

Hon Kris Faafoi

Minister of Broadcasting, Communications and Digital Media

Briefing on Digital Audio Broadcasting

16 April 2019

Date: 28 March 2019

Title: Digital Audio Broadcasting (DAB): advice and options

Author: Ministry for Culture and Heritage

This document has been proactively released.

Some parts of this briefing would not be appropriate to release and, if requested, would be withheld under the Official Information Act 1982 (the OIA). Where this is the case, the relevant sections of the OIA that would apply have been identified. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

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Hon Kris Faafoi

Minister of Broadcasting, Communications, and Digital Media

Digital Audio Broadcasting (DAB): advice and options

Date:	28 March 2019	Priority:	Medium
Security classification:	In Confidence	Reference:	BR2019/129

Minister	Action Sought	Deadline
Hon Kris Faafoi Broadcasting, Communications and Digital Media	Either: Agree not to implement DAB now but for officials to monitor developments (recommended) Or Agree to implement DAB and provide additional funding for public broadcasters Or Agree to make DAB spectrum available and let the market determine uptake	At your earliest convenience

Contacts			
Name	Position	Contact	1 st Contact
Jeet Sheth	Director, Policy	S9(2)(a)	✓
Harry Evans	Policy Advisor	S9(2)(a)	

Minister's office to complete	<input type="checkbox"/> Approved	<input type="checkbox"/> Declined
	<input type="checkbox"/> Noted	<input type="checkbox"/> Needs change
	<input type="checkbox"/> Seen	<input type="checkbox"/> Overtaken by events
	<input type="checkbox"/> See Minister's notes	<input type="checkbox"/> Withdrawn

Comments:

Purpose

- 1 This briefing provides advice and seeks your decision on whether the Government should support the adoption of Digital Audio Broadcasting (DAB) technology in New Zealand, and if so, the best way to do this.

Key Messages

- 2 Kordia ran a technical trial of DAB in New Zealand from 2006 to 2018. A decision is now required about whether to adopt DAB permanently.
- 3 The Ministry considers that the case for adopting DAB now is not strong enough, but that the Government should maintain a close watch on the issue over the next five years. This recommendation is informed by research from MartinJenkins. The research found that:
 - There was no net economic benefit identified in moving to DAB
 - Commercial media are not enthusiastic about DAB, and RNZ is neutral at this point
 - Most New Zealanders do not know what DAB is, so it is difficult to assess consumer demand
 - International experience with DAB is mixed and success has depended on a series of factors - many of which do not exist in New Zealand.
- 4 We have also provided you with two options for implementing DAB now, should wish to proceed with those options.
- 5 We recommend that you announce your decision publicly.

Recommendations

The Ministry for Culture and Heritage recommends that you:

- | | | |
|---|--|----------|
| 1 | Agree to discuss this briefing with officials | YES / NO |
| 2 | EITHER | |
| | a agree not to implement DAB now, but for the Ministry to monitor developments over the next five years to see if the case becomes stronger [preferred option] | YES / NO |
| | OR | |
| | b agree to adopt DAB alongside analogue AM and FM and provide additional funding to support public media's transmission costs and additional content | YES / NO |
| | OR | |
| | c agree to make the spectrum available to the market and let the market determine uptake | YES / NO |
| 3 | Direct officials to prepare a press release announcing your decision | YES / NO |
| 4 | Note that officials intend to publicly release the full MartinJenkins report once your decision has been announced. | YES / NO |

Colin Holden
**Deputy Chief Executive,
Policy and Sector Performance
(acting)**

Hon Kris Faafoi
**Minister of Broadcasting,
Communications and Digital Media**

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Background

What is Digital Audio Broadcasting?

- 6 DAB is a technology for broadcasting radio. It uses more advanced technology than analogue AM and FM broadcasting. DAB+ is the newest generation DAB technology and is what New Zealand would adopt should it choose to implement DAB. This briefing uses the term DAB to also include DAB+.
- 7 DAB allows for:
 - more radio stations than AM and FM because multiple stations can be transmitted over the same space on the radio spectrum
 - better sound quality than AM and FM (this benefit can be lost if too many stations are broadcast over the same frequency)
 - less interference (the signal is either on or off)
 - similar geographical coverage from a transmitter as FM
 - stations to be listed by name so there is no need to tune to a frequency
 - cheaper power and transmission infrastructure for transmission providers than AM and FM
 - transmitters to be added to existing FM transmission sites around New Zealand
 - cheaper transmission costs for radio stations than AM and FM.
- 8 Consumers need to purchase a DAB capable radio to receive DAB broadcasts.

