Monitoring broadcasting transmission services

Final report for the Commerce Commission,
29 May 2024

Network Strategies Report Number 44010

Contents

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1 Introduction

Purpose of this report

The Commerce Commission is incorporating broadcasting transmission services into its regular market monitoring functions, following a change in the legislative definition of "telecommunication" to include "broadcasting transmission" in the Telecommunications (New Regulatory Framework) Amendment Act 2018 (Amendment Act). As stated in June 2022[1], when the Commission published an external report on the broadcasting transmission market in New Zealand[2], tracking specific metrics provides the information required to perform monitoring and identify any issues that may require further investigation.

The aim of this report is to measure key metrics on the broadcasting transmission services market structure in New Zealand, encompassing the key players, services, and infrastructure, and ongoing development of the market. Naturally, the suppliers of transmission services rely on the economic well-being of their customers – the television and radio broadcasters, who in turn depend on maintaining audiences and growing advertising revenue. As such, to facilitate effective monitoring of the broadcast transmission market the Commission has considered not only the transmission providers, but also the demand side, exploring audience size and behaviour, together with the growth in alternative delivery platforms.

Data sources for the report

This report is based solely on publicly available information, although it is the Commission's intention to gather more detailed information from stakeholders to inform future reports.

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1 Commerce Commission (2022), *Broadcasting transmission study*, 29 June 2022. Available at: https://comcom.govt.nz/__data/assets/pdf_file/0025/286180/Cover-letter-Broadcasting-Transmission-Services-29-June-2022.pdf.

2 Network Strategies (2022), *Broadcasting transmission services market review*, 1 June 2022. Available at: https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/topic-papers-other-reports-and-studies/broadcasting-transmission-services-market-review.

Network Strategies understands that from 2025 the Commission will make use of data requests to gather the required information to perform its monitoring role.

Layout of this report

This report is structured around five key topics:

- substitutability of transmission technologies (Section 2)
- the cost of transmission services (Section 3)
- television transmission services, including performance and investment (Section 4)
- radio transmission services, including revenue and investment (Section 5)
- changing patterns in consumer demand (Section 6).

2 Substitutability between transmission technologies

In terms of the traditional broadcasting value chain there are four broad components:

- **production** – development and acquisition of content
- **aggregation** – transport of multiple content sources to aggregation locations and combining into a single signal stream
- **distribution** – transport of the signal to broadcasting sites and transmission to end users
- **end users** – reception of the content by the end-user.

Transmission is that part of the broadcasting value chain (Exhibit 1) that excludes production or content creation and aggregation, and the end-user (audience). Broadcasters purchase transmission capacity from wholesale providers, and in some instances may also self-supply using their own infrastructure.

