



Australian Government
Department of Communications

Digital Radio Report

Reviews under section 215B of the *Broadcasting Services Act 1992*
and section 313B of the *Radiocommunications Act 1992*

July 2015

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Executive summary, findings and recommendations

Context

In common with other industrialised countries, the radio industry in Australia is in the midst of a significant transformation. Traditional analogue radio services, broadcasting on AM and FM frequencies, remain popular and continue to attract substantial audiences and revenue. However, the analogue platform is very mature, offering only limited capacity for technical change and development, and FM spectrum is now largely fully occupied in population dense areas. In addition, AM transmissions face growing pressure from urban development and related increasing signal interference.

The Australian radio industry therefore retains a strong interest in the opportunities presented by digital radio for service innovation and future growth.

To date, digital terrestrial radio services have been licensed for the five mainland state capital cities,¹ and trials involving such services are underway in Canberra and Darwin. Within the mainland state capital cities, take up of digital terrestrial radio services continues to grow slowly but steadily with listenership reaching almost 25 per cent in the first quarter of 2015.² Listenership has benefitted from increased availability of digital radio receivers in motor vehicles (a primary source of listening) and the recent additional rollout of in-fill transmitters increasing coverage of the services in Brisbane, Melbourne, Perth and Sydney.

The cost and complexity of rolling out Digital Audio Broadcasting Plus (DAB+)-based digital terrestrial radio services across regional Australia³ present major challenges for the industry. The need to cover large geographic areas with small and dispersed populations offers unique challenges which have not been faced in many international markets.

At the same time, Australians are rapidly adopting new types of technology with the growth of online audio platforms such as Spotify and Pandora. These services are complementing the move by traditional radio businesses—most notably the national broadcasters—to deliver radio services online or through mobile apps. The announcement by Apple of a move into the streamed audio market will only increase the choices available to audiences. These services may herald a generational change in listening habits with significant implications for traditional platforms over time. That said, there are ongoing challenges with the bandwidth and data transmission

¹ The Adelaide, Brisbane, Melbourne, Perth and Sydney licence areas are categorised as metropolitan licence areas. The licence areas for Canberra, Darwin and Hobart are categorised as regional licence areas.

² Commercial Radio Australia (2015, 13 March 2015), Digital Radio Quarterly Update, [Digital Radio Quarterly Update March 2015](#).

³ Unless otherwise specified, references to regional Australia include remote licence areas.

requirements of these services being delivered to large audiences over mobile and wireless platforms.

The digital terrestrial radio industry is subject to a range of regulatory requirements in the *Broadcasting Services Act 1992* (the BSA) and the *Radiocommunications Act 1992* (the Radiocommunications Act), which govern matters such as the planning and start up of services, and the sharing of and access to the transmission multiplex in each area. Against the background of changes in the radio industry, this review considers whether changes are required to this framework to provide greater flexibility to the industry and the Australian Communications and Media Authority (the ACMA) to plan for change and ensure that the radio industry is well placed to determine its future strategies for digital services.

Key issues examined by the review included:

- > the current state of digital terrestrial radio in Australia, and the impacts of alternative technologies on the industry and listeners;
- > whether Australia should set a digital switchover date for analogue commercial, national, community or other terrestrially transmitted radio services;
- > what legislative/regulatory arrangements should be in place to assist the rollout of digital terrestrial radio services in regional areas; and
- > whether changes are required to the legislative regime for digital radio, including to reduce the regulatory burden on industry.

The report makes the following findings:

- Definitive views on the future of digital terrestrial radio cannot be made at this time. Greater clarity may emerge in the medium term but significant rollout uncertainties and challenges—particularly for service provision in regional Australia—remain. The Government should continue to monitor national and international trends in the provision of digital radio.
- Australia will continue to rely on a combination of complementary analogue, digital and online radio technologies to deliver radio services to all Australians. Digital terrestrial radio will continue as a supplementary, rather than a replacement, technology in at least the short to medium term.
- The rollout of digital terrestrial radio services in regional areas should be a commercial decision for broadcasters, subject to spectrum availability and planning.
- It will be a decision for the national broadcasters and community broadcasters whether to roll out digital terrestrial radio services in areas where commercial broadcasters choose to do so.
- The Canberra and Darwin digital radio trials have provided data to assist the radio industry in managing the engineering, logistical and economic challenges of digital radio operations outside the mainland state capital cities. This data will assist in transitioning the trial services to permanent services.
- The legislative framework for digital radio is working well, but can be improved in a number of specific areas, as set out in this report.

- There is no reason to reintroduce the moratorium that prohibited the ACMA from issuing new digital-only commercial radio licences in each of the mainland state capital cities for a period of six years after digital terrestrial radio services commenced in each area, which lapsed on 30 June 2015.
- The arrangements governing the establishment of digital radio transmission infrastructure (multiplexes) by broadcasters and access to capacity on the multiplexes are generally working satisfactorily in the mainland state capital cities. However, some adjustments are likely to be needed to optimise the use of spectrum and infrastructure in regional areas, to accommodate the differing combinations of commercial, national and community broadcasters in different areas. Adjustments may also be needed in the event that the statutory restrictions on who can provide digital radio services are relaxed in the future.
- The review has not found a need for any changes to the allocation of spectrum for digital terrestrial radio.
- Although this review is primarily related to digital radio services, there may be an opportunity to consider whether analogue radio coverage can be enhanced or improved pending the roll out of digital terrestrial services by the industry. Further research is required into whether AM coverage can be improved in metropolitan areas, and whether FM spectrum can be made available in regional areas for new analogue radio services or the conversion of existing AM services to FM, potentially in lieu of the rollout of digital services.

The report makes the following recommendations:

1. The Government should not set a timetable for analogue radio switch off at this time.
2. The Government should give the ACMA responsibility for determining where and when digital terrestrial radio services can commence.
3. Industry is encouraged to work with the ACMA to establish a Digital Radio Planning Committee for Regional Australia comprised of key industry bodies and stakeholders. The Committee should be chaired by the ACMA.
4. The Government should not reintroduce the moratorium on the ACMA issuing digital-only commercial radio licences in mainland state capital cities.
5. The Government should remove the provisions requiring a six year moratorium on additional commercial digital radio services in a regional licence area following the commencement of commercial services in that area.
6. The Government should consider allowing broadcasters to choose the mode(s) in which they deliver their radio services.
7. The Government should consider minor amendments to the current digital radio regulatory regime to provide a simpler, more flexible process for planning and licensing of digital radio in regional Australia, with a view to permanent services being licensed in Canberra and Darwin as a priority.

8. The Government should consider whether the statutory restrictions on who can provide digital radio services should be relaxed in the event that incumbent radio broadcasters in regional licence areas have not established digital radio services, or taken positive steps towards their establishment, by 30 June 2018.
9. The Government should consider the arrangements required to enable narrowcasters to provide digital radio services in areas where services have already been established or to join incumbent broadcasters in rolling out services, subject to the availability of spectrum and multiplex capacity.
10. The Government should repeal the restricted datacasting licence category.

1. Introduction

The Minister for Communications is required to cause to be conducted two statutory reviews of digital radio⁴ issues in accordance with section 215B of the BSA and section 313B of the Radiocommunications Act. The two reviews were conducted jointly and this report addresses both reviews which are hereafter collectively referred to as 'the review'.

The detailed matters to be considered in the review are set out in the above provisions; however, in general terms matters examined by the review included:

- > the development of various terrestrial and satellite technologies capable of transmitting digital radio broadcasting services and restricted datacasting services in Australia;
- > the use of spectrum for the transmission of digital radio services and restricted datacasting services in Australia;
- > the implementation of those technologies in foreign countries;
- > the operation of the BSA in so far as it deals with the licensing and regulation of digital radio and restricted datacasting services;
- > the availability of additional frequency channels for the transmission of digital radio broadcasting services and restricted datacasting services in Australia; and
- > the effectiveness of the multiplex access regime administered by the Australian Competition and Consumer Commission (ACCC).

The review also considered emerging trends in the ways in which audiences access radio services since the commencement of digital radio services, with a particular focus on the use of connected devices and smartphones. In addition, to further the Government's deregulatory agenda, the

⁴ The term 'digital radio' is generally used in this report to refer to digital terrestrial radio services.

Department has utilised the review to determine whether there are any opportunities to reduce red tape and the cost of the regulatory burden on industry.

A total of 15 submissions, including 11 from stakeholder organisations and four individual submissions were received. Submissions received have been published on the Department of Communications' website.⁵ The views expressed in submissions informed the recommendations in this report on the future for digital radio in Australia.

2. Should Australia set a switchover date for digital radio?

2.1. Background

The digital radio framework was introduced in the *Broadcasting Legislation Amendment (Digital Radio) Act 2007*, which was passed by the Australian Parliament in May 2007. This amended the BSA and the Radiocommunications Act, to allow the licensing, planning and regulation of digital radio services. The following year, the framework was modified slightly by the *Broadcasting Legislation Amendment (Digital Radio) Act 2008*.

National and commercial digital radio services have been available in Australia since 1 July 2009. Services are now available in Adelaide, Brisbane, Melbourne, Perth and Sydney and digital radio trials are currently being conducted in Canberra and Darwin. Community radio broadcasters formally launched their digital radio services in the mainland state capital cities in May 2011. The extent of the rollout of digital radio services can be illustrated by the Sydney market, which has the largest population, where there are 29 commercial digital radio services (18 of which are digital-only and 11 are simulcasts of existing analogue services), eight community digital radio services (three of which are digital-only, three are simulcast and two are a hybrid of digital-only and simulcast content) and the national broadcasters collectively provide 20 digital radio services (13 of which are digital-only and seven are simulcast).⁶

While the national broadcasters terrestrially transmit their digital radio services to the mainland state capital cities and a selection of their services to Canberra, a limited number of national broadcaster digital radio services are also transmitted with their terrestrial digital television services. In addition, the Viewer Access Satellite Television (VAST) service provides access to, among others, a range of national broadcaster radio services, some of which are digital-only.