There was a trial of DAB that ended last year

- 9 In 2006, Kordia began a trial that allowed some broadcasters already broadcasting on FM to also broadcast on DAB in Auckland and Wellington. The purpose of the trial was to test the technical capacity of DAB in New Zealand. The Ministry for Business Innovation and Employment (MBIE) oversaw the trial.
- 10 During the years of the trial, some members of the public bought DAB radios and grew accustomed to using them. Over time, Kordia offered other media entities a chance to broadcast on DAB, including some who did not have an AM or FM broadcasting licence.
- 11 MBIE saw this as being beyond the scope of the purpose of the trial and moving into the territory of offering new services. MBIE considered that the trial had achieved its purpose, proving that DAB technology could be successfully used in New Zealand. The trial highlighted that DAB provided better geographical coverage of the Wellington region than FM and provided better sound quality generally.

- 12 Following instructions from MBIE, the DAB trial ended on 30 June 2018. DAB has not been broadcast in New Zealand since then.

The Government needs to make a decision on whether to adopt DAB permanently

- 13 There has been some public interest and news coverage about the DAB trial ending. Transmission companies, individuals and media have asked whether the Government would now move to adopt DAB. To provide clarity and certainty for broadcasters, transmission companies and consumers, the Government needs to make a decision about whether or not to adopt DAB permanently.

We commissioned research to inform our advice

- 14 In order to advise you on this matter, the Ministry for Culture and Heritage (the Ministry) and MBIE jointly commissioned research from MartinJenkins on DAB. This research looked at the overseas experience, consumer and broadcaster demand and provided a cost benefit analysis of adopting DAB in New Zealand.
- 15 In carrying out the research, MartinJenkins spoke to stakeholders including public and commercial broadcasters, transmissions providers, funders, policy agencies and a public media advocacy group.
- 16 The final report (the Report) was provided to the Ministry on 4 February 2019.

Key messages from the Report

- 17 This section provides the key messages from the Report that have informed our advice. A copy of the full Report is attached (as Appendix 2).

Under the scenarios modelled there was no net economic benefit in adopting DAB

- 18 Under the cost benefit analysis in the Report, no scenario showed a net economic benefit. Therefore, any decision to adopt DAB in the short term would need to be based on social and cultural reasons that would further the Government's public broadcasting objectives.
- 19 In the cost benefit analysis some of the key costs of DAB included:
- The need for consumers to buy DAB receivers
 - DAB infrastructure rollout for transmission companies
 - ongoing transmission and operating costs for transmission companies and broadcasters.
- 20 Some of the key benefits of DAB included:
- Long term savings on transmission costs for broadcasters once analogue switch off occurs

- the potential for consumers to access more content.
- 21 All publicly funded radio would need additional funding for transition costs, transmission costs and for more content to be produced. Other costs could include the allocation of spectrum and a public awareness campaign.
- 22 The Report has modelled scenarios based on a ten year capital expenditure period, with operating costs over thirty years. A number of assumptions have been made in preparing these scenarios and there are a number of significant variables in terms of rollout options and the potential ways in which DAB could operate. The model to rollout DAB nationwide indicates it would cost:
- transmission companies – \$60.9 million net present value (NPV)
 - commercial broadcasters – around \$96 million NPV
 - government and public broadcasters – around \$4 million NPV.
- 23 All of these figures would vary depending on the rollout scenario.

Commercial radio is not enthusiastic about DAB, while RNZ is neutral

- 24 Commercial broadcasters are not supportive of adopting DAB in the short term. They see potential benefits but are not confident they are worth the risk to their business models. They would prefer to wait and watch developments over the next few years.
- 25 The commercial radio market in New Zealand has held up well compared to other traditional media like newspapers but is in a fragile position. Increasing competition by allowing new entrants into the radio market could put the financial sustainability of commercial radio at risk.
- 26 RNZ is neutral about adopting DAB. It is committed to offering content through many channels and is looking at a range of platform options to meet audiences wherever they are.

Non-commercial and community radio are supportive of DAB

- 27 Non-commercial and community broadcasters see DAB as an opportunity to provide more services because DAB allows for more stations to be broadcast than FM and AM. They are particularly interested in services targeted at audiences of particular ethnicities and in particular languages that are not well served by current radio offerings. These broadcasters are also interested in being able to broadcast in cities and regions where FM licences are not currently available or affordable to them. These broadcasters would require additional funding for transmission costs and new content if DAB were adopted.