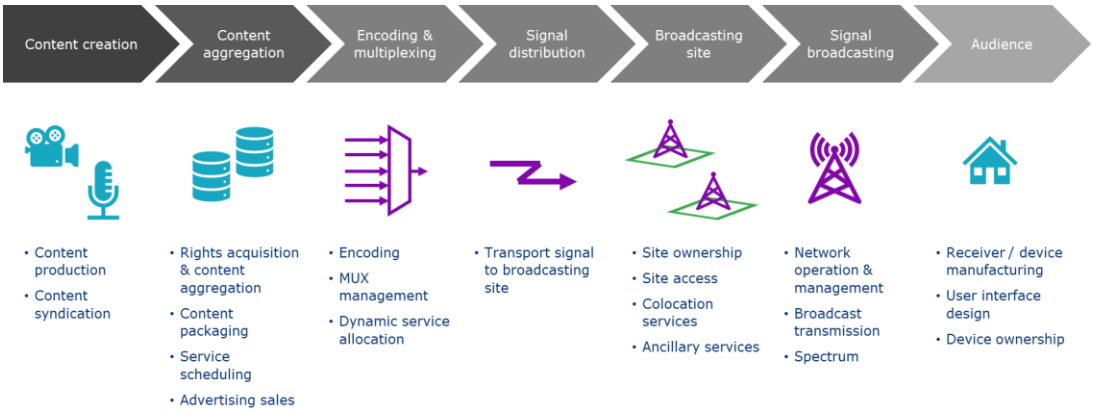

Exhibit 1: *Generic broadcasting value chain [Source: Network Strategies]*

There is increasing evidence that audiences are shifting away from traditional broadcasting towards alternative and emerging technologies (see Section 6). This may involve adoption of non-traditional platforms (such as streaming services over high speed broadband) or investment in new devices (for example DAB radio). Without some key driver or enabler, the timeframes for any such shifts may span several years, due to affordability, service coverage, quality or other concerns. As an example, one possible cause for reconsideration of DAB radio may be the expiry of spectrum licences in 2031, however take-up could be constrained by the need for the audience to purchase devices and retro-fit vehicles without factory-installed DAB radios.

With audiences for online streaming now exceeding those for linear television programming, service providers that support over-the-top (OTT) television transmission (such as Chorus) could potentially be considered in any relevant market analysis.

Demand for traditional radio broadcasting services may continue in the medium- to long-term, given a lack of direct substitutes for particular applications such as communication in times of emergency, and listening in cars.

3 The cost of transmission services

Some broadcasters have noted that transmission and other technology costs are increasing. For example[3]:

- Television New Zealand's (TVNZ's) transmission, technology and telecommunications costs increased by 23.3% in the financial year to June 2023[4]
- Māori Television's DTT and DTH transmission costs increased by 34.6% in the financial year to June 2022[5], and a further 5.6% in the financial year to June 2023[6]
- Radio New Zealand's (RNZ's) distribution and transmission expenses increased by 12.8% in 2022/23[7]
- Rhema's expenses for transmission sites increased by 18.2% in 2022/23, while its distribution expenses increased by 7.3% and satellite costs by 3.9%, resulting in a 6.2% increase for the total of the three categories[8]
- MediaWorks' technology and transmission costs increased by 7.4% in calendar year 2022[9].

While the high level of inflation has certainly placed pressure on broadcasters and transmission service providers, there are also other contributing factors, including financial strain from falling revenues, infrastructure approaching end-of-life as well as investment in digital strategies to reach increasingly fragmented audiences. RNZ noted there had been under-investment due to anticipation of the subsequently halted Aotearoa New Zealand

3 Note that there are definitional differences from one broadcaster to the next in the list of transmission and technology costs. As such care should be taken in attempting to make cost comparisons amongst this sample group as it is doubtful that these would be like-for-like-comparisons. Further information is required to determine the exact composition of each cost category.

4 TVNZ (2023), *Annual report financial year 2023*.

5 Māori Television (2022), *Annual Report of Whakaata Māori for the year ended 30 June 2022*, 2022, page 96.

6 Māori Television (2023), *Annual Report of Whakaata Māori for the year ended 30 June 2023*, 2023, page 41.

7 RNZ (2023), *RNZ annual report 2022 / 2023*.

8 Rhema Media (2023), *Annual report 2022-2023*.

9 MediaWorks (2023), *MediaWorks Investments Limited annual report for the year ended 31 December 2022*.

Public Media (ANZPM) Bill, the cancellation of which required a 'major reset'.[10] This Bill aimed to establish a new public media entity, merging TVNZ and RNZ.

4 Television transmission across the motu

Kordia, a State Owned Enterprise (SOE), is the major supplier of television broadcasting transmission services in New Zealand, offering both terrestrial Digital Television Transmission (DTT), and Direct-To-Home (DTH) broadcasting. Johnston Dick and Associates (JDA), part of the privately owned Broadtech Group, also provides DTT transmission services, but has a far smaller geographic footprint. In December 2023 the Broadtech Group, including JDA, was acquired by Tū Ātea (formerly known as the Interim Māori Spectrum Commission). The new owner has stated that JDA's terrestrial transmission operations will continue[11].

Kordia and JDA provide transmission and managed services to TVNZ, Discovery, Māori Television and other smaller broadcasters. As a self-supplier of DTH broadcasting transmission, Sky Television is unique in the market.