⁵ Department of Communications (2014, February), *Digital Radio*, [Digital Radio Review Submissions](#).

⁶ Digital Radio Plus, Sydney Digital Radio Stations, [Digital Radio Plus - Sydney Digital Radio Stations](#).

It is open to broadcasters in regional areas to seek the planning of digital radio services. Under the BSA, the Minister for Communications can specify a digital radio start-up day in a regional licence area by means of a legislative instrument. Once certain pre-conditions are met, the ACMA must in turn declare the same digital radio start-up day.⁷ To date, broadcasters apart from those in Canberra and Darwin, have not sought the planning of digital radio services in any specific regional licence areas, and, hence, the ACMA has yet to commence detailed channel planning for regional digital radio services in most areas.

The technology currently being used to provide digital terrestrial radio services in Australia is DAB+, an advanced form of DAB technology. The radio industry has consistently supported the adoption of DAB+ technology for digital radio as it is the most mature of the digital radio technologies and currently the one that can most readily provide audiences with affordable receivers. To date, all planning for digital radio has been focussed on the use of DAB+.

Use of DAB+ technology involves sharing spectrum and infrastructure (i.e. a multiplex) between broadcasters in a particular area, and as a result, it has consequences for the planning and timing of service roll out in an area. The legislative framework in the Radiocommunications Act provides for the following categories of Digital Radio Multiplex Transmitter (DRMT) licences:

- category 1 – commercial and community broadcasters sharing a multiplex;
- category 2 – commercial, community and national broadcasters sharing a multiplex; and
- category 3 – national broadcasters sharing a multiplex.

The services currently provided in the mainland state capital cities use a combination of category 1 and category 3 DRMT licences. To date, no category 2 DRMT licences have been issued. This may change in the future, however, if it proves more cost effective in certain parts of regional Australia for all digital radio broadcasters to share a single multiplex.

The Canberra and Darwin digital radio trials do not involve DRMT licences, but are instead licensed using scientific apparatus licences. In these cities, a single multiplex is used to deliver a combination of commercial and national broadcaster services (Canberra) or only commercial broadcaster services (Darwin). Neither of these multiplex configurations currently reflect the sharing arrangements provided by the legislative framework for digital radio.

Some submissions to the review raised the possibility of a switch off of analogue radio (particularly AM services). Both the Australian Broadcasting Corporation (ABC) and the Special Broadcasting Service (SBS) noted in their submissions that the planning process for digital radio had not progressed.⁸ SBS was of the view that, in order to take advantage of the benefits of digital radio,

⁷ Section 8AC of the BSA.

⁸ Australian Broadcasting Corporation (2014, February), *ABC submission to digital radio review*, p. 9. SBS submission to digital radio review, p.2 [Digital Radio Review Submissions](#).

Australia must start preparing for an analogue switch off, based on a population priority basis, as soon as possible.⁹ This view was further supported by submissions by Commercial Radio Australia (CRA) and Broadcast Australia (BA). However, submissions from the Australian Narrowcasting Radio Association (ANRA) and the Community Broadcasting Association of Australia (CBAA) advocated a multi-technology delivery approach.

Digital radio was originally introduced to supplement, not replace, traditional analogue AM and FM radio services. The market for analogue AM and FM services is robust and is likely to remain so in Australia for some time to come. In 2014, the average weekly cumulative audience for commercial radio services in the five metropolitan areas increased by 4.13 per cent to 10.1 million.¹⁰ The average weekly reach in these areas for ABC Radio was a record 4.7 million people in 2013-14, an increase of 155,000 listeners on 2012-13.¹¹

As at 30 June 2014, there were a total of 273 analogue commercial radio services (104 AM services, 152 FM services and 12 services outside the broadcasting services bands)¹² and 142 commercial digital radio services in the mainland state capital cities and in Canberra and Darwin. As at 5 September 2014, 357 analogue community radio services were operating (13 AM services and 344 FM services). As at December 2014, 244 analogue open narrowcasters were licensed (33 AM services and 211 FM services).

The diversity in sourcing programming is also supported by the continued growth of the music streaming service Spotify and internet radio service Pandora. Spotify claims to be adding 60,000 users per week in Australia, with 25 per cent of Australians having tried the service, while Pandora claims to be adding between 20,000 and 30,000 users weekly with more than 2 million users in total.¹³ On 8 June 2015, Apple unveiled Apple Music, including music streaming and a worldwide 24 hour radio broadcasting station. The service commenced on 30 June 2015 and is subscription-based.¹⁴

⁹ Special Broadcasting Service (2014, February), *SBS submission to digital radio review*, p.2 [Digital Radio Review Submissions](#).

¹⁰ Commercial Radio Australia (2015, 23 January), *Figures show a strong year in commercial radio*, [CRA Media Release January 2015](#).

¹¹ Australian Broadcasting Corporation (2014, 6 October), *ABC Annual Report 2014*, p.48.

¹² Australian Communications and Media Authority (2014, November), *2013-14 Annual Report*, p50. The AM and FM subtotals may not add up to the total licences allocated as some licences have multiple frequencies.

¹³ Australian Financial Review (2015, 1 June), *Spotify adding 60,000 Australians per week*.

¹⁴ Apple (2015, 8 June), *Introducing Apple Music – All The Ways You Love Music. All in One Place*. [Apple Press Release](#).

Foxtel also offers its satellite (and cable) subscribers access to more than 30 advertising-free music channels.

When considering whether Australia could or should switch to digital-only radio broadcasting there are several issues that must be considered including:

- the ability of digital radio technologies to provide coverage to all Australians for all current services;
- the rate of audience take up; and
- international plans and developments.

2.2. *Geography and technology*

One of the major challenges when considering the possibility of a switchover to digital-only radio in Australia is the need to provide coverage over a very large geographic area with areas of challenging terrain, particularly in inland regions, with limited spectrum in which to do so (particularly in regional areas close to major metropolitan centres).

In recognition of the problems associated with spectrum and geographic coverage, the Department conducted a review of technologies for digital terrestrial radio in regional Australia in 2011 (2011 review). The 2011 review report concluded that DAB+ would have the potential to reach most of the population using a similar number of transmitters to the current FM services, but would struggle to match the coverage of high and medium powered AM transmitters that reach the remaining population.

This is acknowledged by the ABC in its submission to this current review in which it noted that the ABC's very high powered AM services broadcast local regional radio services to large areas of regional Australia.¹⁵ While BA in its submission considered that DAB+ would be an effective transmission technology for the majority of regional areas, alternative technologies would need to be considered if digital radio were to be provided in other areas of Australia.¹⁶ The submission by the ANRA noted that new technologies should be utilised by the radio industry, with digital services continuing to be complementary to analogue services to best suit the Australian conditions.¹⁷

At present, DAB+ radio services cover up to an estimated 0.4 per cent of geographical Australia. Even extending DAB+ radio services to the larger regional population centres, towns and cities would

¹⁵ Australian Broadcasting Corporation (2014, February), *ABC submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

¹⁶ Broadcast Australia (2014, February), *Broadcast Australia submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

¹⁷ Australian Narrowcast Radio Australia (2014, February), *Australian Narrowcast Radio Association submission to digital radio review*, p.3 [Digital Radio Review Submissions](#).

leave a significant percentage of the population and the Australian landmass without digital radio services. The only digital radio technologies capable of completely covering the remaining geographic areas that are currently covered by AM radio services include Digital Radio Mondiale (DRM) and/or satellite digital radio technologies.

DRM is unlikely to be a viable option in the short to medium term in Australia as there are only a few receivers currently available in the market. In addition, the prospect of dual DAB and DRM receivers being introduced into the Australian market is low. Rebel Media's submission cautioned against creating an overlap in digital radio technology through the use of a mix of DAB+ and DRM technologies, which has the potential to create a digital divide which could favour services using one technology over another.¹⁸ SBS in its submission also expressed concern about radio standards other than DAB+ entering the market at this point as this could lead to consumer confusion and the need for multiple receivers.¹⁹

There is no evidence that satellite delivery and reception of digital radio services will provide a realistic alternative to terrestrial radio platforms in Australia, beyond its current use in remote or reception black spot households. As noted earlier, both Foxtel and the VAST service provide access to a range of radio services, including some digital-only national broadcaster radio services on VAST.

The CRA's submission notes that satellite broadcasting is barely viable in the United States, even after the merger of Sirius and XM, with only 6 per cent of the population subscribing.²⁰ BA in its submission also noted that some areas in Australia would not be able to receive satellite-delivered signals.²¹ Transmission arrangements for satellite-delivered digital radio generally require the use of terrestrial repeaters in cities to compensate for satellite signal shadowing. Internationally, access to satellite-delivered digital radio is generally subscription based and domestic reception of satellite-delivered digital radio generally requires receivers to have outdoor antennas to ensure in-home operation. The ANRA commented that while satellite radio may be a future opportunity for the delivery of digital radio, Australia's relatively small population may not make it a viable option.²²

¹⁸ Rebel Media (2014, February), *Rebel Media submission to digital radio review*, p. 2 [Digital Radio Review Submissions](#).

¹⁹ Special Broadcasting Service (2014, February), *SBS submission to digital radio review*, p. 9 [Digital Radio Review Submissions](#).

²⁰ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p. 29 [Digital Radio Review Submissions](#).