Most New Zealanders do not know what DAB is, so it is difficult to establish demand

- 28 The Report suggests there is no clear consumer demand for DAB. MartinJenkins found assessing consumer demand difficult because it is not a well-known

technology in New Zealand and surveying those who are familiar with it would lead to skewed results in its favour.

- 29 However, there would be demand for some of the benefits DAB offers, such as access to more high quality content.

AM technology will become obsolete at some point and other technologies, including DAB, could replace it

- 30 There are concerns about the increasing obsolescence of AM broadcasting over the medium term. DAB could form part of an exit strategy from AM. However DAB cannot easily replicate the key benefit of AM, which is the vast geographical area a transmitter can cover.
- 31 DAB is not the only technology that could replace analogue broadcasting if emerging technologies reach their potential. Technologies like smartphones, smart speakers and 5G mobile internet have the potential to impact on the key benefits of radio including its low cost, portability and ability to be received in moving cars.
- 32 A short term transition to DAB, in which AM and FM are switched off, is likely to be unacceptable to broadcasters and consumers.

There are spectrum issues to consider

- 33 There is demand for more FM spectrum in cities, especially Auckland. Implementing DAB would allow for more stations to broadcast because DAB allows for more efficient use of radio spectrum than AM and FM.

S9(2)(f)(iv)

- 35 MBIE has reserved sufficient spectrum that could be used for DAB if it is to be implemented.

The international experience has been mixed

- 36 International experience has been mixed and is highly contextual. Factors such as geography, regulation, support from public broadcasters and consumer behaviour have influenced how countries have approached DAB and how successful it has been. Almost all countries studied found that encouraging consumer uptake has been difficult. Some broadcasters are now focusing on online delivery.
- 37 Overall, countries that had success implementing DAB:
- had highly regulated markets with few radio stations
 - were driven by consumer demand for new content

- introduced new content that was accessible only on DAB
 - had the support of the public broadcaster.
- 38 New Zealand has one of the most deregulated radio markets in the world. Many more stations are currently broadcasting (especially in cities) than in other countries, prior to adopting DAB.

Options and analysis

- 39 We are presenting three options, which have been informed by the Report. These options emphasise different priorities and potential outcomes that the Government may wish to achieve.

We have developed a framework for assessing options

- 40 We assessed all three options using the following framework and have summarised our analysis below. The table showing the full assessment is attached (as Appendix 1).
- 41 The framework assesses the options by asking:
- Does it have a net economic benefit?
 - Does it support the Government's public media objectives? ie:
 - *supports more quality New Zealand content in all genres across a variety of platforms*
 - *better caters for Māori, Pacific and other under-served audiences*
 - *enhances national identity*
 - *promotes an informed democracy*
 - *safeguards the media's independence, and*
 - *supports plurality in the provision of news and current affairs*
 - Does it impact on the financial stability of commercial radio?
 - Does it provide additional benefits for consumers/ audiences?
 - Does it provide a future technology path for radio?
 - Does international experience show that this is likely to be successful?

Option 1: DAB is not implemented now, but the Ministry monitors developments over the next five years to see if the case becomes stronger (recommended)

- 42 The current reservation of spectrum would be maintained for potential use in the future.
- 43 The Ministry would work with stakeholders to lead an ongoing monitoring of:
- the health of the media sector overall, specifically commercial radio, public radio, and non-commercial broadcasting
 - developments with other technologies like 5G
 - public radio technology planning and future options for replacement of AM
 - the ongoing international uptake of DAB
 - the appropriateness of continued DAB spectrum reservation.
- 44 Officials would keep a watching brief and update you on any developments. We propose that you review the decision in five years' time. You could choose to review the decision earlier.

Analysis

- 45 As a result of our assessment we consider that Option 1 provides the best solution currently. The case for adopting DAB is not yet strong enough because:
- there is no economic benefit
 - there is no demand from commercial radio or RNZ
 - commercial radio is vulnerable to significant changes in the market
 - new technologies have potential to continue to change how consumers access content.
- 46 This option would allow the Government to wait until it became clearer about whether, and when, adopting DAB permanently was the right decision for New Zealand. It would allow officials to consider DAB alongside other technologies and the changing New Zealand media sector.
- 47 The role of the Ministry in monitoring developments and reporting back to Government ensures the Government is well prepared to act if and when the case becomes more compelling.
- 48 The future obsolescence of AM technology is something that the Government will need to deal with in coming years but it is not clear that adopting DAB is the right solution at this time.
- 49 The option exposes broadcasters, transmission providers and government to the least risk as it maintains the status quo until there is stronger evidence.