Extent of geographical coverage

Kordia As at 2023:

- 87% population coverage for terrestrial TV
- 99.99% DTH population coverage with a ten year contract with a satellite supplier signed in 2022[12]
- 270 network sites including 50 large lattice towers.

10 Radio New Zealand (2023), *Radio New Zealand Annual Report 2022 / 2023*.

11 JDA (2023), *Tū Ātea to put Maori spectrum assets to work with Broadtech acquisition*, 19 December 2023. Available at: https://www.jda.co.nz/tu-atea-to-put-maori-spectrum-assets-to-work-with-broadtech-acquisition/.

12 Kordia (2022), *Kordia contract renewal ushers in another decade of Freeview via satellite*, 24 January 2022. Available at: https://www.kordia.co.nz/news-and-views/kordia-contract-renewal-ushers-in-another-decade-of-freeview-via-satellite.

JDA — As at 2022: 11 DTT sites in nine regions encompassing Whangarei, Rotorua, Taupo, Gisborne, Whanganui, Wairarapa, Nelson, Timaru and Invercargill (Exhibit 2).

Sky Television — 100% population coverage for DTH satellite.

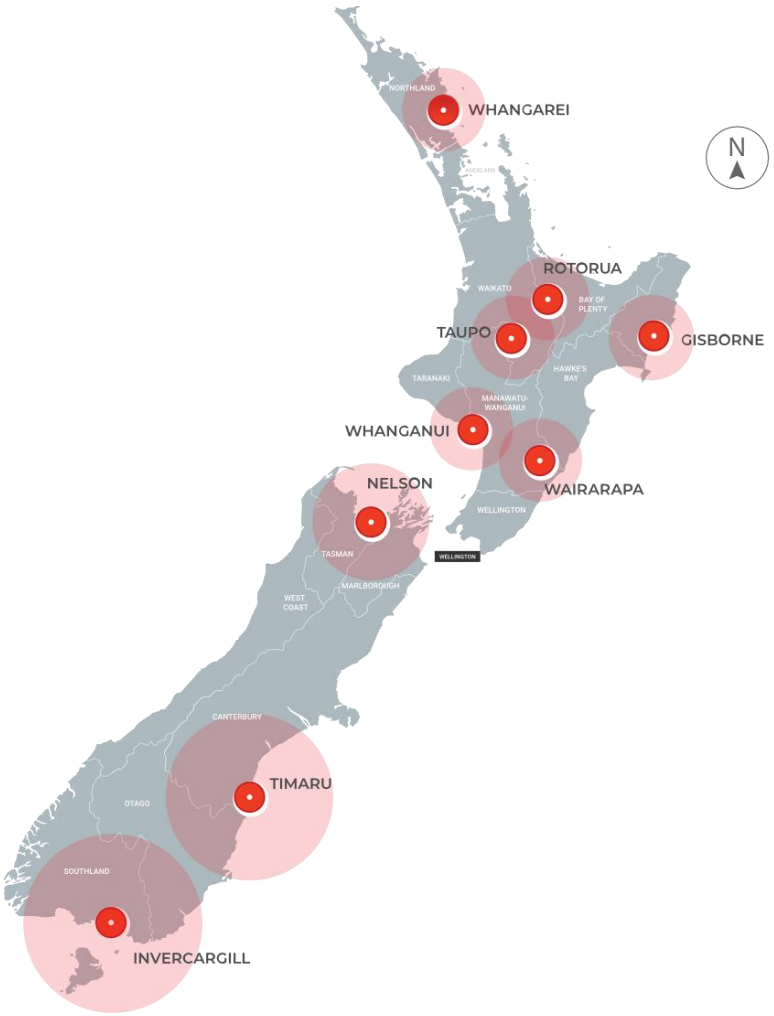

Exhibit 2:

JDA DTT coverage

[Source: JDA]

How well do TV networks perform?

Kordia measures availability of the DTT network to assess reliability and performance against customer service level agreements. In the last three years performance has exceeded Kordia's target of 99.9%[13] (Exhibit 3).