²¹ Broadcast Australia (2014, February), *Broadcast Australia submission to digital radio review*, p. 7 [Digital Radio Review Submissions](#).

²² Australian Narrowcast Radio Association (2014, February), *Australian Narrowcast Radio Association submission to digital radio review*, p.4, [Digital Radio Review Submissions](#).

There are approximately 50 million radio sets across Australia, with an average of 5 sets per household.²³ It is likely that consumers will expect the same digital radio technology to be used to provide coverage in their homes, offices and where they travel, or alternatively will expect an affordable and portable device that receives all digital radio services available to them and provides seamless transfer between services. It is less likely that consumers would want to purchase one receiver for DAB+ and another receiver for a different technology such as DRM (even if such receivers were available on the Australian market).

Streamed platforms

The 2011 review report noted that technological developments such as MP3 players and the internet were starting to influence listening patterns.²⁴ As already highlighted in this report, a range of new audio services are becoming available through internet and mobile platforms, providing increasing competition for traditional analogue and DAB+ radio services. The growth of internet and mobile use has been accompanied by significant changes in the types of services available such as Spotify, Pandora, TuneIn Radio, iHeartRadio, iTunes radio and Apple Music. These services allow listeners to access accounts through multiple devices, wirelessly integrate them through Bluetooth or other applications and provide an additional platform for streaming music and listening to radio services. Some platforms (e.g. Spotify) also allow listeners to download audio and stream it offline for limited periods.

The business model for music streaming is still evolving. While subscriber growth continues, Spotify has reported it has tripled its losses in 2014 to \$231.08 million compared to \$79.74 million in 2013. This was attributed to substantial investments to enable streaming of videos. Of Spotify's 60 million users, only 15 million are paying subscribers and account for 91 per cent of the company's revenue.²⁵ Apple Music is a paid subscription streaming music service which allows users to access the Apple Music catalogue as well as Apple Music Radio and Apple Music Connect (a social network for music). Apple Music radio includes a 24 hour global radio station, Beats 1. Apple Music may be attractive to consumers who are already familiar with Apple's hardware (such as the iPhone), software platforms (including iOS) and cloud storage and cloud computing service (iCloud).

The review notes that the ABC has developed a number of smartphone apps to respond to the growth in online listening. The ABC recently announced that ABC radio will stream an additional 14 regional services across Australia from 1 July 2015 as part of its digital commitment to rural and

²³ Buddecomm (2014), *Australia Broadcasting – Pay TV, IPTV, Mobile TV* (15th edition) p.134.

²⁴ Department of Communications (2011), *Review of technologies for digital radio in regional Australia*, p. 21, [Communications Review of Digital Radio Technologies for Regional Australia](#).

²⁵ Newcastle Herald (2015, 11 May), *Spotify triples its losses to \$231 m*, p.18; The Guardian (2015, 11 May), *Spotify financial results show struggle to make streaming music profitable*, [Guardian Spotify article](#).

regional Australia.²⁶ SBS also provides apps for radio (e.g. SBS Chill) and streams its language programs online including through the SBS Your Language app, which is now available for both iOS and Android mobile operating systems.

A key issue is the extent to which such services can replace the easy portability of terrestrial radio broadcasts and allow radio services to be received in motor vehicles. A relevant consideration in this context is the way in which services are used in the online environment. With the move to new platforms and types of services, listeners are interacting differently with streamed audio and are expecting far greater levels of choice and personalisation of content at times of their choosing. New technologies are generally not simply about replacing traditional radio with an identical product.

In 2013, a Swedish research paper²⁷ was released that considered the replacement of a terrestrial radio broadcasting network with the use of cellular networks for the distribution of radio throughout Sweden. The paper concluded that the use of a cellular distribution network would not be a realistic alternative for multiple reasons, including high data costs. Similarly, the *Broadcast or broadband?* report commissioned in March 2014 by the Bavarian public broadcaster, Bayerischer Rundfunk, and the Bavarian commercial broadcasting organisation, Bayerische Landeszentrale für neue Medien, provided an analysis of radio transmission in Germany through DAB+ or Long Term Evolution (LTE) technologies. The report found that the costs of streamed radio services, roaming charges and the lack of anonymity for listeners to be significant disadvantages of both a LTE and a multimedia broadcast multicast service (eMBMS) distribution network.²⁸

Public and private wi-fi networks could provide an alternative to cellular networks for streamed delivery of audio services. In May 2014,²⁹ Telstra announced that it was in the process of creating one of the world's largest wi-fi networks to increase connectivity to all Australians, irrespective of whether they are a Telstra customer or not. Telstra expected that access would be available to two million wi-fi hotspots across the nation within five years. There are a wide range of other public wi-fi initiatives across Australia. For example, the Australian Capital Territory (ACT) government is rolling out free wi-fi services in town centres and commercial areas across the ACT in stages over 2014-15.³⁰

²⁶ Australian Broadcasting Corporation (2015, 14 April), *ABC investment in regional radio streaming*, [ABC Media Release 14 April 2015](#).

²⁷ Teracom (2013), *Teracom White Paper: Can the cellular networks cope with linear radio broadcasting?* [Teracom White Paper](#).

²⁸ Friedl, G., Schäfer, P, & Scheubel, C (2014), *broadcast or broadband? On the future of terrestrial radio supply*.

²⁹ Telstra (2015), *Telstra Air*, [Telstra Website](#).

³⁰ ACT Government Information Portal (2014), *Canberra home to Australia's largest free public Wi-Fi network*, [ACT Government Website – Our City Our Community, Spring 2014 Biannual Edition](#).

Similarly, private wi-fi could provide access to streamed audio in homes and businesses on mobile and fixed devices.

BA's submission cautioned that some groups may be unable to access streamed radio services either for socio-economic reasons or lack of mobile coverage, so that terrestrially delivered radio services would have continuing importance.³¹ SBS, in its submission to the review, expressed similar reservations on the use of online services providing an equitable alternative to terrestrial services, particularly for listeners who lack digital literacy.³²

The CRA also expressed concerns over a reliance solely on a streamed radio delivery platform. The CRA submission noted a number of disadvantages that streamed radio posed for the listener: radio would not be free-to-air; listening would be restricted to a telecommunications coverage area; at times of high activity, the radio stream could be subject to interruptions and streamed radio would use up listeners' data plans and drain phone batteries.³³ A November 2014 report produced by Professor Reg Coutts for the CRA³⁴ concluded that there were technical and economic reasons for radio to use free-to-air broadcast rather than stream over LTE in both regional and metropolitan areas. Professor Coutts identified a number of reasons for his conclusion, including the limited range of LTE broadcast; the significant impact on mobile cell capacity for other users' applications; no handover mechanism from LTE broadcast to one to one streaming on 3G or 4G resulting in service drop out at the edge of the LTE broadcast area; and cost impacts on network operators, broadcasters and listeners. The CRA reported that 1.5 million more listeners use a DAB device rather than streaming.³⁵

Digital radio in motor vehicles

Approximately 35 per cent of radio listening in Australia takes place in the car³⁶ and the adoption of a specific radio technology by car manufacturers can be integral to its take up and success. In its 2014 report on digital radio, the CRA has reported that in-car listening of DAB+ radio was at

³¹ Broadcast Australia (2014, February), *Broadcast Australia submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

³² Special Broadcasting Service (2014, February), *SBS submission to digital radio review*, p.2 [Digital Radio Review Submissions](#).

³³ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.22 [Digital Radio Review Submissions](#).

³⁴ Coutts, Prof Reg (2014, November), *Analysis of use of Mobile Telecommunications Networks to Deliver Broadcast Radio in Australia*, p.2 [Commercial Radio Australia's Website - Coutts Report](#).

³⁵ Commercial Radio Australia (2015, 13 March 2015), *Digital Radio Quarterly Update*, [Digital Radio Quarterly Update March 2015](#).

³⁶ Commercial Radio Australia, *2014 Digital Radio Report*, p.17 [Commercial Radio Australia - 2014 Digital Radio Report](#).

10.8 per cent of total time spent listening from midnight to midnight of all people aged 10 and over, up from 4.9 per cent in 2011.³⁷ The CBAA acknowledged that, while progress has been made, further work is needed to encourage integration of DAB+ radios into cars in Australia.³⁸ The CRA reported in 2015 that a total of 153,000 new vehicles have been sold nationwide with DAB+ digital radio included.³⁹ DAB+ radios are now a standard feature in Toyota Camry, Aurion, Ford Focus and Nissan X-Trail vehicles and optional in a broad range of other vehicles offered by 21 car manufacturers in Australia.⁴⁰ After-market solutions are also offered by manufacturers including Alpine, JVC, Kenwood, Orion, Pioneer, Sony and Pure. It is estimated that almost half (46 per cent) of heavy vehicles in Australia now support DAB+. ⁴¹

Cars sold in Australia are also starting to integrate digital radio applications (apps) into car entertainment systems as standard. Some cars are offering car radios that mirror a smartphone, offering touchscreen experience and integrating services such as Pandora and TuneIn Radio.

Significantly, Apple has partnered with 31 car manufacturers (including Audi, Mercedes-Benz, Volvo, BMW, Ford, Hyundai, GM, and Honda) and electronics companies (notably Pioneer) to introduce its new CarPlay system which became available in Australia in late October 2014.⁴² Designed to overlay an iPhone's display on a car's entertainment system, CarPlay includes support for several different iPhone apps such as Spotify, Beats Music and iHeartRadio.

Similarly Google has partnered with 28 car manufacturers and electronics companies (including those identified above) to launch its Android Auto system into cars in March 2015.⁴³ Android Auto

³⁷ Commercial Radio Australia, *2014 Digital Radio Report*, p.17 [Commercial Radio Australia - 2014 Digital Radio Report](#).

