

Proposal to vary the Perth and Remote Western Australia radio licence area plans

Consultation paper

AUGUST 2025

Alan Hughes Submission to This Proposal

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Executive Summary

For 16 years all of the broadcasters in this proposal except Swan Valley Community broadcaster have been transmitting their 18 programs in DAB+ in the best quality, the lowest cost with least pollution. These broadcasters have not been promoting its use, instead promoting streaming which lines the pockets of the telcos and creates more pollution.

As a result, I reject this proposal on the basis of cost, lack of program choice and pollution as well as maintaining program choice at 5.

I agree with the closure of the Hamersley the 5 high power AM transmitters as well as 3 high power FM transmitters at Bickley.

All metro wide community broadcasters have had the same coverage as ABC, SBS and commercial broadcasters on DAB+ for a considerable period. In the community broadcasters the FM coverage is much less.

I tested reception in the rapidly developing outer suburb of Two Rocks where DAB+ was the best signal but is patchy, ABC Classics was generally even weaker and ABC Perth AM from Hamersley was unlistenable. Perth metro area contains 100 km of coastline which means the salt laden wind causes electrical insulator to arc causing a continual 'hash' which is worst at dawn & dusk.

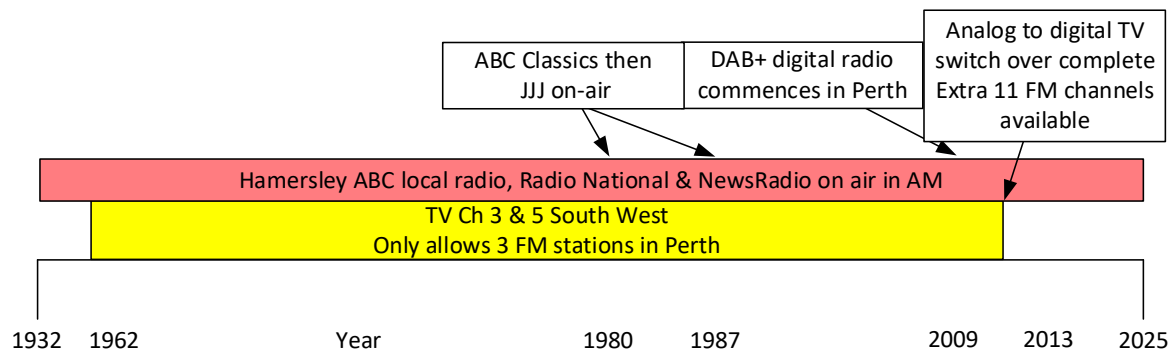
The rejection of this proposal and the closure of Government funded broadcasting in Perth will produce an opportunity to commence a transition to digital broadcasting, which TV did 12 years ago. The sale of AM transmitter land, and ongoing lower operating costs will help fund the national transition. This will also aid in complying with the Government's climate target with a large decrease in electricity consumption also making solar/wind generation at site more affordable.

The switch off of the AM/FM transmitters for the ABC and SBS in all capital cities, as well as the Gold Coast will result in the closure of 36 AM and 31 FM transmitters. The cost of operating and depreciation costs of these redundant transmitters can help the rollout of Digital Radio Mondiale for the 32 % of Australians with a much poorer program choice. DRM also reduce costs by the replacement of 359 AM and 574 FM transmitters with 372 Band 1 DRM transmitters. Some of these sites will not be required for radio because of the larger coverage area compared to TV.

A similar transition to digital transmission for commercial radio broadcasters will have similar benefits. With the ABC vacating the FM band, it allows commercial broadcasters to modify an existing FM transmitter to one of those frequencies and transmit both their programs in DRM.

The commercial transition should be delayed by a maximum of a year after the ABC/SBS transition in the same area to allow receiver numbers to build and to smooth the supply of receivers. This will minimise the financial losses for commercial broadcasters.

History



Motivation for the Proposal to Vary the Perth Licence Area Plan

In 1998 the Commonwealth Government sold all ABC & SBS Radio & TV transmitters including their land.¹

4QB is ABC local radio in Wide Bay region of Queensland. In 1997 there was a regional FM rollout of ABC local Radio, RN & NewsRadio which made the old 4QB AM transmitter on a prime ocean block redundant. Around 2015, the very old transmitter was replaced with a new transmitter on a rural block. The original block was sold. Even now redundant AM transmitters in Cairns, Taree and Goulburn NSW are still on air.

The Hamersley WA transmitter site is zoned for Commonwealth use. The ABC's transmission contractor has twice tried to sell a small portion the 41.8921 ha = 0.42 km² of prime residential land which 11.5 km from Perth CBD for millions. They must have realised that they have to demolish the transmitters to achieve their aim and then they can sell it all.

If this proposal is successful, it is highly likely for similar proposals to vary Licence area plans for Bald Hills Qld², Delahey Vic³ as well as Prestons NSW, and Reynella SA & Lauderdale Tas as well as a few regional sites.

It will mean, 36 high power capital city AM transmitters can be decommissioned. AM transmitters are the least energy efficient and most costly method of program distribution. Not only will they make a large profit, another method of program delivery will use a lot less electricity dropping operating costs as well.

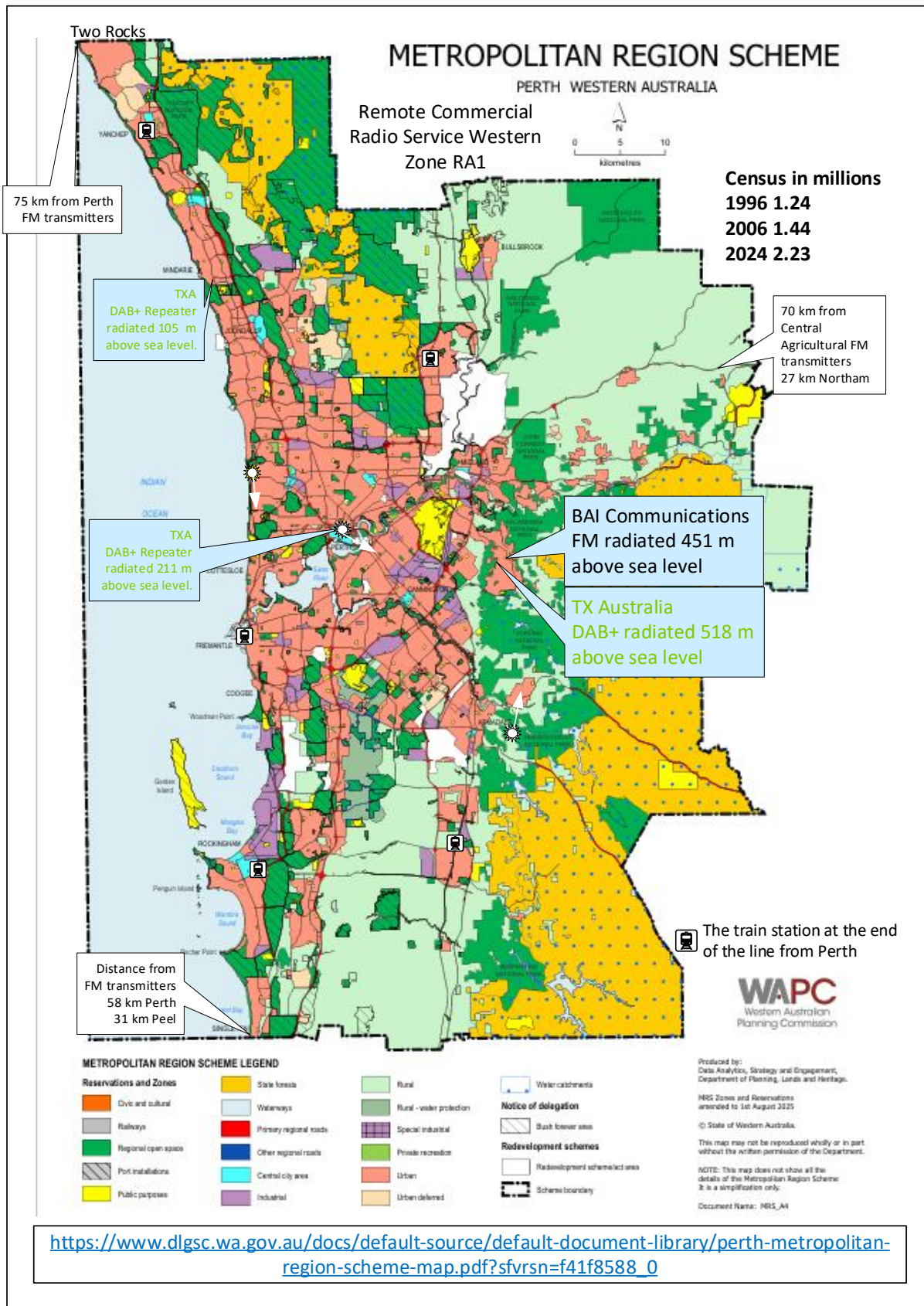
This financial year the ABC is paying \$212.678 million and SBS \$81.715 million to their contractor for transmitting of TV, FM and AM nationally. SBS only has a single high powered FM transmitter in each capital city with AM transmitters in Newcastle, Sydney, Wollongong & Melbourne. In country areas communities have to pay for their own FM transmitter.