Year	*Network availability*
2023	99.99%
2022	99.99%
2021	100%

Exhibit 3: *Network availability (metro sites) [Source: Kordia]*

How much is being invested?

Kordia does not provide in its annual reports any investment guidance for its main broadcasting assets – namely transmission equipment, and masts & aerials. However, a capital replacement metric, defined as capital expenditure / (depreciation plus amortisation), is a useful indicator as to whether annual capital expenditure is keeping pace with depreciation. Over the last eight years this indicator has in general been less than one (Exhibit 4), suggesting that investment may be falling behind depreciation. However, investment is expected to be lumpy since the useful lifetime of many of these assets may range from 4 to 25 years for masts & aerials, and 3 to 25 years for transmission equipment. This may explain the periodic large jumps in capex – for example, in 2018 and 2023 for masts & aerials.

13 Kordia (2024), *Statement of Corporate Intent*, 2024. See page 11. Available at: https://2631546.fs1.hubspotusercontent-na1.net/hubfs/2631546/shareholder/Kordia%20Statement%20of%20Corporate%20Intent_2024.pdf.

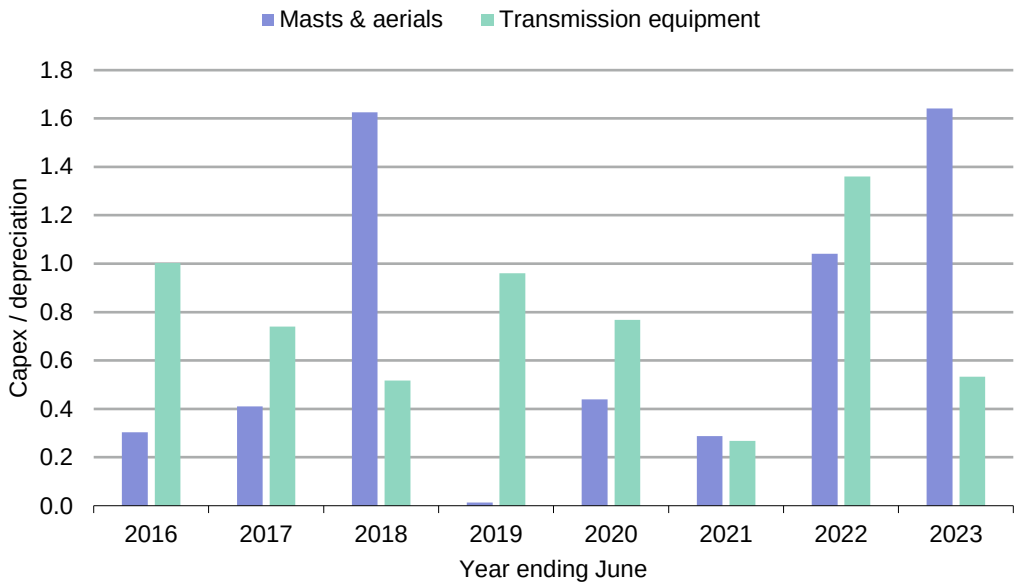

Exhibit 4: *Kordia capital replacement, 2016 – 2023 [Source: Kordia, Network Strategies]*

The quantum of annual investment in these two asset categories may also be assessed by a review of additions, transfers and disposals (Exhibit 5). Over the time period examined annual investment in masts & aerials ranged from $25,000 (2019) to around $2.7 million (2018). Between 2016 and 2023 $2 million to $12 million has been spent annually on transmission equipment.