³⁸ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.2 [Digital Radio Review Submissions](#).

³⁹ Commercial Radio Australia (2015, 13 March), *Digital Radio Quarterly Update* [Digital Radio Quarterly Update March 2015](#).

⁴⁰ Commercial Radio Australia (2015, 13 March), *Digital Radio Quarterly Update* [Digital Radio Quarterly Update March 2015](#).

⁴¹ Coutts, Prof Reg (2014, November), *Analysis of use of Mobile Telecommunications Networks to Deliver Broadcast Radio in Australia*, p.20 [Commercial Radio Australia's Website - Coutts Report](#).

⁴² Apple CarPlay, [Apple Website - Carplay](#); Griffith, Chris (2014, 29 October), *Pioneer introduces Apple CarPlay to Australia*, [Car News, Car News CarPlay article](#).

⁴³ Griffith, Chris (2015, 2 April 2015), *Google's Android Auto car entertainment system released*, [The Australian, The Australian article](#).

allows drivers to access Google Maps, Google Play Music, Google Now and third-party applications such as Spotify and Pandora.⁴⁴

Pioneer has also introduced an after-market model that provides integrated access to both Google and Android devices.⁴⁵

BA observed in its submission that projections are for the increased penetration of in-car internet connected entertainment systems over the next 20 years. However, BA does not consider that streamed services to cars are likely to be a mass market solution in the foreseeable future.⁴⁶

While it is not clear what percentage of car manufacturers will choose to fit integrated digital radio applications or DAB+ radios as standard in future (or a combination of both), the Department did find that the majority of car manufacturers install analogue radios along with digital radio or online apps in cars and do not currently plan on removing analogue AM or FM radios.

The CRA reported that the first DAB+ radio for boats is now available.⁴⁷

2.3. *Frequencies used for digital radio*

DAB+ services operate in VHF Band III (174 – 230 MHz in Australia and many other countries).⁴⁸ In its planning of this band for television services, the ACMA created a 14 MHz digital radio sub-band comprising VHF television channels 9 and 9A, which is clear of digital television in metropolitan and regional licence areas. There is no further VHF Band III spectrum available for digital radio purposes in metropolitan and regional television licence areas.

It is also possible for DAB+ to operate in the L-Band spectrum (1452 – 1492 MHz).⁴⁹ The CRA and the CBAA noted in their submissions that the International Telecommunication Union (ITU) has reserved

⁴⁴ Gizmodo Australia (2014, June 30), *The race to save your car's dashboard*, [Gizmodo Australia article](#).

⁴⁵ Goodwin, Antuan (2015, 15 April 2015), *With Android Auto and Apple CarPlay, Pioneer's latest is the one receiver to rule them all* [CNET article](#).

⁴⁶ Broadcast Australia. (2014, February). *Broadcast Australia submission to digital radio review*, p.6 [Digital Radio Review Submissions](#).

⁴⁷ Commercial Radio Australia (2015, 13 March), *Digital Radio Quarterly Update* [Digital Radio Quarterly Update March 2015](#).

⁴⁸ ACMA, *What frequency bands are used for digital radio?*, [ACMA Website - What Frequency Bands are used for Digital Radio?](#)

⁴⁹ ACMA, *What frequency bands are used for digital radio?*, [ACMA Website - What Frequency Bands are used for Digital Radio?](#)

L-Band spectrum internationally for DAB/DAB+ digital radio.⁵⁰ Technically, the ITU Radio Regulations in 1992 were revised to include an 'allocation' (not a reservation) for the broadcasting service in the band 1452-1492 MHz. This allocation is not exclusive as the band is also allocated to fixed, mobile and broadcasting satellite services. Currently, however, L-Band spectrum is not used for digital radio in Australia⁵¹ and is not reserved for digital radio. The 1.5 GHz Band Plan, made in 1996, limits the use of the band to existing fixed services in order to preserve future planning options. This means the predominant use of the L-Band in Australia is for fixed services. However, as noted by the ACMA, this band is under consideration by the ITU-R as a candidate for mobile broadband.⁵² On 8 May 2015, the European Commission adopted a decision to open up the 1452-1492 MHz frequency band for wireless broadband under harmonised technical conditions. This specific spectrum could be used for advanced mobile services such as audiovisual streaming or high-speed downloads.⁵³

It is also noted that not all DAB+ receivers currently available in Australia could tune to services in the L-Band. Additionally, the World DMB Forum digital radio receiver profiles do not require inclusion of L-Band in receivers.⁵⁴ In a recent ITU-R survey on spectrum requirements for the future of sound and television broadcasting, only three of the 55 responses identified L-Band as in use by digital radio. Responses indicated DAB/DAB+ services were being provided by 15 transmitters in L-Band and over 3200 VHF band transmitters.

Both the CRA and the CBAA suggested that the L-Band should remain available in Australia for DAB+ digital radio until detailed coverage and capacity planning in VHF Band III is complete.⁵⁵ The CRA has also suggested that spectrum in the L-Band may be used in low powered infill sites or may be

⁵⁰ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.31 [Digital Radio Review Submissions](#); Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.4 [Digital Radio Review Submissions](#).

⁵¹ ACMA, *What frequency bands are used for digital radio?*, [ACMA Website - What Frequency Bands are used for Digital Radio?](#)

⁵² ACMA (2014, Sept), *Five Year spectrum Outlook 2014-2018 The ACMA's Spectrum demand analysis and strategic direction for the next five years*, p.38 [ACMA Spectrum Outlook 2014-2018](#).

⁵³ European Commission (2015, May 8), *Commission Decision opens up a new frequency band for advanced mobile services*, [European Commission Article](#).

⁵⁴ WorldDMB (2015, March 18), *World DMB Forum Digital Radio Receiver Profiles*, [WorldDMB website](#).

⁵⁵ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.31 [Digital Radio Review Submissions](#); Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.4 [Digital Radio Review Submissions](#).

needed for regional digital radio services.⁵⁶ Current planning for infill sites in the mainland state capital cities uses DAB+ on channel repeaters, and hence VHF spectrum, to boost digital radio coverage in dense urban areas, difficult geographic areas and at the boundaries of Sydney, Melbourne, Brisbane and Perth licence areas,⁵⁷ rather than using the L-Band spectrum.

Given the experience of the use of the two VHF band channels for digital radio in the mainland state capital cities, the review considers it likely that this same amount of spectrum may be sufficient for digital radio in regional areas. There is no evidence at present that L-Band spectrum will be required for digital radio in Australia and it appears likely that harmonised arrangements for mobile broadband applications in the L-Band will be adopted in many parts of the world.

Finding: The review has not found a need for any changes to the allocation of spectrum for digital terrestrial radio.

2.4. Audience take up of digital radio

As outlined in the review discussion paper, there is little definitive public data on digital radio listening habits in Australia. The CRA has reported that, since the introduction of digital radio services, listenership has continued to grow to reach almost 25 per cent of listeners in the mainland state capital cities in the first quarter of 2015.⁵⁸

While the digital radio audience is increasing, the review has not found there to be a marked preference by the public for digital radio over other radio technologies in the mainland state capital cities at this time.

For the ABC in 2014, the simulcast stations held the lion's share of listening (25.3 per cent share of all DAB+ radio listening) compared to digital only stations (10.0 per cent).⁵⁹ While DAB+ listening as a proportion of all radio listening is growing steadily, the reach of ABC's digital only stations for DAB+ and online combined over the 5 metropolitan markets is only 5 per cent of the population per week.⁶⁰

⁵⁶ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.31 [Digital Radio Review Submissions](#).

⁵⁷ ACMA, Digital radio rollout, [ACMA Website - Digital Radio Spectrum for Broadcasting](#).

⁵⁸ Commercial Radio Australia (2015, 13 March 2015), Digital Radio Quarterly Update, [Digital Radio Quarterly Update March 2015](#).

⁵⁹ Australian Broadcasting Corporation (2014, September), ABC Audience Research Data sourced from Nielsen (pre2014) and Gfk (2014).

⁶⁰ Australian Broadcasting Corporation (2014, September), ABC Audience Research Data sourced from Nielsen (pre2014) and Gfk (2014).

The growing availability of high speed internet, combined with the intergenerational change in listening habits and smartphone usage, indicates that digital radio delivered over the internet has also become an alternative digital radio technology of choice. The ACMA has reported that 796,000 people or 4.5 per cent of the population aged 14 years and over were listening to digital radio through online streaming in 2009. By the end of June 2013, this had nearly doubled to 1,584,000 listeners or 8.1 per cent of the population aged 14 and over,⁶¹ a 98 per cent increase. However, it should be noted that the determination of listening statistics can vary, depending on the demographic used and some estimates of online radio streaming are higher than this.

Listenership of analogue radio services continues to increase steadily. Based on listening data released by the CRA, metropolitan commercial radio attracted an average cumulative weekly audience of 10.1 million in 2014, representing a 4 per cent increase on the 2013 listening audience.⁶²

The ABC submission, in acknowledging that AM radio is a robust platform for the delivery of radio, also expressed concern about its continued use in the future. Of special concern for the ABC and other radio broadcasters are the physical challenges facing the transmission of AM signals; for example, electrical interference and reception issues, particularly in built-up areas; and development pressures around the real estate where transmitters are located. In addition, the ABC expressed concern over the future availability of AM radio receivers as other countries phase out AM radio services.⁶³ In contrast, the ABC noted that the importance of FM radio will continue into the future. The lack of availability of FM spectrum, however, could hamper innovation and the ability to provide additional, value-added, services to listeners.⁶⁴

Finding: Although this review is primarily related to digital radio services, there may be an opportunity to consider whether analogue radio coverage can be enhanced or improved pending the roll out of digital terrestrial services by the industry. Further research is required into whether AM coverage can be improved in metropolitan areas, and whether FM spectrum can be made available in regional areas for new analogue radio services or the conversion of existing AM services to FM, potentially in lieu of the rollout of digital services.