¹ https://classic.austlii.edu.au/au/legis/cth/consol_act/ntnsa1998389/

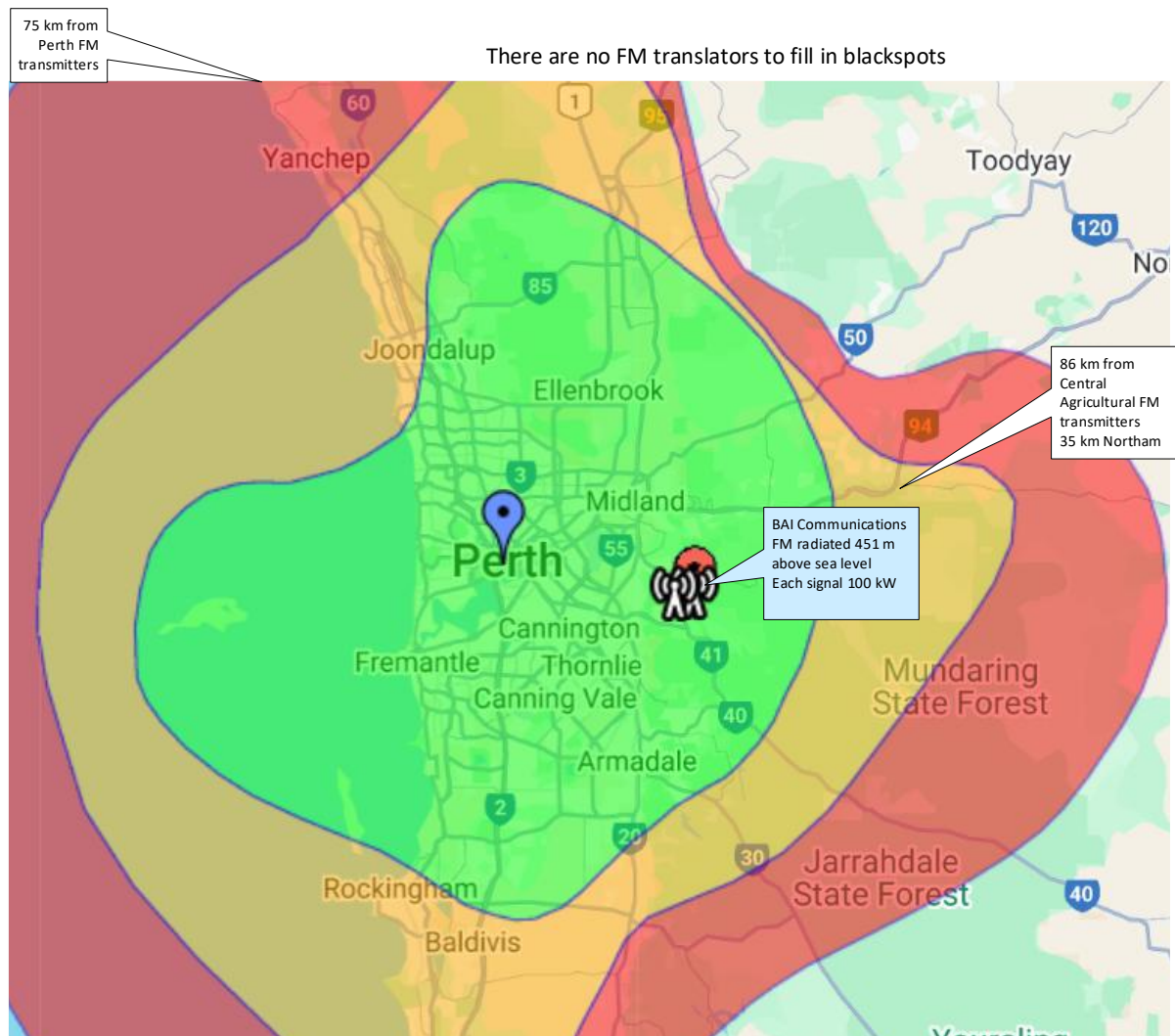
² Kluver St Bald Hills 17.5 km from the Brisbane CBD

³ Sydenham Road DELAHEY 18.8 km from the Melbourne CBD

Current Perth land use map & ABC Coverage area maps



Perth FM coverage map



Typical coverage strength

- Highest reception quality Regardless of location
- Good reception In vehicles, not in metal roofed houses
- Reception may be difficult No stereo sound, may be hissy or muted

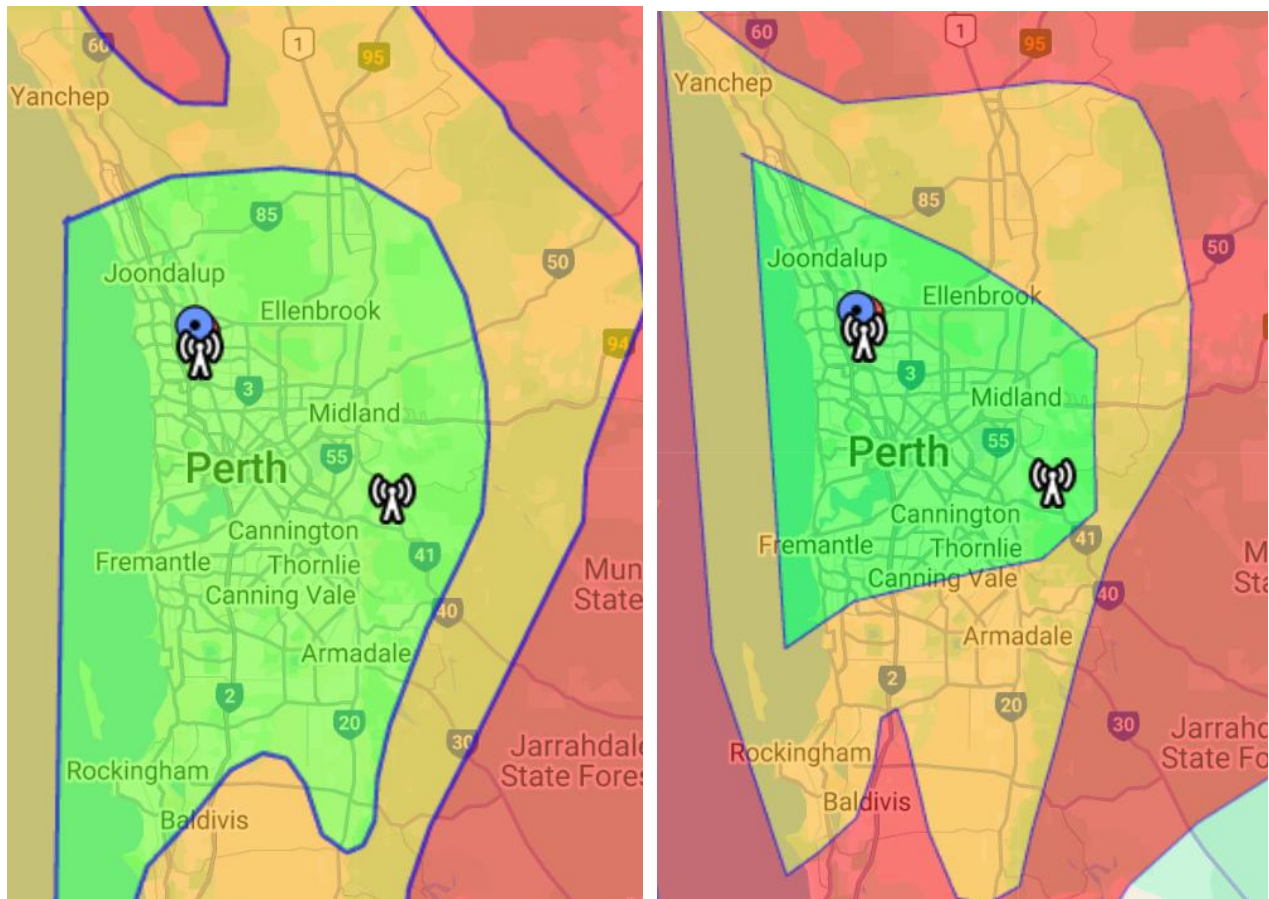


An external FM antenna will need to be mounted above the roof.
In apartments use the Master Antenna TV system

