from mobile phones. In such situations, any PPDR services operating on these networks would be rendered inoperable. Networks also become congested at the very same times that PPDR services require them to remain effective. For instance, during high volume events such as stadium sporting or cultural events, or during the aftermath of a major incident, the networks become so congested that critical PPDR data is lost. This affects incident registration and incident management, communication, command and control, and real-time situational awareness.

Spectrum Policy Objectives

The national government's *South Africa Connect Strategy* (2013) includes the following objectives:

- Universal access and broadband for all
- Reduction of the cost of broadband services
- Support for the social and economic goals of the country

The 2010 Radio Frequency Spectrum Policy for South Africa included two additional objectives that specifically address the needs of municipalities and the broader requirements of the public sector.

- Provide for the allocation of spectrum for 'safety of life' services; and
- Provide for the allocation of spectrum for government services (i.e. to support municipal service delivery)

The City is mainly concerned that the Draft National Radio Frequency Plan 2025 does not recognize the objectives of the South Africa Connect Strategy and the Radio Frequency Spectrum Policy.

The draft plan does not deal adequately with the issues pertinent to the public sector contained within the *Radio Frequency Spectrum Policy for South Africa* or the *National Broadband Policy*. No explanation is provided as to why these policies have been ignored or abandoned. The allocation of spectrum for government services is simply not addressed. This is counter to the intent and spirit of both the *South Africa Connect Strategy* and the 2010 spectrum policy objectives

The absence of allocated licensed frequency spectrum for the public sector, particularly for broadband Public Protection and Disaster Relief (PPDR) use, means that municipalities will have to rely on commercial service providers to meet their municipal needs. This option is prohibitively expensive, limiting accessibility for most municipalities and reducing its overall utility, and does not meet the requirements of a PPDR network. The City of Cape Town believes there is no justification for one tier of government to be required to pay commercial rates to private sector operators for spectrum that has been allocated by another tier of government.

The Draft National Radio Frequency Plan 2025, therefore, fails to address the legitimate expectations of the people of the country that governments should be capable of ensuring their safety and security.

Given this, the City therefore proposes that the **Draft National Radio Frequency Plan 2025** should take state the following:

<u>Recommendation:</u> Spectrum licensing for Public Protection and Disaster Response Networks in the IMT600-700 and/or the IMT700-850 ranges

The creation of PPDR networks should be enabled by allocation of an additional portion of spectrum set aside specifically for Public Protection and Disaster Response in the IMT600-700, and/or the IMT700-850 range.

It is common cause that the spectrum in the IMT600-700 or IMT700-850 ranges can be used in LTE mode for a Public Safety Network. It is imperative therefore that ICASA allocates such broadband-capable spectrum specifically to the Public Sector for these purposes.

The **Draft National Radio Frequency Plan 2025 acknowledges the PPDR requirements in the IMT600 and IMT700 ranges:**

Consideration of the future spectrum needs of Broadband Public Protection and Disaster Relief (PPDR) in the range 694-790 MHz as described in the most recent ITU-R M.2015, while taking into account studies called for by Resolution 646 (WRC15) for technical and operational measures.

However, there is no indication in the document that ICASA intends to do anything in this regard. Instead - they point out that the spectrum has been allocated to IMT (mobile operators).

The City recommends that ICASA have a more proactive stance in allocating this frequency range for PPDR use by the public sector in South Africa.

Andre Martin Stelzner

Digitally signed by Andre Martin Stelzner
Date: 2025.05.15 15:16:33 +02'00'

Andre Stelzner
Chief Digital Officer
City of Cape Town

END