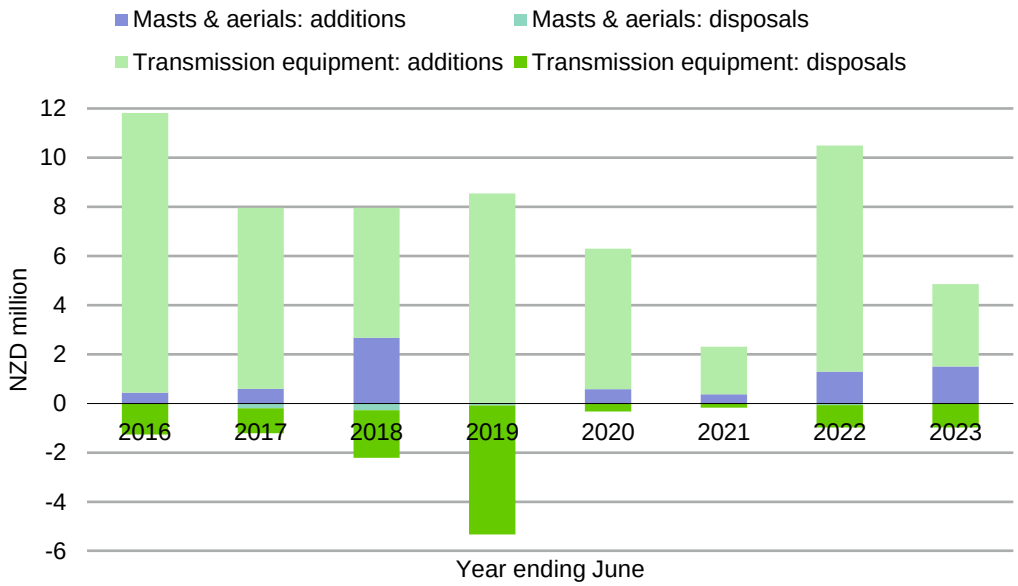

Exhibit 5: *Kordia broadcasting assets – additions and disposals, 2016 – 2023 (NZD, '000s)*
[Source: Kordia, Network Strategies]

No data is currently available on either historic investment or future investment plans of JDA.

In the absence of detailed information it is difficult to determine definitively whether sufficient ongoing capital investment is occurring to adequately support broadcasting transmission services in the medium- to long-term. However it appears that in Kordia's case network performance is currently sufficient to meet requirements in customer service level agreements.

5 Radio transmission in a digital age

Radio transmission is delivered by two wholesale providers – Kordia and JDA – together with several broadcasters – including RNZ, MediaWorks, NZME and Rhema – who self-supply and co-site to other broadcasters. FM transmission services are mostly provided by Kordia and JDA. RNZ is the largest player in the provision of AM broadcasting transmission, followed by Rhema.

We note that the ageing AM infrastructure requires significant investment if the service is to continue.

FM transmission

Kordia provides FM transmission services nationwide with the exception of Auckland, where services are provided by JDA from Sky Tower. Neither Kordia nor JDA engage directly in the radio market – that is, these are not vertically integrated entities. Other vertically integrated entities, such as Mediaworks, NZME, Rhema and RNZ, own a small number of FM sites.

RNZ AM radio – lifeline utility communications

The main provider of AM transmission in New Zealand is RNZ. It effectively has little competition, and the only AM transmission site in Auckland is owned by RNZ. Alternative AM service providers, such as Rhema, are limited with respect to both geographic and financial constraints.

RNZ's supporting assets include transmitters at each of its sites, towers and other ancillary infrastructure, together with spectrum licences. The AM platform is used to deliver RNZ's own broadcasts as well as those of diverse customers. Its co-siting revenue represents only a small fraction – less than 3% – of total RNZ revenues (Exhibit 6).

Exhibit 6:

RNZ co-siting revenue, 2019 to 2023 [Source: RNZ annual reports]

In recent years, RNZ has shut down a number of its ageing AM transmitters in preparation for exiting the market. Full closure of its AM network was planned for 2031, coinciding with the expiry of the spectrum management rights. However in November 2022 RNZ was awarded $1.48 million in Government funding to reinstate the Waipapakauri mast, as well as to replace masts at Ōtaika and Ōhaeawai which had also been earmarked for decommissioning.[14] The Government has awarded RNZ additional funding for AM transmission to support RNZ's lifeline emergency communications, comprising $1.7 million annually from 2023/24 for the next four years.[15]

RNZ notes that as at March 2010, 94.1% of the population were within coverage of its AM network (Exhibit 8), while for FM the proportion of the population covered was 89.7%.[16]

14 Beehive.gov.nz (2022), *Govt keeps AM on the air in Northland*, media release, 28 November 2022.

15 Beehive.gov.nz (2023), *Funding boost to deliver world class public media for all New Zealanders*, media release, 6 April 2023.