There is now an electric suburban railway to Yanchep, with massive coastal housing estates being built now. Will the FM signal reach 75 km does not penetrate a metal roof house.

6WF and 6RN. The 6PB map appears identical to 6RN

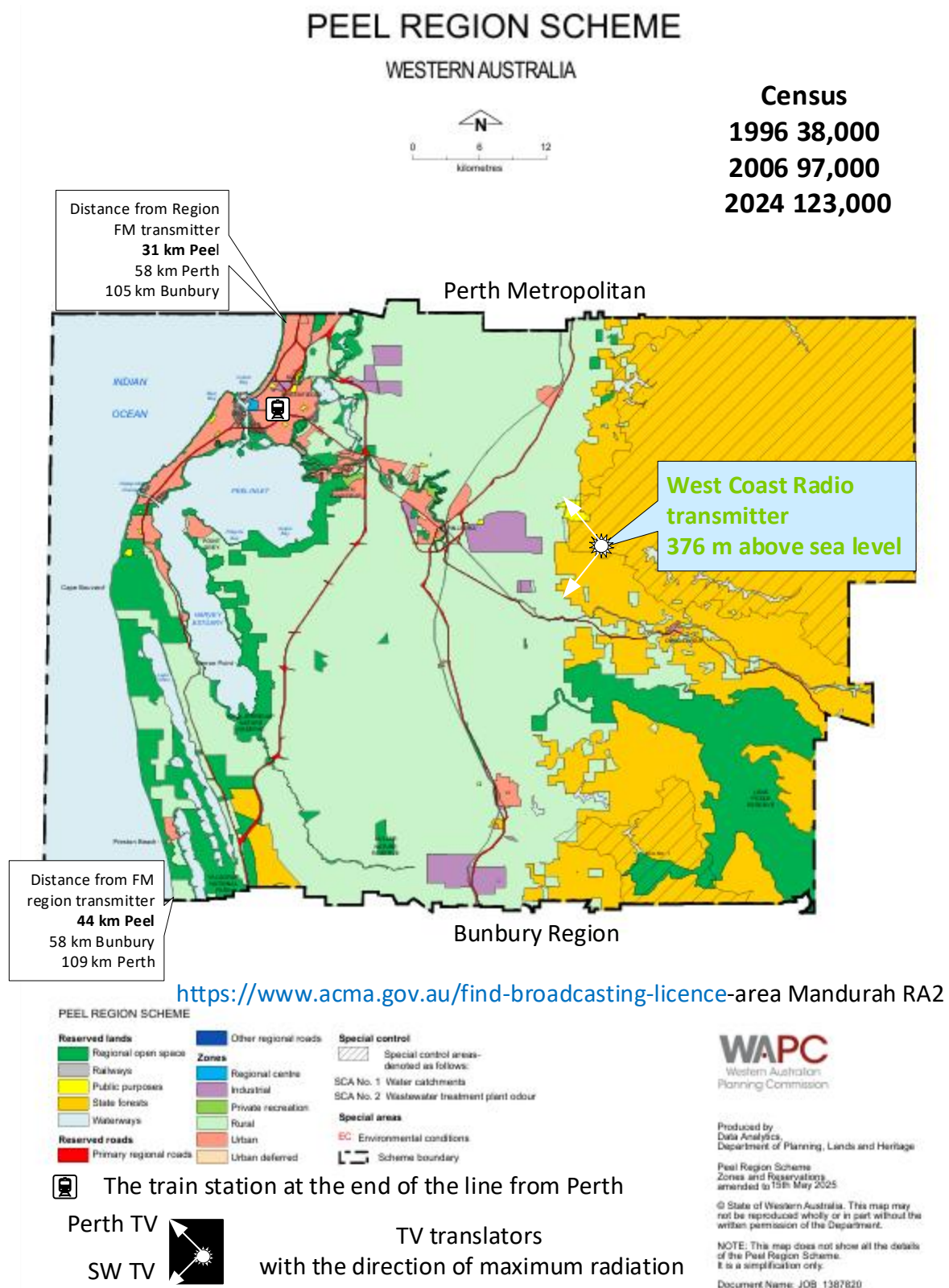
6PB commenced broadcasting on a lower power transmitter and inferior antenna. I wonder if they copied the 6RN map.



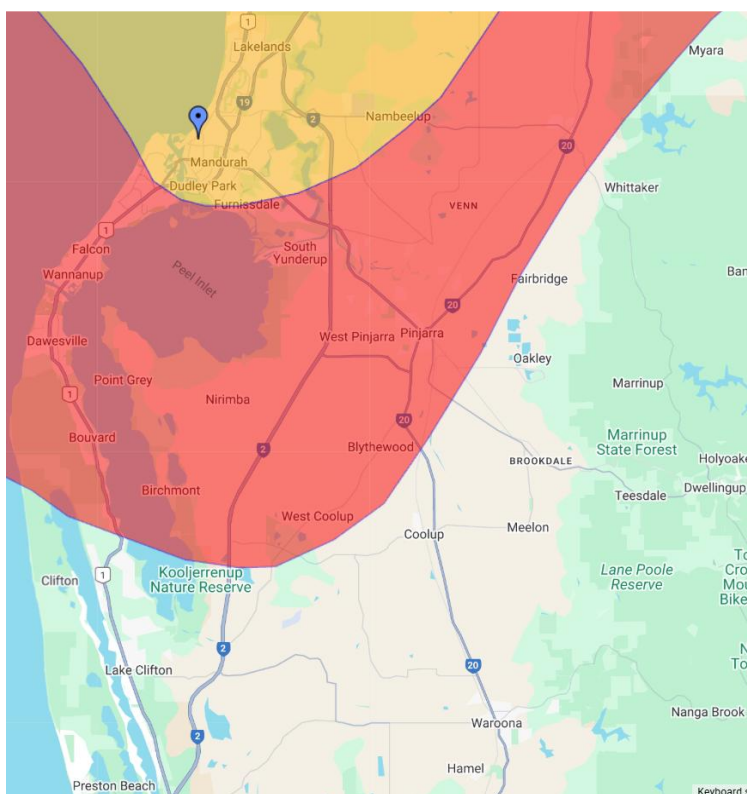
The reception near the edge of the coverage area is variable particularly at dawn and dusk.

AM reproduces impulse noise which is generated by salt laden electricity supply insulators, electric train pantograph and the very common switch mode power supplies. Listening in Two Rocks is impossible because of continuous 'hash' sound.

Current Peel Land Use Map & Coverage maps



Existing ABC FM coverage in Peel from Perth & Bunbury



<https://reception.abc.net.au/>

Map of FM Coverage from Bickley

The quality of reception does not change with time of day.