50 This option would not further the Government's public media objectives but work to enhance these objectives can be explored in parallel to this option.

Option 2: Adopt DAB alongside analogue AM and FM and provide additional funding to support public media's transmission costs and additional content

51 Under this option, the Government would adopt DAB and support its uptake by providing additional funding for public media's capital expenditure, ongoing transmission costs and for the production of content. DAB would broadcast alongside FM and AM.

52 A switch off of analogue technology would be considered in the medium to longer term once uptake was at sufficient levels. This would need to be monitored by the Ministry and a decision made at a later date.

53 The Government could take steps to encourage commercial radio migration to DAB by making access to licences cheaper, or free, and by restricting new entrants to the market in the short term.

54 If you choose this option the Ministry would begin working to provide you with further advice on the costs, timeline and implementation. Developing the plan would require significant resources, especially from the Ministry, MBIE and RNZ. This option would require a Cabinet decision.

Analysis

55 This option has significant cost implications for the Government as it requires additional funding to support implementation, transmission costs and new content. International experience has shown that consumer uptake of DAB is driven by a demand to hear new content broadcast on DAB only. More work is needed to establish likely costs but it would be in the tens of millions of dollars.

56 This option is worth pursuing, however, if you consider that the public broadcasting benefits are worth the additional cost.

57 It would lead to the creation of more public media content funded by government, including content for Māori, Pacific and other under-served audiences.

58 New content and stations being available would provide an incentive for consumers to purchase new radio receivers.

59 The effect of this option on the stability of the commercial radio sector is difficult to predict. It is likely that commercial radio would migrate to DAB and this could lead to more stations. There is a risk that allowing new entrants to the market could reduce listenership and the share of advertising revenue available to each station. This could lead to financial unsustainability.

60 Risks in this option include the substantial investment in DAB technology as opposed to other emerging technologies, and amid the changing New Zealand media environment and audience behaviours.

Option 3: Make the spectrum available to the market and let the market determine uptake

- 61 Under this option the Government would adopt DAB but implementation would be left to broadcasters and transmission companies. The Government would make spectrum available to purchase and let the market (including public broadcasters) determine demand and supply.
- 62 Under this option there would be no cost to Government. The Government would auction licences and require that they be used or returned to the Crown to discourage broadcasters banking them.
- 63 If you choose this option the Ministry would begin working with other government departments, broadcasters and transmission companies to develop a detailed plan for its implementation. This option would also require a Cabinet decision.

Analysis

- 64 This option is unlikely to be successful. It does not show a commercial benefit which would be likely to encourage significant uptake by broadcasters.
- 65 This option has not been tested internationally. In the examples looked at in the report, Governments have played a role in supporting the rollout and uptake of DAB.
- 66 Some broadcasters could choose to move to DAB and create new content. However, it is unlikely that this option would generate more content for niche/under-served audiences without any public radio investment.
- 67 Without new content, there would be little incentive for consumers to buy new receivers.
- 68 This option may result in an uneven rollout of DAB across the country. Broadcasters would likely focus on main cities, especially Auckland, where there is the most demand.
- 69 This option prioritises a market lead approach to implementing DAB and would not likely further the Government's public media objectives. Work to enhance the Government's public media objectives could be explored in parallel to this option.

Consultation

- 70 We worked closely with the Radio Spectrum Management team at MBIE during this project.
- 71 MBIE, Te Puni Kōkiri, the Treasury and the Ministry for Pacific Peoples were consulted on the final report.
- 72 S9(2)(f)(iv)
The other organisations did not make any comments.

Risks and mitigation

73 Beyond the risks identified in each option and included in the analysis, we have identified some potential risks with the recommended option. We consider that these risks can be managed and have outlined planned mitigations in the table below.