⁶¹ Australian Communications and Media Authority (2013), *Communications Report 2012-13*, p.46.

⁶² Commercial Radio Australia (2015, January 23), *Figures Show A Strong Year In Commercial Radio*, [CRA Media Release](#).

⁶³ Australian Broadcasting Corporation (2014, February), *ABC submission to digital radio review*, pp. 1-2 [Digital Radio Review Submissions](#).

⁶⁴ Australian Broadcasting Corporation. (2014, February). *ABC submission to digital radio review*, p.2 [Digital Radio Review Submissions](#).

2.5. *International digital radio developments*

The review considered international developments in the deployment of digital radio services and the likely harmonisation of digital radio transmission technologies across jurisdictions.

Internationally, DAB and DAB+ are currently the most widely used digital radio standard.⁶⁵ In the United Kingdom, the media regulator Ofcom launched a digital radio action plan in July 2010⁶⁶ to determine a switchover date. The action plan emphasised that a DAB switchover should begin when 50 per cent of all radio listening occurred via digital platforms and when national DAB radio coverage was comparable to FM coverage and local DAB radio reached 90 per cent of the population and all major roads.⁶⁷ FM radio was due to be turned off in 2015. However, in December 2013 the United Kingdom Government decided to postpone the DAB switchover, given that only 35.6 per cent of listening was on digital radio devices.⁶⁸ In January 2015, a framework agreement between the United Kingdom Government and multiplex operators was released, outlining details of a major expansion of local DAB transmitters. The 182 new transmitters and 49 site modifications aim to be completed by September 2016 to increase population coverage to over 90 per cent.⁶⁹

The United Kingdom Government also identified in-car listening as a significant factor for the success of DAB digital radio. In 2014, Ofcom reported that 41.6 per cent of new cars were sold with DAB radios, 4.4 per cent more than in 2010.⁷⁰ While Ofcom saw this as an encouraging increase, it identified that a significant challenge was to convert the 34 million vehicles currently on roads in the United Kingdom.⁷¹ From 2012 to 2014, only 69,000 vehicles have undergone the conversion to

⁶⁵ World DMB (2014, September), *WorldDMB Global Update* p.15; Commercial Radio Australia (2014), *2014 Digital Radio Report* pp. 58-59 [Commercial Radio Australia - 2014 Digital Radio Report](#).

⁶⁶ Department for Culture, Media and Sport (2010, July 8), *Digital Radio Action Plan Version 1*, [UK Government Portal - Digital Radio Action Plan](#).

⁶⁷ Department for Culture, Media and Sport (2010, July 8), *Digital Radio Action Plan Version 1* p.2 [UK Government Portal - Digital Radio Action Plan](#).

⁶⁸ Department for Culture, Media & Sport (2013, December 16), *More listeners to get digital radio choice*, [UK Government Portal - More Listeners to get Digital Radio Choice](#).

⁶⁹ Department for Culture, Media & Sport (2015, January 9), *Framework agreement on local DAB expansion 2015-16*, [UK Agreement expand DAB transmitter network](#).

⁷⁰ Department for Culture, Media & Sport (2014, January 9), *Digital Radio Action Plan Version 10* p.1 [UK Government Portal - Digital Radio Action Plan](#).

⁷¹ Eureka (2014) *Challenges and opportunities offered by the connected car*, [Eureka Article - Challenges and Opportunities offered by the Connected Car](#).

digital radio.⁷² In 2014, Ofcom's digital radio action plan version 10 reported that only when the majority of listeners have chosen to adopt and use digital radio technologies can the case for a switchover be made.⁷³

On 16 April 2015, the Norwegian Government announced its intention to commence a switch-off of five national FM services in January 2017.⁷⁴ The 2015 TNS Gallup digital radio survey reports that the Norwegian public broadcaster has 99.5 per cent coverage on digital radio and that there is 92.8 per cent commercial digital radio coverage.⁷⁵ While the switch-off will affect the national FM licences some small local radio stations may continue to broadcast on FM. The criteria for which small radio stations may continue to broadcast on FM is to be announced later in 2015. Currently, 56 per cent of listeners in Norway use a digital platform daily.⁷⁶

To date, Germany has not set a switch off date for FM transmission and a recent report has stated that there is no need for consumers to purchase a new radio set, and that content providers therefore lack the incentives required to push the migration of content to DAB+.⁷⁷ Bavarian broadcasters believe that the future extension of the DAB infrastructure is the correct way forward when compared to LTE mobile radio networks, as LTE would be around 40 times more costly than transmission via DAB+. The report concludes by stating that the future focus is therefore increasingly on hybrid reception options of DAB+ and LTE, to ensure good opportunities for providers and consumers of commercial radio to affect a smooth changeover from analogue to digital terrestrial radio.⁷⁸

Finding: Definitive views on the future of digital terrestrial radio cannot be made at this time. Greater clarity may emerge in the medium term but significant rollout uncertainties and

⁷² Eureka (2014) *Challenges and opportunities offered by the connected car*, [Eureka Article - Challenges and Opportunities](#).

⁷³ Department for Culture, Media & Sport (2014, January 9), *Digital Radio Action Plan Version 10* p.3 [UK Government Portal - Digital Radio Action Plan](#).

⁷⁴ Norwegian Ministry of Culture (2015, April 16), *Radio Digitisation in 2017*, Press Release, [Norwegian Government Press Release](#).

⁷⁵ Hagerup, Av Mari (2015, April 16), *Norway to Switch off FM in 2017*, Radio Norway Media article [Radio No article](#).

⁷⁶ Hagerup, Av Mari (2015, April 16), *Norway to Switch off FM in 2017* Radio Norway Media article [Radio No article](#); World DMB (2014, May 9), *Norway* [World DAB - Digital Radio in Norway](#).

⁷⁷ Friedl, G., Schäfer, P., & Scheubel, C. (2014), *broadcast or broadband? On the future of terrestrial radio supply*, p.13.

⁷⁸ Friedl, G., Schäfer, P., & Scheubel, C. (2014), *broadcast or broadband? On the future of terrestrial radio supply*, p.28.

challenges—particularly for service provision in regional Australia—remain. The Government should continue to monitor national and international trends in the provision of digital radio.

2.6. Conclusion

Australians now have access to a wide variety of listening choices. Analogue radio, particularly FM services, continues to provide a stable backbone for commercial, national and community radio broadcasters, and retains substantial numbers of listeners. Digital terrestrial services are gradually making their way into Australian homes and cars, as people become more aware of them. The online and mobile platform is increasingly a source of audio services with rapidly growing audiences. Each system provides different benefits and services, and serves overlapping but not fully contiguous audiences. For the foreseeable future, these services are likely to exist side by side and find their own competitive balance.

The need to cover large geographic areas with small and dispersed populations in Australia provides unique challenges for the introduction of digital terrestrial radio, which has not been experienced in many international markets. Given the coverage characteristics of DAB+ radio technology; the necessity that both DAB and DRM radio services may need to be established to provide ubiquitous coverage across regional Australia; the growth of alternative digital platforms; and the still modest audiences for established digital radio services compared to analogue services, the review cannot see a clear and viable pathway to switching to digital-only radio services at this time. This is regardless of the switchover announced in countries such as Norway and aspirations of other countries such as the United Kingdom.

Finding: Australia will continue to rely on a combination of complementary analogue, digital and online radio technologies to deliver radio services to all Australians. Digital terrestrial radio will continue as a supplementary, rather than a replacement, technology in at least the short to medium term.

Recommendation: The Government should not set a timetable for analogue radio switch off at this time.

3. Digital radio rollout in regional areas

3.1 Funding for regional rollout

Multiple submissions to the review focused on the desirability of a regional rollout of digital radio using DAB+ technology. The CRA submission outlined a DAB+ Regional Rollout Plan which suggests a phased approach where digital radio services would be rolled out over a period of seven years to all

regional population centres, towns and cities with a population in excess of 5,000 in one phase, followed by other areas in regional Australia in a second phase.⁷⁹

While submissions did not speculate on the quantum of funding for this rollout, in 2013 the CRA estimated that government funding of approximately \$500 million over a 16 year period would be required for a regional radio rollout to the major regional areas of Australia.⁸⁰ This represents a significant cost to the public purse, although it is understood the CRA is reviewing this figure. The CRA argued that this amount compared favourably with the cost of digital television switchover.⁸¹ The review notes that the switchover of digital television resulted in the release of high value spectrum to the market and that no such outcome could be anticipated with the rollout of digital radio, even if a switchover from analogue radio was to occur.

As discussed in Part 2, a range of new audio services are becoming available through mobiles, smart devices and other platforms which, over time, will provide increasing competition for digital radio. Greater clarity on how the market for competing services will evolve may emerge in the medium term but significant rollout uncertainties and challenges remain.

Given this, the timing, level of investment, and method of how digital radio services are made available to regional areas should be commercial decisions for broadcasters. They will be best placed to decide the mix of technologies, platforms and services that are likely to be commercially viable in the medium to long term.

Finding: The rollout of digital terrestrial radio services in regional areas should be a commercial decision for broadcasters, subject to spectrum availability and planning.