There is a stronger ABC Perth signal from Hamersley AM site which is proposed to close

Hamersley AM transmitter site

6WF 720 kHz 50 kW

6RN 885 kHz 20 kW

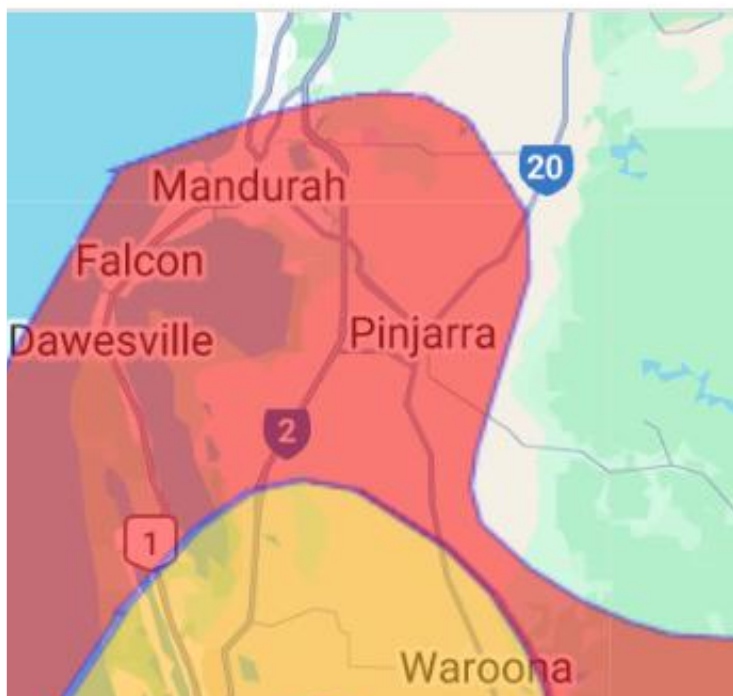
6PB 1152 kHz 10 kW

All subject to fading and phasing distortion at dawn and dusk.

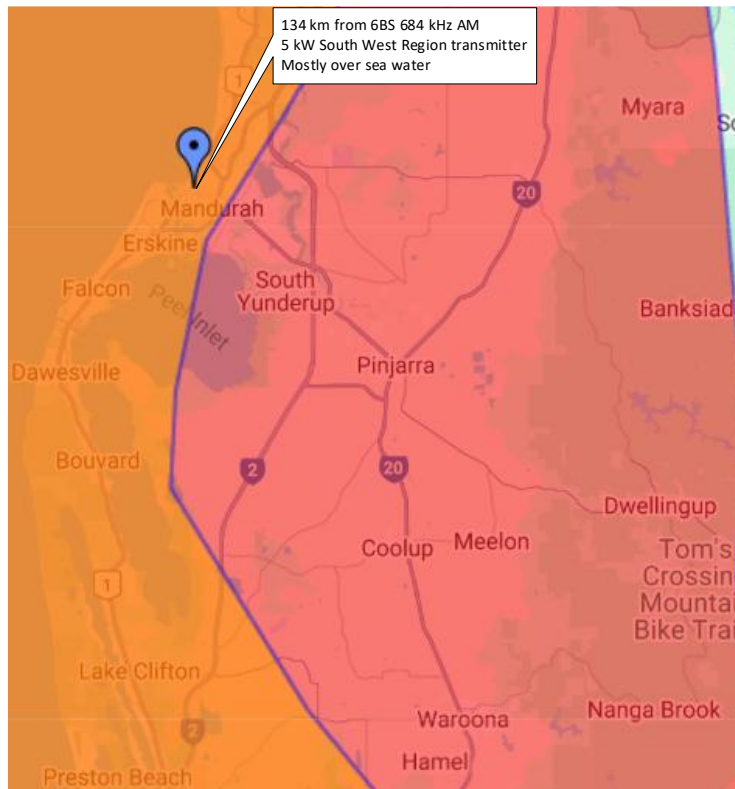
With increasing population means increasing electronic noise.

ABC Perth and ABC SW have some different content.

Radio National content in Perth & South West are identical similarly ABC News Radio.



ABC AM from Bunbury studios in Peel



Map of AM Coverage from Busselton for ABC South West, Radio National and Newsradio have poor or non existent coverage

The quality of reception changes with time of day.

Busselton AM transmitter site

6BS ABC South West 683 kHz 5 kW

6RN 885 kHz 5 kW

6PB Newsradio 1152 kHz 10 kW

6PB's prime reception area is over the ocean

All subject to fading and phasing distortion at dawn and dusk.

With increasing population means increasing electronic noise.

From Falcon to Bouvard will get poor FM reception of ABC Perth and ABC South West both the most popular stations and are the Emergency broadcaster.

Peel is sandwiched between Perth like Central Coast NSW (population >350,000) is sandwiched between Sydney and Newcastle. These areas have large population growths which get poor ABC reception and no SBS radio.

Current Perth Broadcasts

Perth WA Metropolitan Licence Area Broadcasters

| Government | | Commercial | | Community | |
|--|------------------------------|--------------------|-------|-------------------|-------|
| Call sign | Power | Call sign | Power | Call sign | Power |
| 6WF ABC Perth | 50 | 6PR 9Radio | 10 | 6RPH Vision Aust. | 5 |
| 6RN | 20 | 6IX Capital Radio | 2 | 6RTR | 16 |
| 6PB ABC News | 10 | 6MMM SCA | 40 | 6SON Sonshine | 16 |
| 6ABC Classics | 100 | 6NOW ARN | 40 | 6SEN Capital | 8 |
| 6JJJ | 100 | 6PER Nova | 40 | 6NR Curtin | 6.5 |
| 6SBS 1/2 | 100 | 6MIX SCA | 40 | 6NME Noongar | 16 |
| DAB+ digital radio | 50 | DAB+ digital radio | | | 50 |
| High Power Open Narrowcasting, analog only | | | | | |
| | Sports Entertainment Network | | 2 | | |
| | TAB Radio | | 2 | | |
| | China Radio International | | 5 | | |

All but HPON are simulcast on DAB+ and AM or FM in Perth.

| DAB+ digital only Broadcasts | |
|------------------------------|------------------------------------|
| • ABC Country | • NTS (9 Radio) |
| • ABC Jazz | • 60's Music (Capital Radio) |
| • ABC Kids Listen | • 70's Music (Capital Radio) |
| • ABC Sport | • 96 FM 80s (ARN) |
| • Double J | • CADA (ARN) |
| • JJJ Unearth | • Chemist Warehouse Remix (ARN) |
| • SBS Radio 1 | • Tiktak Trending (ARN) |
| • SBS Radio 2 | • Easy Hits (SCA) |
| • SBS Radio 3 | • Coles Radio (Nova) |
| • SBS Arabic | • Smooth Perth (Nova) |
| • SBS South Asian | • Blender Beats (SCA) |
| • SBS Pop Asia | • Old Skool 80s Hits (SCA) |
| • SBS Chill | • Old Skool 90s Hits (SCA) |
| | • R & B Fridays (SCA) |
| | • MMM 80s (SCA) |
| | • MMM 90s (SCA) |
| | • MMM Classics (SCA) |
| | • MMM Country (SCA) |
| | • Niche (Vision Australia) |
| Community | |
| | • Vision Australia Iris (National) |
| | • Sonshine Extra |

AM radio, FM Radio (One program/transmitter), DAB+ (Average 26 programs/transmitter)

Virtually all DAB+ and FM transmissions are in stereo. All AM programs are in mono.

Two DAB+ transmitters are carrying 51 programs for Perth listeners.

There are no backup DAB+ transmitters.

For Perth there are 6 main and 2 backup AM transmitters and 12 and 3 backup FM radiating 18 programs.

Proposals 1 – 3

I agree with that the AM transmitters should be decommissioned because of low sound quality, high cost and consequential carbon dioxide generation by Synergy.

Replacing AM with FM must be rejected for the following reasons;

Coverage area

The ACMA planning is being done on very old maps. Perth and Peel regions have been rapidly expanding in population and built-up areas. I have included a current map along with the ABC coverage areas. On pages 5 – 7. Whilst the ACMA as the excellent <https://myswitch.digitalready.gov.au/> for DTV, the detail includes the terrain. This program should also include FM, DAB+ & VHF DRM options and made publicly available.