Risk	Ways to manage the risk
<p>Members of the public with a particular interest in DAB may be dissatisfied with the decision to not implement it now.</p> <p>Risk level: high</p>	<p>Through public statements and releasing the MartinJenkins report it should be clear that this was a prudent decision based on best evidence.</p> <p>The recommended option ensures that Government remains well informed about DAB and would be in a strong position to move to DAB if the case became compelling.</p>
<p>Transmission providers may be dissatisfied with the decision to not implement DAB now.</p> <p>Risk level: medium</p>	
<p>Non-commercial broadcasters strongly in favour DAB may be dissatisfied with the decision to not implement DAB now.</p> <p>Risk level: medium</p>	<p>As above.</p> <p>Also, the Government is working in a range of ways to further support its public media objectives.</p> <div data-bbox="799 1218 1394 1379" style="background-color: black; color: white; text-align: center; padding: 10px;">S9(2)(f)(iv)</div>
<p>The decision could be seen as being counter to the Government’s public broadcasting objectives such as providing more quality content for general and specific underserved audiences.</p> <p>Risk level: low</p>	
<p>Obsolescence of AM technology happens more quickly than expected.</p> <p>Risk level: low</p>	<p>The recommended option includes monitoring of developments in DAB, the radio sector and other technologies to keep the Government well informed.</p> <p>It also includes working with stakeholders on public radio technology planning and future options for replacement of AM. This would allow for a swift response should the situation change quickly.</p>

<p>The Ministry's role in monitoring developments relating to DAB, other technologies and the media sector is overtaken by other priorities.</p> <p><i>Risk level: medium</i></p>	<p>The Ministry will incorporate its monitoring role into its work programme. Regular reporting dates to you require that focus is maintained.</p>
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Next steps

- 74 Officials do not consider that a Cabinet decision would be necessary if you choose Option 1. However, if you would like to take the decision to Cabinet, officials will develop a Cabinet paper.
- 75 Once you have made your decision, officials will work with your office to prepare a press release announcing it. We will inform close stakeholders directly of your decision before it is publicly released.
- 76 Once your decision has been announced, officials will release the full MartinJenkins report publicly.

S2(9)(f)(iv)

Appendices

- Appendix 1: Assessment of options table
- Appendix 2: Full MartinJenkins report

Appendix 1: Assessment of options table

	Option 1 - DAB is not implemented now, but the Ministry monitors developments over the next five years to see if the case becomes stronger	Option 2 - Adopt DAB alongside analogue AM and FM and provide additional funding to support public media's transmission costs and additional content	Option 3 - make the spectrum available to the market and let the market determine uptake
Does it have a net economic benefit?	<p>No, this option would largely have a neutral economic effect.</p> <p>There would be a small cost for the Ministry to monitor developments with DAB internationally, the New Zealand radio market, and other new technologies. It is anticipated that this work would be managed within current Ministry resource.</p> <p>A formal review in five years (2024) would need to be factored into the Ministry's work programme.</p>	<p>No, this option would have a net economic cost.</p> <p>The Government, transmission companies and commercial broadcasters would need to fund transition and transmission costs, and the cost of creating new content to attract listeners to DAB.</p> <p>These costs would be in addition to continued existing analogue broadcast costs.</p> <p>Consumers would incur costs of upgrading to DAB radio receivers.</p>	<p>No, it would have a marginal economic cost.</p> <p>Broadcasters (including RNZ) would be left to decide if they saw sufficient benefit in moving to DAB, and, if so, would bear the costs of transitioning to DAB.</p> <p>If DAB were commercially adopted by some existing or new operators the competition in the radio and advertising market could be disruptive overall. Pressure on revenue from advertising could be a factor.</p> <p>Consumers would incur costs of upgrading to DAB radio receivers.</p>
Does it support the government's public media objectives?	<p>No – it maintains the status quo.</p> <p>However this option would allow Government to remain informed on the issues.</p>	<p>Yes – this option would lead to the creation of more public media content funded by Government.</p>	<p>It is difficult to predict what would happen with this option as DAB would be driven by commercial imperatives.</p>

	Option 1 - DAB is not implemented now, but the Ministry monitors developments over the next five years to see if the case becomes stronger	Option 2 - Adopt DAB alongside analogue AM and FM and provide additional funding to support public media's transmission costs and additional content	Option 3 - make the spectrum available to the market and let the market determine uptake
	<p>If the case for adopting DAB became stronger, the Government would be in a good position to act.</p> <p>This option proposes working further to explore future options for replacing AM technology in the future.</p> <p>Other work to enhance the Government's public media objectives can be explored in parallel to this option.</p>	<p>This content could be aimed at Maori, Pacific and other underserved audiences identified as priorities.</p>	<p>It is unlikely that they would focus on creating content for minority audiences as they do not do so currently.</p> <p>This option may lead to more content overall but it is possible that it would produce more of the same sort of content as is already commercially available.</p> <p>It is likely that any commercially driven implementation would focus on Auckland in the first instance, then on other major cities, thus supporting an increased metro-regional digital divide.</p> <p>This option may lead to more plurality and increased competition.</p>
Does it impact on the financial stability of commercial radio?	<p>No – this option supports the status quo.</p> <p>Monitoring of developments around DAB and the New Zealand radio market – including the stability of commercial radio – is a feature of this option.</p>	<p>Yes, potentially. There will be more stations and content in the market. This could reduce listenership to current stations and increase pressure on available advertising revenue.</p> <p>If this was a concern, there are things that could be done to protect and encourage current commercial broadcasters in transitioning, such as</p>	<p>Unlikely, it would be left to their discretion as to whether to make the transition.</p>