16 RNZ (2024), *AM and FM frequencies*, 2010 coverage maps available at https://www.rnz.co.nz/listen/amfm.

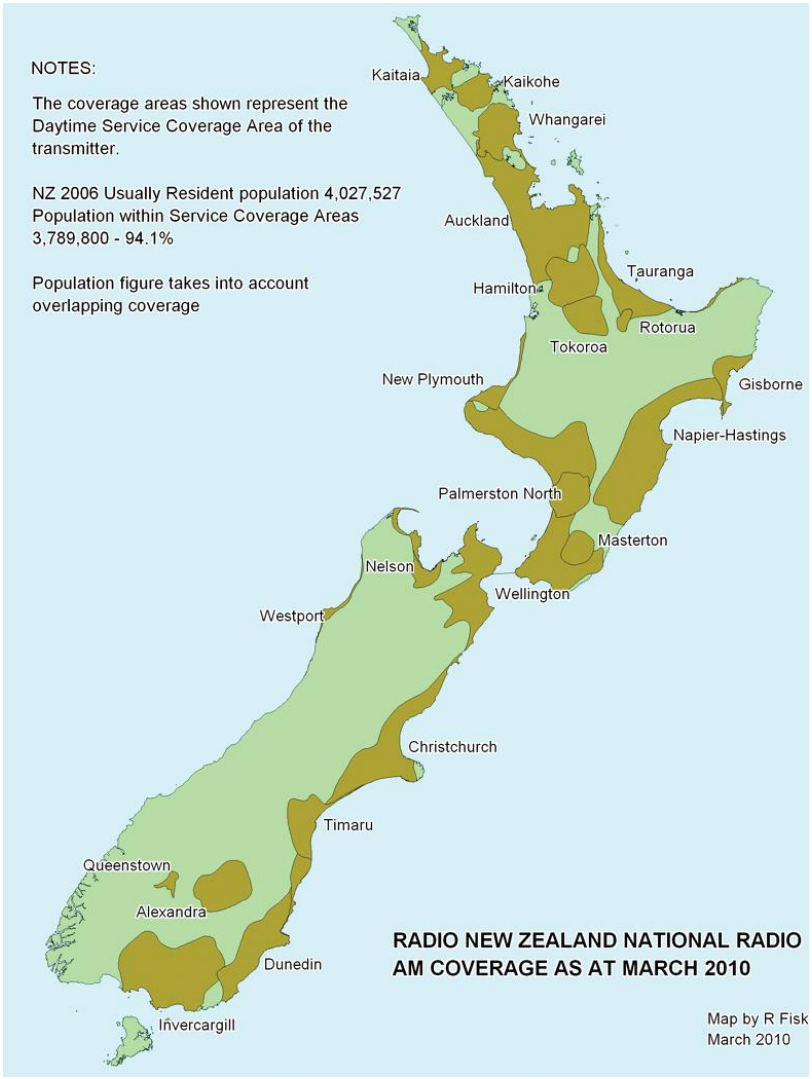

Exhibit 7:

RNZ AM coverage, as at March 2010 [Source: RNZ website]