The new LAP uses the same 100 kW_{erp} omnidirectional radiation pattern used by ABC Classics, 6JJJ & SBS. The transmitter site on the Eastern edge of the city and is on the Darling Scarp which is uninhabited water catchment area. To the East of that area is the Central Agricultural area. Why doesn't the Perth LAP specify a directional antenna aimed on an arc from the NNE to SW? This is similar to the Perth commercial LAPs.

I tested reception in the rapidly developing outer suburb of Two Rocks where DAB+ was the best signal, but is patchy, ABC Classics was generally even weaker and ABC Perth AM from Hamersley was unlistenable. Perth metro area contains 100 km of coastline which means the salt laden wind causes electrical insulator to arc causing a continual 'hash' which is worst at dawn & dusk.

The Peel region is sandwiched between the Perth and Bunbury (South West) LAPs. See pages 8 -10. Peel is equidistant between their FM transmitter sites. There is a Mandurah LAP for a commercial broadcaster covering marginal reception of the ABC & SBS FM coverage. So, an additional 5 x 5 kW_{erp} FM transmitters will give good ABC/SBS FM coverage.

The LAP's 100 kW_{erp} omnidirectional radiation pattern is inadequate to cover the complete Perth and Peel regions

The Age of Technology

FM radio technology is 86 years old and uses more energy than wireless and wired internet. Digital Radio uses much less.

The ABC/SBS transmitter contractor is a Canadian company. The Canadians are like us with a small area of high population density and lots of low population density. The Canadians were burnt by the original DAB and with HD Radio. They have never tried DAB+ or DRM. We after testing we rejected HDRadio on its release in 2002.

DAB+ digital radio in 2009 Australia and was the first country in the world to commence full-time high-power transmissions. The Perth pair of DAB+ transmitter carries 52 separate programs including simulcasts of analog transmissions. This makes it the most energy efficient transmission system per transmitted program. This includes using the internet via phone or NBN.⁴

So, not only is the capital cost much lower including any renewable energy supply due to the lower power consumption and carbon dioxide generation. The Department of Communications, ACMA, ABC and SBS are all subject Commonwealth Government's climate change targets.

Electricity consumption

The actual electricity consumption and the consequent carbon dioxide is not publicly available. I have used industry sources to calculate the following figures.

For comparison, the current consumption of Hamersley is around 100 kW for AM and another 20 kW for FM at Bickley. 3,790 GJ/year = 1,051,898 kWh/year

This plan requires FM transmitters for ABC Perth, 6RN, 6PB, 6JJJ, 6ABC Classics and 6SBS at an effective radiating power of 100 kW each.

The GatesAir⁵® comparison adapted for Perth LAP (ABC/SBS)

| Parameter | FM | DAB+ |
|--------------------------------|---|--------------------------------------|
| # programs/transmitter | 1 | 18 |
| Effective radiated power | = 6 x 100 = 600 kW | = 1 x 10 = 10 kW |
| Total transmitter output power | = 6 x 100 ÷ 10 = 60 kW | = 1 x 10 ÷ 4 = 2.5 kW |
| Electricity consumption | = 60 ÷ 0.75 = 80 kW | = 2.5 ÷ 0.5 = 5 kW |
| | 2520 GJ/year = 701,000 kWh/year | 158 GJ/year = 44,000 kWh/year |
| Current Metro ERP | | 50 kW |
| Current Perth Consumption | AM/FM/DAB+ 5 TJ/year = 1,050,000 kWh | 25 kW = 789 GJ/year = 219,000 kWh |

Thus, the energy bill will drop by around 84 % from now if all AM & FM are switched off. The ABC's transmitter contractor will have the real figures.

⁴ https://www.worlddab.org/system/news/documents/000/012/007/original/10.05.21_Factsheet_-_Environmental_impact_of_DAB_.pdf?1620647254

⁵ Alexader Kurz https://www.youtube.com/watch?v=-D1_V01mQpY&list=PLMSHyWiZb4XG--rZKaYOENj85II76mnrn&index=1 Slide 8

The ABC Annual reports do not contain the transmission energy consumption or the carbon dioxide production.

In theory if radiated power is increased by 5 times the radius to the same signal strength doubles. The higher power will make reception inside new metal roofed housing estates near the edge of the licence area more reliable.

Proposal 4: new community broadcasting service – Swan

If 6VCA complies with the Broadcasting Act should be given a licence to join community broadcasters in Armadale, Fremantle, Kalamunda and Wanneroo.

Proposal 5: community radio – variations to Perth services

Currently, all of these broadcasters get the same coverage as ABC, SBS, commercials and metro wide community stations get the same coverage using DAB+. These community broadcasters on FM all have smaller cover coverage areas, some more than others. Pure DAB+ broadcasting will reduce their costs.

Proposal 6: minor amendments

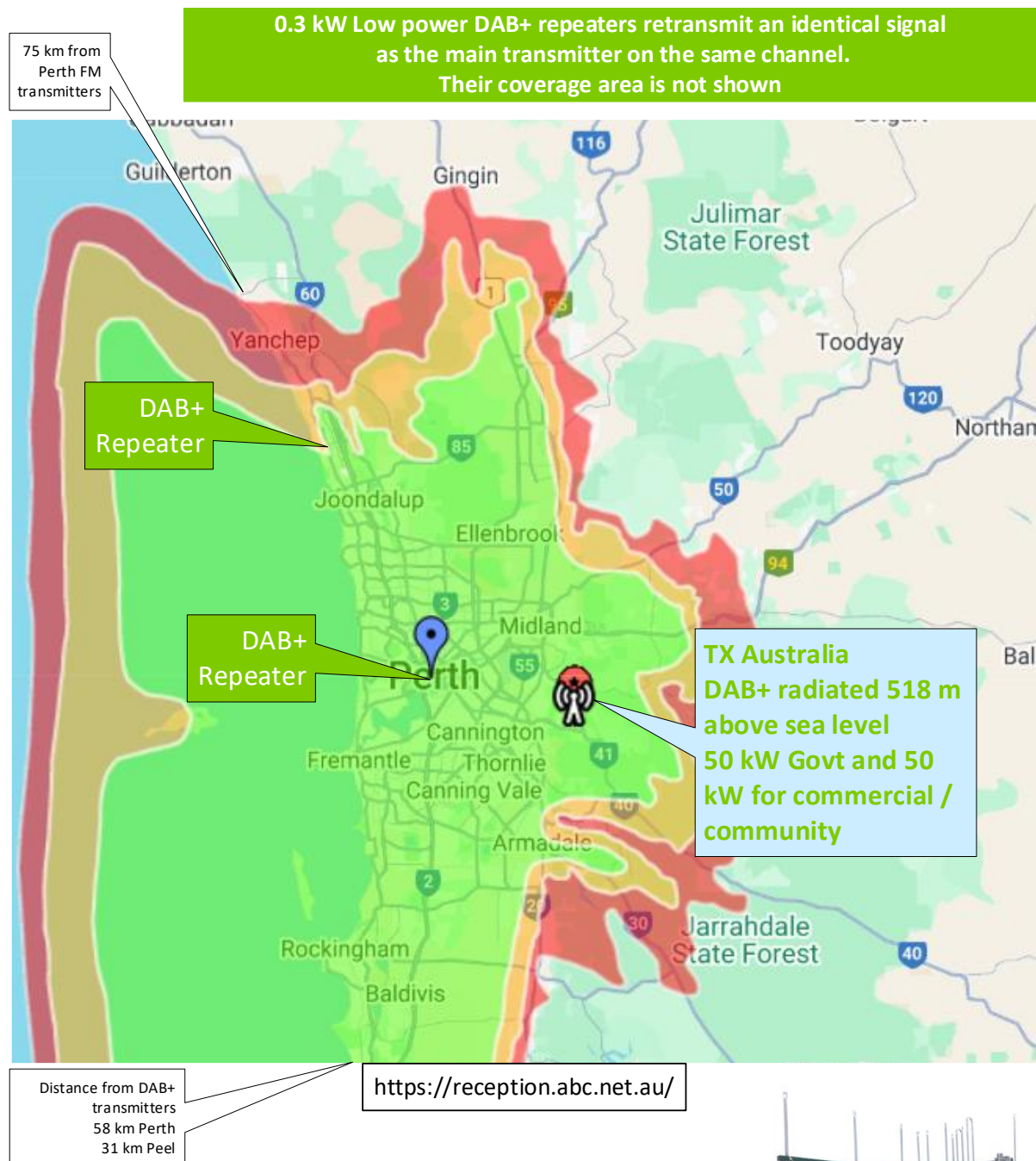
No comment

Alternative to this LAP proposals 1 – 3 & 5

Switchover radio to digital just like TV did 12 years ago. TV achieved with virtually no complaint.