National Broadcasters

Funding has been specifically provided by the Government to the ABC and SBS, as part of their annual Budget appropriations, to provide for costs associated with their digital radio services in the mainland state capital cities. In financial year 2014-15, the ABC received base funding of \$3.767 million and SBS received \$2.109 million for this purpose. From 1 July 2015, funding for digital radio transmission (along with other transmission funding) is part of the base funding of the broadcasters. Any rollout by the ABC or SBS of digital radio services in regional areas using DAB+ or

⁷⁹ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

⁸⁰ Campaign Brief (2013, March 18), *Commercial Radio Australia launches 'We want digital radio' regional awareness campaign* (2013, March 18), [Campaign Brief Article](#).

⁸¹ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.32 [Digital Radio Review Submissions](#).

other technologies would be a decision for the national broadcasters. Similarly, it is a matter for the national broadcasters whether they maintain their existing services.

As noted earlier in the report, the national broadcasters allow listeners to gain access to a range of their services online, including through the use of mobile phone apps. The review notes that it is open to the national broadcasters to build upon this online presence.

Community Broadcasters

Under the Radiocommunications Act, eligible metropolitan community radio services were entitled to shared access of up to 2/9th capacity of each available digital transmission multiplex.⁸² To date, 37 eligible community radio stations are operating 38 digital radio services in the five mainland state capital cities.

The Government provided \$18.5 million over five financial years (2009-10 to 2013-14) to aid in the establishment and maintenance of community digital radio. In 2014-15, the Government provided \$17.3 million in support to the community broadcasting sector, including over \$4.1 million supporting digital community radio broadcasting specifically. Community digital radio funding is budgeted at approximately \$3.7 million in 2015-16 and approximately \$2.3 million per annum from 2016-17. Digital radio funding is primarily provided to the community broadcasting sector via the Community Broadcasting Foundation (CBF), which is a sector specific independent non-profit funding administrator.

The CBAA submission indicates that it supports multi-technology delivery and complementary online and broadcast hybrid delivery,⁸³ but acknowledges that further work is needed to integrate digital radio into smartphones and tablets.⁸⁴ The review acknowledges the technical and financial challenges in community broadcasters providing digital terrestrial services. In light of this, community radio may wish to consider whether its limited resources would be best employed using online streaming more effectively rather than extending digital radio services in regional areas on the terrestrial platform.

Finding: It will be a decision for the national broadcasters and community broadcasters whether to roll out digital terrestrial radio services in areas where commercial broadcasters choose to do so.

3.2 Planning and licensing for regional rollout

The existing regulatory framework for digital terrestrial radio has successfully enabled and underpinned the establishment of services in the mainland state capital cities, which were

⁸² Section 118NR of the Radiocommunications Act.

⁸³ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.3 [Digital Radio Review Submissions](#).

⁸⁴ Community Broadcasting Association of Australia. (2014, February). *Community Broadcasting Association of Australia submission to digital radio review*, pp. 17, 35 [Digital Radio Review Submissions](#).

geographically dispersed and reasonably homogeneous. This may not be the case for the many and diverse regional areas. The existing framework also provides for national services and community services in each licence area, although it will be a matter for these broadcasters as to whether to provide digital radio services in any given licence area.

It has become clear that that some changes should be considered to ensure that the regime is flexible enough to account for the diversity of licence areas throughout regional Australia, including the different combinations of services. For example, the legislative framework currently provides for arrangements which allow national broadcasters to share a multiplex with commercial and community broadcasters (category 2), or operate their own multiplex (category 3) independently of other broadcasters. Which is the optimal arrangement would depend on the number of commercial and eligible community licensees in the area, and other issues such as cost, as well as optimum arrangements for using any excess capacity on the multiplex.

Possible minor legislative changes are addressed in section 4.3 (see below).

Canberra and Darwin Trial Licences

Trial digital terrestrial radio services have been operating in Canberra since July 2010 and in Darwin since August 2010. These trials are being conducted by the CRA, with the ABC and SBS also involved in the Canberra trial. The current trials have been extended until 31 August 2015. The trials have provided several years of testing of the DAB+ digital radio technology and provided data to assist the radio industry in managing the engineering, logistical and economic challenges of digital radio operations outside the mainland state capital cities.⁸⁵ As noted elsewhere in the report, the trial services operate using scientific licences rather than the DRMT licences used in the mainland state capital cities, and do not currently involve community broadcasters.

The CRA submission notes that listeners in Canberra and Darwin have expressed frustration at the low power of the trials and called for services to be made permanent and at a higher power.⁸⁶ The ABC, SBS and CRA submissions support the Canberra and Darwin trials becoming permanent.

Finding: The Canberra and Darwin digital radio trials have provided data to assist the radio industry in managing the engineering, logistical and economic challenges of digital radio operations outside the mainland state capital cities. This data will assist in transitioning the trial services to permanent services.

⁸⁵ Australian Communications and Media Authority (2013, August), *Canberra and Darwin digital radio trials extended*, ACMA Media Release, [ACMA 2013 Media release](#); Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, pp.31 [Digital Radio Review Submissions](#).

⁸⁶ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, pp. 4, 10 [Digital Radio Review Submissions](#).

3.3 Industry planning group for regional rollout

A number of submissions, including those from the ABC, ANRA, CBAA, CRA and SBS, suggested that an industry planning group be established to consider the provision of digital radio services outside metropolitan areas. The review considers that the establishment of an industry planning group may assist in planning the regional rollout of digital radio, which, as the ABC and SBS submissions have pointed out,⁸⁷ has not progressed.

The review agrees with the CBAA that the radio broadcasting sector has important expertise to contribute to such a planning group.⁸⁸ The ANRA has also requested that its members in metropolitan and regional areas also be included in the membership of such a planning group.⁸⁹

The review suggests that industry may wish to consider the formation of a planning group with industry members and the ACMA, focussing on the rollout of digital radio to regional areas where it is economically feasible to do so. As the statutory body responsible for planning the use of spectrum, the review considers that it would be appropriate for the ACMA to chair such a planning group.

Recommendation: Industry is encouraged to work with the ACMA to establish a Digital Radio Planning Committee for Regional Australia comprised of key industry bodies and stakeholders. The Committee should be chaired by the ACMA.

4 Legislative changes

As the technical characteristics of DAB+ underpin much of the existing digital radio legislative framework and licensing arrangements, and DAB+ is currently the industry's preferred method of delivering terrestrial digital radio services, there appears to be no need to fundamentally alter the basic legislative structure of the digital radio framework. For the most part, the legislation is sound and operating smoothly.

The ACCC in its submission considered that any legislative reform should not inhibit the development of competition in the digital radio market.⁹⁰ The ANRA reinforced the ACCC's view by

⁸⁷ Australian Broadcasting Corporation (2014, February), *ABC submission to digital radio review*, p.9 *SBS submission to digital radio review*, p.2 [Digital Radio Review Submissions](#).

⁸⁸ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.4 [Digital Radio Review Submissions](#).

⁸⁹ Australian Narrowcast Radio Association (2014, February), *Australian Narrowcast Radio Association submission to digital radio review*, p.4 [Digital Radio Review Submissions](#).

⁹⁰ Australian Competition and Consumer Commission (2014, February), *ACCC submission to digital radio review*, p.4 [Digital Radio Review Submissions](#).

noting that access entitlements should also be made available to narrowcasters who provide niche radio services to small populations in limited geographical areas to promote listener choice.⁹¹

The review has identified a number of areas where the legislative framework can be improved, potentially assisting the rollout of digital radio in regional areas. The Department proposes to consult industry stakeholders and the ACMA around any legislative changes which may come about as a consequence of the review. Suggested potential amendments are briefly discussed below.

Finding: The legislative framework for digital radio is working well, but can be improved in a number of specific areas, as set out in this report.

4.1 Moratorium on new digital commercial radio licences

The BSA currently states that, after the commencement of commercial digital radio services in a licence area, the ACMA must not allocate licences to provide new digital commercial radio broadcasting services for six years (unless an incumbent digital radio broadcaster fails to provide a service).⁹² The purpose of the moratorium was to provide “incumbent commercial broadcasters a level of stability and certainty during the digital radio investment phase.”⁹³

Mainland state capital cities

The moratorium on new commercial digital radio services in the mainland state capital cities lapsed on 30 June 2015. The ANRA in its submission considered that there was no need to extend the moratorium.⁹⁴ Nor did the CBAA in its submission support the continuation of the moratorium on new commercial digital radio services, particularly if there were to be no measure to provide for additional capacity for the community sector.⁹⁵

In contrast, the CRA submission considered there is merit in continuing the moratorium for some years; suggesting that further work needs to be done to ensure digital radio’s viability, even though

⁹¹ Australian Narrowcast Radio Association (2014, February), *Australian Narrowcast Radio Association submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

⁹² Section 35C of the BSA.

⁹³ Explanatory Memorandum to Broadcasting Legislation Amendment (Digital Radio) Bill 2007, p.40.

⁹⁴ Australian Narrowcast Radio Association (2014, February), *Australian Narrowcast Radio Association submission to digital radio review*, p.3 [Digital Radio Review Submissions](#).

⁹⁵ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.15 [Digital Radio Review Submissions](#).

in the CRA's view audience take-up has been strong.⁹⁶ The CRA has reinforced this argument in more recent correspondence to the Government.

The review notes that the original rationale for this moratorium was to provide commercial broadcasters with stability and certainty during the initial investment phase. Now that digital radio services are established in the mainland state capital cities, the review considers that the moratorium in these areas need not be extended.

Finding: There is no reason to reintroduce the moratorium that prohibited the ACMA from issuing new digital-only commercial radio licences in each of the mainland state capital cities for a period of six years after digital terrestrial radio services commenced in each area, which lapsed on 30 June 2015.

Recommendation: The Government should not reintroduce the moratorium on the ACMA issuing digital-only commercial radio licences in mainland state capital cities.