	Option 1 - DAB is not implemented now, but the Ministry monitors developments over the next five years to see if the case becomes stronger	Option 2 - Adopt DAB alongside analogue AM and FM and provide additional funding to support public media's transmission costs and additional content	Option 3 - make the spectrum available to the market and let the market determine uptake
		making access to licences cheaper or free and by restricting new entrants to the market in the short term.	
Does it provide additional benefits for consumers/ audiences?	Not in the near future.	<p>Yes. This option sees the creation of more public media content funded by Government.</p> <p>Some of this content could be aimed at Maori, Pacific and other under-served audiences.</p> <p>DAB offers the potential of better sound quality, and easier user experience as stations are listed by name rather than frequency.</p>	<p>It could provide more services.</p> <p>It is unlikely that commercial media would focus on creating content for minority audiences.</p> <p>There may be more content overall but it is likely to be the same sort of content already commercially available.</p> <p>DAB also offers the potential of better sound quality, and easier user experience as stations are listed by name rather than frequency.</p>
Does it provide a future technology path for radio?	<p>Not specifically. It allows us to keep exploring all the possible options including other new emerging technologies.</p> <p>This option ensures the Ministry and Government is well informed about DAB over the next few years.</p>	<p>Yes – AM is becoming obsolete over the medium to longer term. DAB simulcasting would allow us to be able to transition public media stations from AM and in time, enable a switch-off of AM. The simulcast would give public media consumers time to transition to the new technology.</p>	<p>Yes, it provides a potential path. However it leaves it to individual media organisations to make their own decisions about whether to adopt and use it.</p> <p>It would be up to companies to make their own technology planning decisions.</p>

	Option 1 - DAB is not implemented now, but the Ministry monitors developments over the next five years to see if the case becomes stronger	Option 2 - Adopt DAB alongside analogue AM and FM and provide additional funding to support public media's transmission costs and additional content	Option 3 - make the spectrum available to the market and let the market determine uptake
	<p>It includes working further with public broadcasting to explore options for replacing AM technology in the future – and thus provide a future technology path for radio.</p> <p>The monitoring of both AM and FM technology is included in this option.</p>	<p>Presuming that commercial media also adopted DAB over time (either simulcasting, or at switch-over), this would increase consumer uptake.</p>	
Does international experience show that this is likely to be successful?	<p>Yes.</p> <p>Keeping a watching brief on DAB and the radio market supports flexibility and informed decision making.</p> <p>The research demonstrates that there are both positive and negative experiences of DAB internationally. Success has been mixed and is highly contextual.</p> <p>Countries that transitioned successfully began with highly regulated markets, were driven by demand for new content, and had the support of the public broadcaster. The situation in New Zealand is different.</p>	<p>Yes. This option (driven by public broadcasting objectives) sees provision of new public radio content and new technology.</p> <p>The focus on new content, while continuing to broadcast on current analogue technology, are features informed by examples of successful international experience in DAB (for example the United Kingdom and Australia).</p> <p>New content is what drives consumers to invest in new radio receivers.</p> <p>Current AM and FM services cover New Zealand well and international experience shows the costs and timeframe to replace this with DAB is</p>	<p>No. This model has not been successfully implemented anywhere overseas.</p> <p>Usually DAB is successful where more content is created in a market that has less stations broadcasting than New Zealand currently does.</p> <p>The Government usually plays a role to encourage uptake.</p>

	Option 1 - DAB is not implemented now, but the Ministry monitors developments over the next five years to see if the case becomes stronger	Option 2 - Adopt DAB alongside analogue AM and FM and provide additional funding to support public media's transmission costs and additional content	Option 3 - make the spectrum available to the market and let the market determine uptake
	Other countries that began to implement DAB have since stopped.	prohibitive and unlikely to have consumer support. So the simulcast feature is the only reasonable option in the mid to longer term. Risks here include other technology developments superseding DAB, a lack of consumer uptake, costs, and the disruption it may cause to commercial radio.	

Appendix 2: Full MartinJenkins report