DAB+ has the following advantages over this proposed
LAP 1 – 3 & 5

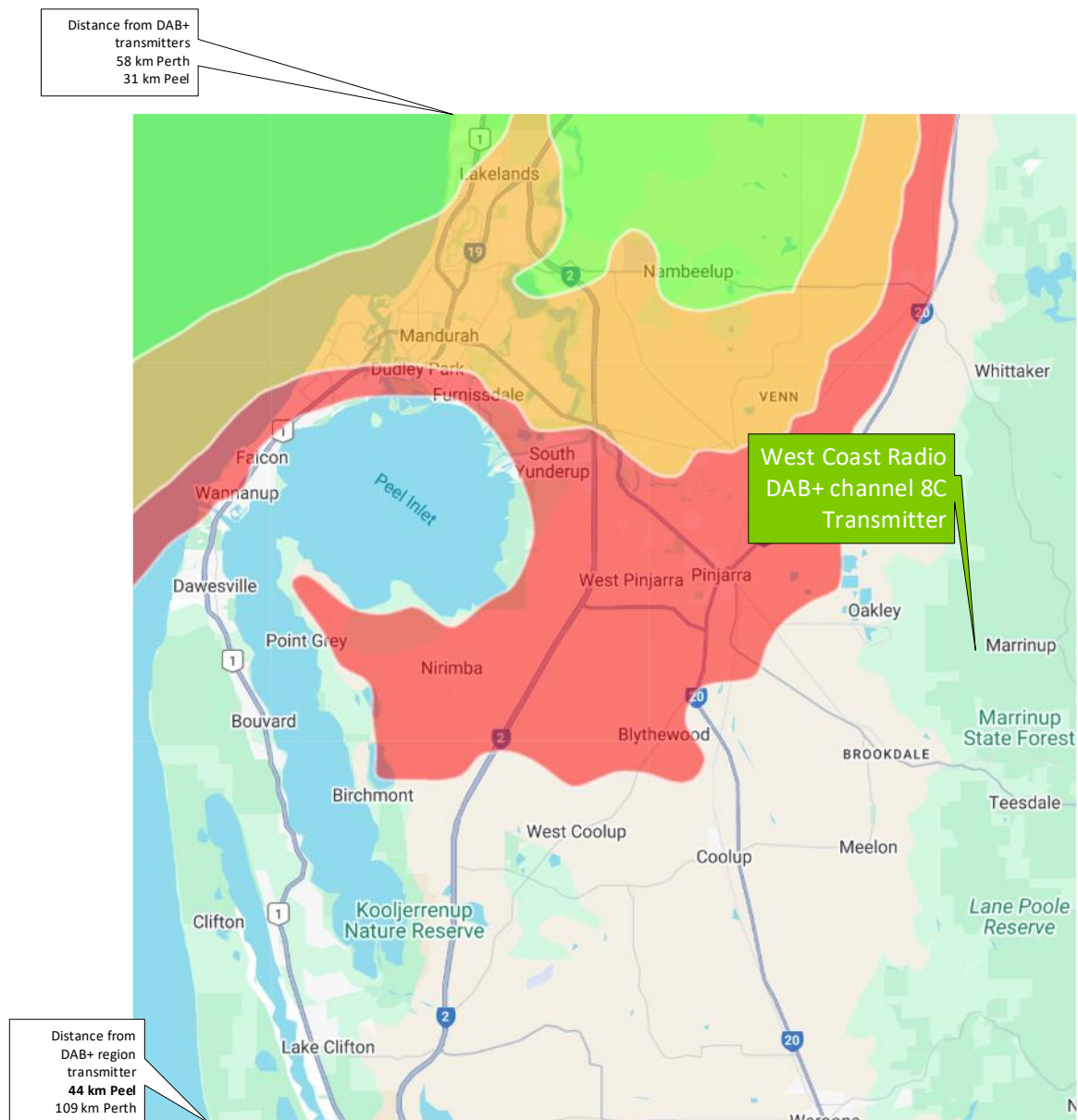
Existing DAB+ Coverage area Perth



A sensitive DAB+
VHF antenna

ABC coverage in the Peel Region

Existing DAB+ ABC coverage in the Peel Region



Not shown is West Coast Radio coverage area, which covers most of this map.

They have a DAB+ and a pair of FM transmitters, simulcasting their pair of programs, A 10 kW DAB+ signal is radiated 376 m above sea level. The DAB+ signal also contains Sport Entertainment Network programs. Another similar DAB+ transmitter should be installed to radiate the 18 ABC/SBS programs on channel 8B. This would allow the ABC to create ABC Peel studio to radiate its unique breakfast program.

- **DAB+ transmissions on air already making existing AM and existing and proposed FM broadcasts, redundant**
- In Peel a Mandurah commercial broadcaster is radiating a 10 kW_{ERP}. Another similar DAB+ transmitter should be fed with all 18 ABC/SBS programs will give much better reception in Peel. A 0.3 kW_{erp} repeater at Two Rock will be required to join the existing TV translators.

- **Listener Choice increases**

From this LAP's 6 Government, 6 commercial 6 community broadcasts to 18 Government, 25 commercial 8 community broadcasts using existing DAB+ broadcasts.

- **Lowest transmission costs**

The current and proposed LAPs require 8 transmitters were as DAB+ only requires 1 which is currently on air. Commercial & community broadcast from a second DAB+ transmitter.

The proposed LAP requires the purchase & installation of at least 3 high power FM transmitters along with greater electricity consumption.

When rolled out in all existing DAB+ broadcast areas the following transmitters can be decommissioned.

- 91 AM transmitters
- 140 FM Transmitters

- **Emergency Broadcaster**

ABC local radio is an emergency broadcaster. Currently the ABC broadcasts warnings every 30 minutes which particularly at weekends is state. These warning can be long and irrelevant because the emergency is so far away. DAB+ can restrict warnings to the area specified by the Police. These warnings wake the radio and potential victims It is possible to have multiple concurrent warnings. DAB+ can also show slideshow, and indexed detailed text messages. In addition, the location of Police Road blocks can be sent to the navigation system to reroute the vehicle away from danger.

- **Digital Broadcast uses much less electricity than Streaming**

- **Broadcasting is 'one to many'**, so the maximum total data transmission rate is fixed regardless of the number of active listeners. For digital radio this will be between 32 – 120 kbit/s per program.
- **Streaming is a separate two way data path to each simultaneous listener.**
The use of mobile broadband can cause random overloads of individual base stations depending on the number of simultaneous listeners and their locations. If everyone in mainland capital cities stream any station simultaneously requires the NBN/Telcos to carry a huge 561 – 2100 Gbit/s of data. How much electricity is used to individually serve every simultaneous listener. The listeners choice of broadcaster makes little difference.

- **Podcasting** replaces storing previously aired programs for audio on demand just like a public library

Number of Listeners

<https://www.gfk-media-measurement.com/global/en/news-center/2025/radio-audience-measurement-australia-survey-summary-reports/> Capital Cities ratings do not publically separate the number of listeners using DAB+ compared analog radio AM/FM in simulcasts.

<https://mmo.aiircdn.com/202/67e36dbad5cdc.pdf> Peel Ratings There is no separation of DAB+ and analog radio AM/FM. Sports Entertainment Network is rated in Sydney and Melbourne but not in Peel in DAB+ or in Perth on AM due to poor signal coverage.

Why does the ABC want to transmit on FM when they have been bombarding listeners with advertising to switch to streaming?

The ABC has been incessantly advertising for listeners to listen via phones, Smart Speakers and even TVs. It has been blindly following the Tim Davie BBC's Director General who is facing with the end of TV receiver licencing income in 2027. Each TV viewing household has to pay the equivalent of \$358.40/year. In Australia a \$8.00 radio receiving licence was dropped in 1974 along with TV licence because it was costing more to police than it raised. Most of their DAB transmissions are in poor quality mono. The BBC as just started nationally transmitting 3 music programs in DAB+.