Regional licence areas

In the six years since digital radio services commenced in Australia, the prospect of a moratorium has not provided sufficient incentive for commercial broadcasters to extend such services to regional Australia. The only regional areas that have received digital radio in the interim are Canberra and Darwin where the trial nature of the services provided means that no moratorium is in place.

Given this situation, the review considers that there is no strong public policy rationale for artificially restricting the allocation of new digital commercial radio broadcasting licences in a regional licence area for six years after the commencement of services in that area. On the contrary, audience take-up of digital radio services – and purchase of digital radio receivers – in regional areas would be assisted by the presence of additional broadcasters delivering a greater range of content, subject to spectrum availability (and commercial interest). Furthermore, the participation of additional broadcasters may assist in recovering the infrastructure costs borne by those broadcasters who first supply digital radio services in an area.

Recommendation: The Government should remove the provisions requiring a six year moratorium on additional commercial digital radio services in a regional licence area following the commencement of commercial services in that area.

As a consequence of the removal of the moratorium period for new digital radio services, the requirement for commercial radio broadcasters to provide at least one digital radio service during the moratorium period would also be removed.

Allowing commercial radio broadcasters, and potentially national and community broadcasters, to broadcast their radio services in either analogue-only format, or digital-only format (or in both analogue and digital if they wish to do so) would give radio broadcasters flexibility in service delivery

⁹⁶ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.13 [Digital Radio Review Submissions](#).

and would also allow duplicate transmission costs to be avoided. However, allowing broadcasters to operate in a digital-only format would raise questions regarding the operation of regulatory arrangements for matters such as Australian and local content obligations and potentially others. These issues should be investigated further.

Recommendation: The Government should consider allowing broadcasters to choose the mode(s) in which they deliver their radio services.

4.2 Digital radio start-up date

Consistent with the Government's deregulation agenda, the provisions regarding the commencement of digital terrestrial radio services in a licence area should be amended and simplified to remove red tape.

The findings and recommendations in this report are focused on allowing the market to determine the rollout of digital radio services, responding to consumer demand across a range of digital delivery platforms. To this end, the gatekeeper role currently held by the Minister for Communications in determining a start-up day for a regional licence area should be removed. This would simplify the regulatory framework by giving the ACMA direct responsibility for determining where and when digital radio services can commence, in consultation with the industry. The establishment of an industry planning group dedicated to planning the rollout of regional digital radio services, proposed in a number of submissions and referred to in part 3.3 of this report, would also assist the ACMA when developing the timeframe and sequence of any future rollout. It could also assist in developing a pathway to the Canberra and Darwin trial services becoming permanent.

Recommendation: The Government should give the ACMA responsibility for determining where and when digital terrestrial radio services can commence.

4.3 ACMA planning and licensing framework

The current digital radio planning and licensing framework in the Radiocommunications Act restricts the options currently available to the ACMA, particularly in planning for the national broadcasters and for dealing with excess capacity.

Requirement to plan category 3 multiplex

The ACMA is required to reserve a frequency channel for a category 3 DRMT licence (national broadcasters only) in each licence area (section 44A of the Radiocommunications Act). The ACMA is also required to ensure that enough category 1 and/or 2 DRMT licences are planned and issued to satisfy the likely standard access entitlements of the incumbent commercial radio broadcasters (section 8AC of the BSA). Additionally, it is noted that the national broadcasters have the option of electing to jointly (i.e. with commercial and/or community broadcasters) hold a category 2 DRMT licence, whether or not they accept the offer of a category 3 DRMT licence. This dual requirement is unlikely to result in a spectrally efficient outcome and does not take account of the demand for these services or spectrum availability in individual licence areas, or the rollout decisions of the national broadcasters. The CRA submission recommends the combined rollout of national and

commercial broadcasting services at the same time using a single multiplex model, noting that there are already discussions in regional markets about shared infrastructure.⁹⁷

The ACMA has advised that there is unlikely to be sufficient spectrum in all licence areas for two multiplexes. Consideration should be given to amending the legislation to provide the ACMA with the discretion to not plan for a category 3 licence in each licence area if they have consulted with the national broadcasters and been advised that the nationals will be participating on a category 2 multiplex.

Access entitlements and allocation of excess capacity

The legislation currently provides a single fixed formula for the sharing of a category 2 multiplex between national, commercial and community broadcasters. Each incumbent commercial broadcaster is eligible to receive 1/9th of the capacity (up to 5/9th in total for commercial broadcasters, although the maximum number of incumbent commercial broadcasters in any regional licence area is four), each incumbent national broadcaster similarly is eligible to receive 1/9th, and the community broadcasters are eligible to share 2/9th amongst them. The remaining 1/9th is available for allocation through auction.

In practice, given the different number of commercial broadcasters in each area, the actual usage of the available capacity will vary. Moreover, with the proposed flexible arrangements recommended by this review, it is possible not all entitlements may be taken up by eligible broadcasters.

1/9th of the capacity will not be enough to allow terrestrial transmission of digital versions of each existing analogue national broadcaster service, let alone the full suite of national digital radio service currently on offer. To address this, national broadcasters could seek to provide their own (category 3) independent multiplex, if spectrum is available. However this would require national broadcasters to establish (and fund) a fully independent set of transmission infrastructure at the site, rather than sharing costs with commercial and community broadcasters as would be possible with a category 2 multiplex arrangement.

There are therefore three options available to use any excess capacity, some of which may require legislative amendments:

- Provide first rights to spare capacity to the national broadcasters to enable a greater range of national broadcaster digital services to be transmitted
- Auction spectrum; under the existing arrangements, auction bidders for excess capacity would be restricted to national, commercial and community broadcasters

⁹⁷ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, pp.31-32 [Digital Radio Review Submissions](#).

- Reserve spare capacity for future allocation once demand becomes clearer; this could include opening the market up to non-incumbent broadcasters and to narrowcasters (which is discussed in section 4.4 below).

The CBAA has argued that any excess capacity be reserved to meet community broadcasting requirements.⁹⁸

With a price based approach it is likely that commercial operators would be in a better position to obtain excess capacity than either the national or community broadcasters. The CRA submission raised the preference to avoid an auction in favour of a sharing of the capacity between existing access seekers.⁹⁹ However, given that the amount of excess capacity and the demand for services will vary across regional licence areas, it is difficult to determine the actual degree of competitive tension that will arise.

Legislative amendments would be required if it is proposed to impose conditions on the auction process or if an alternative system for allocating excess capacity is proposed. This would be done in consultation with the ACMA and industry.

Consideration could be given to providing the ACMA with greater flexibility to allocate access entitlements. This would give the ACMA the ability to vary the entitlements for each licence area, subject to discussions with the existing stakeholders and the overriding conditions of spectrum efficiency and improved programs for listeners.

Recommendation: The Government should consider minor amendments to the current digital radio regulatory regime to provide a simpler, more flexible process for planning and licensing of digital radio in regional Australia, with a view to permanent services being licensed in Canberra and Darwin as a priority.

4.4 Who can provide digital radio services

At present, apart from the national broadcasters, only those commercial and wide-area community broadcasters who are licensed to provide analogue radio services in a particular licence area may seek to provide digital radio services in those areas. These restrictions operate in addition to the moratorium provisions discussed at section 4.1. The review notes that this approach is consistent with the finding that digital radio will continue as a supplementary, rather than a replacement, technology in at least the short to medium term. However, if incumbent broadcasters choose to not

⁹⁸ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.10 [Digital Radio Review Submissions](#).

⁹⁹ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.13 [Digital Radio Review Submissions](#).

provide digital radio services in regional areas, then the practical outcome is that listeners are denied such services and valuable spectrum is not utilised.

Therefore, the review considers that if incumbent radio broadcasters in regional licence areas have not established digital terrestrial radio services, or taken positive steps towards their establishment, by 30 June 2018, the Government should consider relaxing the restrictions in the BSA on who may provide such services.

This would give incumbent radio broadcasters sufficient time to determine the business case for rolling out digital terrestrial radio. If incumbent broadcasters decide that the business case is not viable, then it may be appropriate to allow other parties, including narrowcasters, to do so. As the ACCC noted in its submission, the potential emergence of new competitors may stimulate the market by driving innovation and investment.¹⁰⁰

In considering whether to relax the restrictions on who can provide digital terrestrial radio services, the Government would need to take account of a range of complex policy and regulatory issues. These would include the benefits to listeners in a given area of obtaining access to digital radio services, the impact on existing analogue radio broadcasters, and the arrangements for accessing any excess capacity on the category 2 multiplexes.

Recommendation: The Government should consider whether the statutory restrictions on who can provide digital radio services should be relaxed in the event that incumbent radio broadcasters in regional licence areas have not established digital radio services, or taken positive steps towards their establishment, by 30 June 2018.

In addition to the issues noted above, there are other matters to be resolved before a decision could be made on whether narrowcasters be permitted to provide digital terrestrial radio services. As narrowcasting services are class licensed, they do not operate under the same licensing arrangements as commercial or community broadcasters and may have effectively acquired access to spectrum at a considerably lower cost than commercial broadcasters. Furthermore, their coverage does not necessarily correspond to commercial services. In particular, low powered narrowcasters would generally operate over a much smaller area than a commercial radio licence area. If narrowcasters were permitted to provide digital radio services, their coverage may significantly exceed the coverage of their analogue services.

However, where digital terrestrial radio services have already been established or where services are being rolled out in regional areas and there is sufficient spectrum available to accommodate narrowcasting services, permitting narrowcasters to provide digital radio services and contribute to infrastructure costs could enhance the attractiveness of digital radio to listeners and increase the commercial viability of digital radio.