An analysis of the latest GkF Perth radio ratings shows listeners want to listen on a radio rather than streaming;

- As a percentage of listeners using radios compared to streaming using phones or smart speakers are as follows;
 - ABC programs
 - By radio is the most popular for ABC Perth listeners
 - NewsRadio was the most likely to be streamed it also as the weakest signal
 - Around 75 % of unique digital programs were listened to by a DAB+ receiver.

- By comparison

6IX simulcasts on high power DAB+, AM station, and pair of lower power FM translators has the greatest percentage of radio listeners and are frequently reminding listeners they are available on DAB. Unfortunately, the publicly available ratings do not separate DAB+ from analog listeners to the same program.

The average streaming of all AM/FM simulcast programs in mainland capitals is 17 %. The listener age makes little difference.

- DAB+ digital radio commenced in all mainland state capitals in 2009, now in Perth around 60 % of digital only programs are heard on DAB+ receivers. Unfortunately, the number listening to simulcasts on DAB+ is not publicly available.

- If all listeners in DAB+ areas listen to 32 kbit/s for the whole year the NBN would use 65.94 TJ = 18,320,000 kWh per year. This does not include the serving by the broadcast the data to each listener, the telcos for mobile phones or the listeners' modem. Telstra is one of the biggest electricity consumers in Australia.

Fortunately, the same programs and more are current transmitted in DAB+. Many vehicles up to 5 years old already contain DAB+ receiver. Adaptors are available for older vehicles if they don't want to use a phone. A publicised switch off of AM & FM will stimulate sales driving down receiver prices.

Country reports

Europe Union

Population: 450 million. The European Electronic Communications Code (EECC), which entered into force on December 20th 2018, must be transposed into national legislation by EU Member States by December 21st 2020. In the UK, all radios fitted in new passenger cars will come with digital terrestrial radio as standard from 2021 following new regulations passed through Parliament. This is useful in Australia, because we drive on the same side of the road as they do. All Australian car manufacturing ceased in 2018. Currently 79 % cars imported into Australia are equipped with DAB+ receivers. In EVs it is easier to manufacture cars without AM radio so they factory fit DAB/FM radios so that less drivers will complain they cannot receive ABC radio.

Norway

Population: 5.6 million. In 2017 they had rolled out a DAB+ network and over that year switched off FM. The ratings after 12 months had almost recovered. They had no AM. After 2017 virtually all new cars came DAB+ equipped.

Switzerland

Population: 9 million. At the end of last year, the Government broadcaster switched off FM with all commercials will switch off in 2026 leaving only DAB+ broadcasts

United Kingdom

Population: 67 million. They mostly transmit DAB+ except for the BBC which is still transmitting the poor quality original DAB. They have just announced 3 new DAB+ music stations.

Indonesia

Population: 284 million. They have selected DAB+ and DRM for digital radio and have started to roll out transmission. A South Korean and a Swiss company have designed DAB+/DRM receivers.

China

It is making DRM compulsory to be installed in all new domestic cars. They already transmitting DRM

Australia

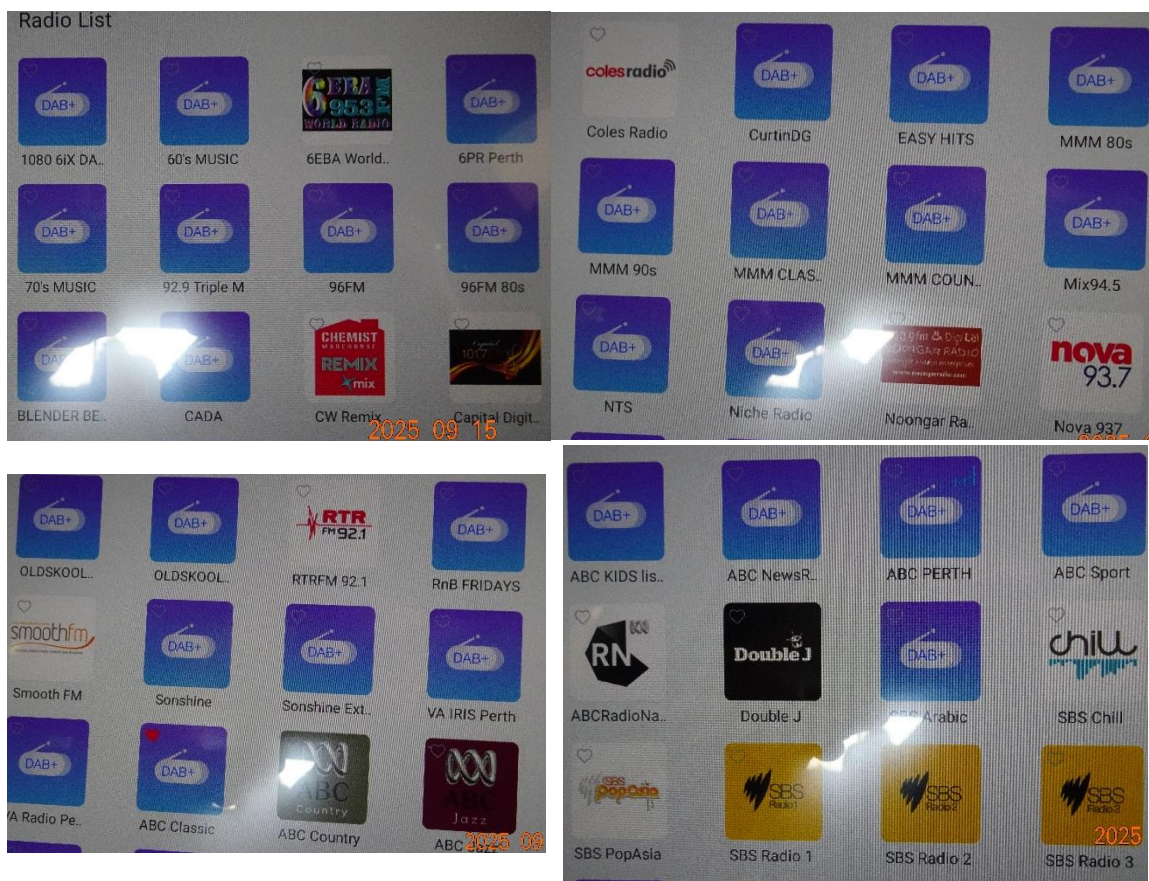
DAB+ broadcasts cover a population of nearly 19 million or 68% of our total population are covered in DAB+ digital radio signals.

Perth is ideal for the first analog switch off because DAB+ is transmitted 512 m above a substantially flat coastal strip. There are 2 very low power repeaters, which listeners are unaware of.

None of the main 9 DAB+ transmitter sites have backup transmitters which are required because existing transmitters only guarantee spare parts for 10 years.

BYD cars in Australia includes a DAB+ receiver its price.

DAB+ program selection screen



The touch screen is scrollable. In Brisbane, Sydney & Melbourne it will show even more choices. Broadcaster logo makes selection easy. Listeners do not have to remember any frequencies.

Many receivers in stores are overpriced due to a lack of promotion by broadcasters. It was also the case for Set Top Boxes and digital TV prior to the announcement to end analog TV.



A few months ago, I bought this DAB+/FM/AM radio in a chain store for \$40. If you plug in headphones, you get stereo sound from nearly all DAB+ and FM broadcasts. AM stereo is not transmitted in Australia anymore I used this radio to test reception in Two Rocks.

EKO DAB+/FM/AM receiver⁶

Many broadcasters including the ABC & SBS are nervous that they will lose listeners if listeners have to buy new receivers. This did not occur when we changed to digital TV or for DAB+ radio in Norway and Switzerland. In these conversions this has not occurred when there is a planned, publicised switch off. The switch off date causes vehicle importer to ensure all vehicles will receive digital radio, and the retail price of digital radios will drop due to increased sales volumes.

If the ABC & SBS are so convinced that streaming is so successful, they can switch off expensive and polluting AM & FM transmitters now. The audience does not wish to stream on phone because it is unreliable, more expensive and earphones are not comfortable for long periods.

Backlash from Country listeners

Thirty two percent of Australians cannot receive DAB+ broadcasts. These listeners have a choice of between 0 and 5 ABC programs. If they want SBS Radio their community have to pay for their own single low power FM transmitter for a mix of SBS1 & SBS2. Compared to city listeners can choose from 11 ABC and 7 SBS programs.

Using less power. DAB+ uses the highest radio broadcast frequencies which means the smallest coverage area, which is insufficient for country coverage.

A single Band 1⁷ Digital Radio Mondiale transmitter can now transmit 18 programs just like DAB+, and can cover even larger area than FM due to the lower frequency.

There are only 8 channels DAB+ transmission channels available compared to 166 band 1 channels. Nationally syndicated program can be simulcast using 24 Single Frequency Networks. This allows for 48 local radio programs.

A Band 1 antenna can be added to an existing TV or FM tower. Outside DAB+ licence areas there are 36 regionals, 14 district, 83 town and 275 village transmitter sites. Some of these sites will not be required for radio because of the larger coverage area compared to TV.

Once ABC/SBS migrates to band 1 DRM, the commercial & community stations can modify their FM transmitters to transmit DRM using the vacated frequencies. A single FM channel can carry 6 DRM programs.

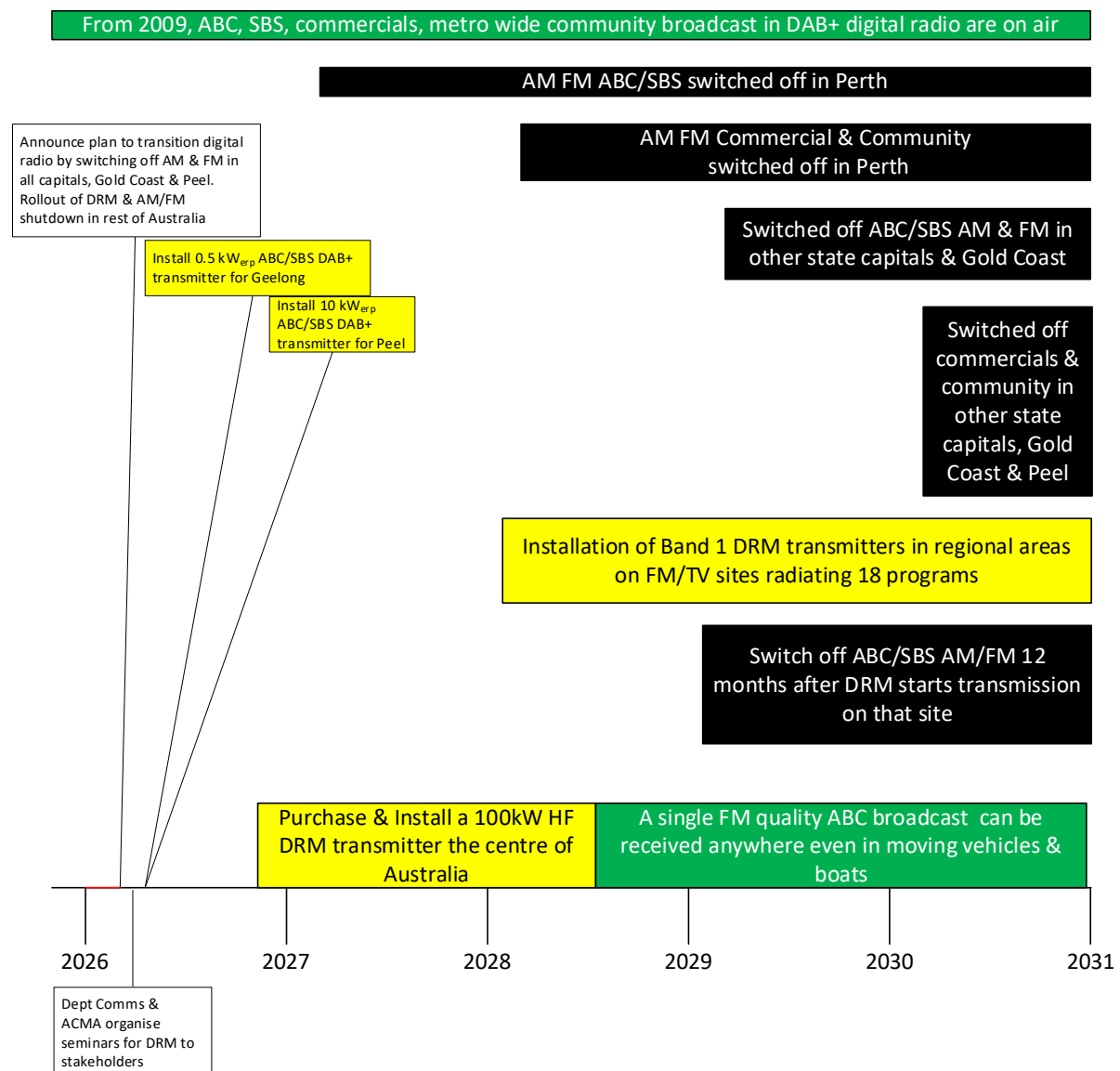
⁶ [EKO DAB+ FM AM](#)

⁷ 47 – 50, 54 – 68 MHz which was used for analog TV channels 0 – 2 for wide area coverage.

To pay for DRM, 359 AM transmitters and their sites can be decommissioned just like Hamersley. In addition, FM 146 regional, 428 district transmitters. There are 445 very low powered self help funded FM transmitting ABC programming.

Radio New Zealand spent \$Au 4 million on a new DAB+ high power High Frequency DRM transmitter which covers almost all of the South Pacific just like Radio Australia did until 2017.

Timetable



All AM & FM switch offs in DAB+ areas should occur in February, to allow receivers to be bought for Christmas, to allow installation crews to avoid hot weather and to have holidays. It should also occur for Central Coast NSW, Hunter Valley, Illawarra NSW, Sunshine Coast Qld.

The commercial and community switch offs are delayed 12 months for ABC/SBS to promote the sale of receivers thus minimising financial risk.

Conclusion

Demolish AM all transmitters on the Hamersley transmitter site.

Reject proposals 1 – 3 & 5 because the existing DAB+ broadcasts gives better coverage of the Perth LAP area with more choice of programs for listeners. The ABC can implement emergency alerts available with digital radio can save lives by targeting potential victims with announcements, coloured maps, indexed detailed text instructions as well as rerouting vehicles around police road blocks.

Minimising distribution cost will only occur when AM, FM and streaming are terminated leaving digital broadcast radio transmissions. It also minimises the cost of renewable energy.

Install a 10 kW_{erp} DAB+ transmitter on Turner Hill to cover the poor reception of FM for the ABC & SBS radio. Add 2 x 0.3 kW_{erp} repeaters to the TV translator site In Two Rocks.

Announce that DAB+ digital radio is already on air and streaming of all your favourite programs is available. ABC/SBS radio should on Monday 2 February 2027 permanently switched off their FM and AM transmitters in Perth. Then Monday 1 February 2028 the process is repeated for the rest of the capitals & the Gold Coast. Perth commercials and metro wide community broadcasters switch off a year later. Also, DRM⁸ in bands 47 – 108 MHz will be rolled out in country areas. This date should also be communicated to car and radio importers, retailers as well as Commercial Radio & Audio Community Broadcasting Association Australia and Digital Radio Mondiale Consortium

Make short commercials to be broadcast on the ABC & SBS TV networks.,

- to demonstrate Emergency warns to a DAB+ receiver during an electrical blackout.
- The use of an app to stream ABC and SBS programs.

The ABC & SBS do not publicise their DAB+ broadcasts. Switching off Perth ABC/SBS AM & FM gives listeners the options of purchasing a new radio, if necessary, a DAB+ vehicle adaptor. Alternatively listen using a phone or smart speaker. They will need to be warned that they will not receive emergency warnings during electricity blackouts.

Finally, instead of wasting money converting ABC Perth to FM complete the audience conversion to DAB+ which will accelerate the conversion of other DAB+ areas.

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⁸ [DRM Consortium](#)