Recommendation: The Government should consider the arrangements required to enable narrowcasters to provide digital radio services in areas where services have already been

¹⁰⁰ Australian Competition and Consumer Commission (2014, February), *ACCC submission to digital radio review*, p.6 [Digital Radio Review Submissions](#).

established or to join incumbent broadcasters in rolling out services, subject to the availability of spectrum and multiplex capacity.

The review also considered the operation of the restricted datacasting licence (RDL) category. This category was introduced in order to enable new service providers to make use of the digital radio platform to provide content which, it was hoped, would be different from traditional radio content. As the ACMA has issued no RDLs to date, one course of action would be to remove this licence category from the digital radio framework.

The ABC, in its submission, noted that, in the absence of demand for these licences and the scarcity of spectrum, there may be no need to retain this licence category.¹⁰¹ The CRA submission also questioned the need to retain RDLs; as there is no excess capacity across commercial, national and community broadcasters in mainland state capital cities, other than Brisbane, no multiplex capacity is available for RDL use.¹⁰²

ANRA indicated in its submission that if the RDL requirements were modified, there could be some interest on the part of narrowcasters in providing niche services under this part of the legislation.¹⁰³ There is nothing in the current legislation to prevent an existing narrowcaster applying for an RDL, although no existing narrowcaster has done so.

Given the lack of take up of RDLs, the review does not expect repealing the RDL category would compromise the provision of innovative services, and it would simplify the overall regulatory framework.

Recommendation: The Government should repeal the restricted datacasting licence category.

4.5 Sharing of multiplexes by commercial, national and community broadcasters

The review proposes no fundamental changes to the legislative arrangements governing the establishment and sharing of digital radio transmission infrastructure (digital radio multiplexes) by radio broadcasters, beyond the issues raised in Part 4.3 above.

The CRA did not outline any significant issues with the existing legislative arrangements stating that the current regulatory and technical framework for digital radio is broadly well suited to providing

¹⁰¹ Australian Broadcasting Corporation (2014, February), *ABC submission to digital radio review*, p.9 [Digital Radio Review Submissions](#).

¹⁰² Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.15 [Digital Radio Review Submissions](#).

¹⁰³ Australian Narrowcast Radio Association (2014, February), *Australian Narrowcast Radio Association submission to digital radio review*, p.3 [Digital Radio Review Submissions](#).

services to population centres over 5,000 and along main arterial roads.¹⁰⁴ The CRA did note that digital radio is a whole new way of working for broadcasters who have not previously shared infrastructure on this scale and that time was needed for the establishment of the joint venture companies (JVC) to own the spectrum licence and transmission equipment.¹⁰⁵

The national broadcasters did not raise any significant issues with the existing legislative arrangements. The ABC stated that 'the ABC and SBS currently provide a national DAB multiplex in each of the five mainland state capital cities through a joint venture. This JV has proven to be an effective method of providing DAB transmission services for both national broadcasters, and the ABC would prefer to retain the model as the benchmark for planning ABC and SBS digital radio services across the country'.¹⁰⁶

As any digital terrestrial radio rollout to regional licence areas would be a decision for the national broadcasters, national broadcasters retain their ability to choose whether to join commercial and community broadcasters in a JVC to establish a DAB+ multiplex in a licence area. National broadcasters may either accept the invitation to join a JVC or separately apply for a digital multiplex which is exclusively for their use..

Community broadcasters were less satisfied with the multiplex sharing arrangements stating that 'under the current framework.... community broadcasters have significant limitations on capacity available per service. The equivalent of two standard access entitlements is shared among many wide area community broadcasters¹⁰⁷ in an area, as many as six in Adelaide and seven in Perth where there is only one available multiplex. This presents severe challenges to the community broadcasters to provide basic digital radio'.¹⁰⁸ In its submission, the CBAA suggested that an additional DRMT licence should be provided in an area where community broadcasting services need

¹⁰⁴ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.33 [Digital Radio Review Submissions](#).

¹⁰⁵ Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p.31 [Digital Radio Review Submissions](#).

¹⁰⁶ Australian Broadcasting Corporation (2014, February), *ABC submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

¹⁰⁷ Wide area community broadcasters are community broadcasters whose licence area is the same as the licence area of a commercial radio broadcasting licence. Section 8AA of the BSA refers. The BSA also provides for the ACMA to determine that a licence area of a wide area community radio broadcaster that does not exactly match that of the relevant commercial radio broadcasting licence is taken to be the same as a licence area of a commercial radio broadcasting licence. Section 8AD of the BSA refers.

¹⁰⁸ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.8 [Digital Radio Review Submissions](#).

additional capacity as well as overflow capacity for commercial broadcasters.¹⁰⁹ As the CBAA has pointed out, an additional foundation DRMT licence would require legislative amendment.

While the review acknowledges the difficulties associated with access to spectrum, the review does not consider there is a need for general and fundamental revisions to the framework. It is a matter for community radio broadcasters to negotiate the provision of their content in their commercial agreements with the JVCs for access to the multiplex. The availability of suitable spectrum and the limitations on multiplex capacity will always be a potential constraint to the provision of all DAB+ radio services, and more specifically when accommodating the requirements of a large number of community broadcasters in some licence areas.

4.6 Access regime for digital radio

The ACCC, which administers the digital terrestrial radio access regime, noted in its submission that the current access framework appears to be operating effectively.¹¹⁰ However, the ACCC encouraged greater consultation between JVCs and broadcasters seeking access to their services.¹¹¹

The CRA noted that, while the use of an access regime was a relatively novel construct for the broadcasting sector when it was first implemented in 2009, it considers that the existing access regime provides a workable approach to the delivery of multiplex capacity to both commercial and community broadcasters.¹¹²

The CBAA's submission supported greater consultation between JVCs and access seekers in cases where actions of the JVCs may result in increased fixed recurring costs for the access seeker.¹¹³ The CBAA expressed concern that the extension of DAB+ digital radio coverage through the use of on-channel repeaters may be undertaken without any consultation with relevant access seekers to the

¹⁰⁹ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.9 [Digital Radio Review Submissions](#).

¹¹⁰ Australian Competition and Consumer Commission (2014, February), *ACCC submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

¹¹¹ Australian Competition and Consumer Commission (2014, February), *ACCC submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

¹¹² Commercial Radio Australia (2014, February), *Commercial Radio Australia submission to digital radio review*, p. 11 [Digital Radio Review Submissions](#).

¹¹³ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, pp. 17, 35 [Digital Radio Review Submissions](#).

digital radio multiplex, resulting in adjustments to fixed recurring costs for access seekers.¹¹⁴ The CBAA proposed that the access regime be amended to require a separate consultation process with access seekers where a multiplex licensee proposes to establish an on-channel repeater, add a redundant main site, or materially change the scope or cost of DRMT infrastructure.¹¹⁵

The ACCC, in its submission, noted that in 2013 it had considered the issue of new investment by multiplex licensees in its decision to accept a request from the five JVCs holding the eight DRMT licences to vary the Access Undertakings and alter the service description to reflect new and future investments in on-channel repeaters.¹¹⁶ The ACCC noted that Access Undertakings contain a mechanism for access seekers to seek a price review or resolve disputes where they have specific concerns.¹¹⁷ The ACCC further noted that the JVCs provide DRMT services to community and commercial broadcasters, both of whom have different needs, and encouraged continued consultation between JVCs and access seekers as an effective industry mechanism by which JVCs could understand and potentially address any concerns.¹¹⁸ Overall, the ACCC concluded that the access regime appeared to be working effectively and efficiently in facilitating access to the DRMT service.¹¹⁹

The review notes that the ACCC undertook full consultation with relevant stakeholders before accepting the Access Undertaking in 2009 and the variation in 2013. The decisions to accept the Undertaking and the variation were based on published decision-making criteria. Therefore, the review does not support the proposal from the CBAA for the access regime to be amended to require further consultation by multiplex licensees before making investments. However, the review endorses the ACCC's encouragement of greater consultation between JVCs and access seekers on an informal basis.

The review proposes no fundamental changes to the legislative arrangements governing the digital terrestrial radio access regime. Similar to the arrangements for the sharing of multiplexes,

¹¹⁴ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.55 [Digital Radio Review Submissions](#).

¹¹⁵ Community Broadcasting Association of Australia (2014, February), *Community Broadcasting Association of Australia submission to digital radio review*, p.14 [Digital Radio Review Submissions](#).

¹¹⁶ Australian Competition and Consumer Commission (2014, February), *Australian Competition and Consumer Commission submission to digital radio review*, p.5 [Digital Radio Review Submissions](#).

¹¹⁷ Australian Competition and Consumer Commission (2014, February), *Australian Competition and Consumer Commission submission to digital radio review*, p.6 [Digital Radio Review Submissions](#).

¹¹⁸ Australian Competition and Consumer Commission (2014, February), *Australian Competition and Consumer Commission submission to digital radio review*, pp.5-6 [Digital Radio Review Submissions](#).

¹¹⁹ Australian Competition and Consumer Commission (2014, February), *Australian Competition and Consumer Commission submission to digital radio review*, p.6 [Digital Radio Review Submissions](#).

consequential adjustments to these arrangements may be required in the event that the statutory restrictions on who can provide digital radio services are relaxed (as discussed in Part 4.3)

Finding: The arrangements governing the establishment of digital radio transmission infrastructure (multiplexes) by broadcasters and access to capacity on the multiplexes are generally working satisfactorily in the mainland state capital cities. However, some adjustments are likely to be needed to optimise the use of spectrum and infrastructure in regional areas, to accommodate the differing combinations of commercial, national and community broadcasters in different areas. Adjustments may also be needed in the event that the statutory restrictions on who can provide digital radio services are relaxed in the future.