6 Changing patterns of consumer demand

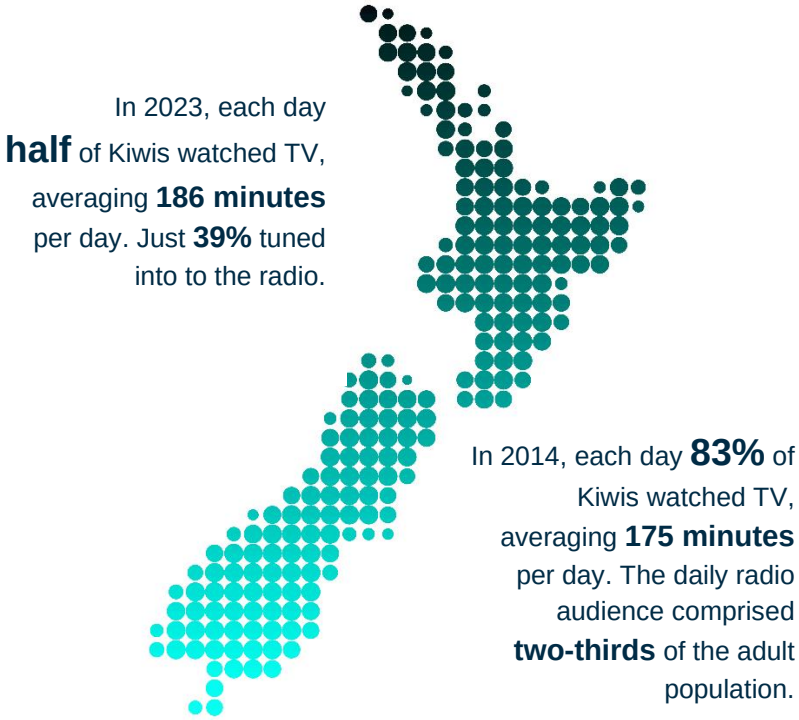

Exhibit 8:
The declining audience (15 years and older) for traditional broadcasting [Source: NZ On Air]

Audiences have turned away from traditional broadcasting – television and radio – over the past nine years, shifting to various forms of digital media (Exhibit 9). The result: increasing fragmentation of the New Zealand audience, which is consistent with global trends.

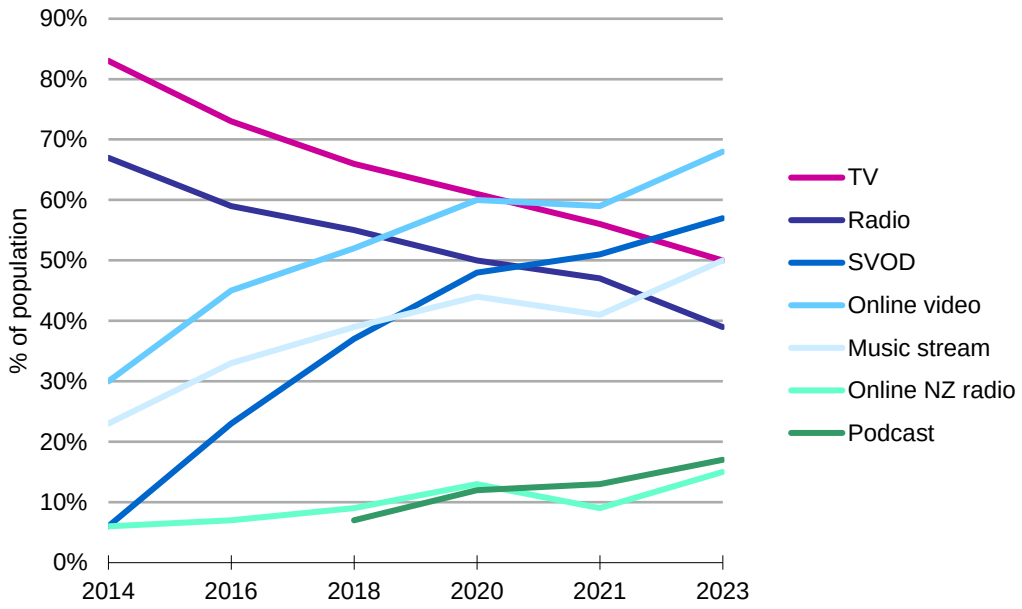

Exhibit 9: *Daily audience amongst population aged 15 years and over [Source: NZ On Air]*

What we find however is that the audience for free-to-air (FTA) television has experienced only a slight decline, while the audience for NZ Ondemand has increased. Pay TV has been the big loser, with the proportion of the population tuning in each day being less than half that in 2014 (Exhibit 10).

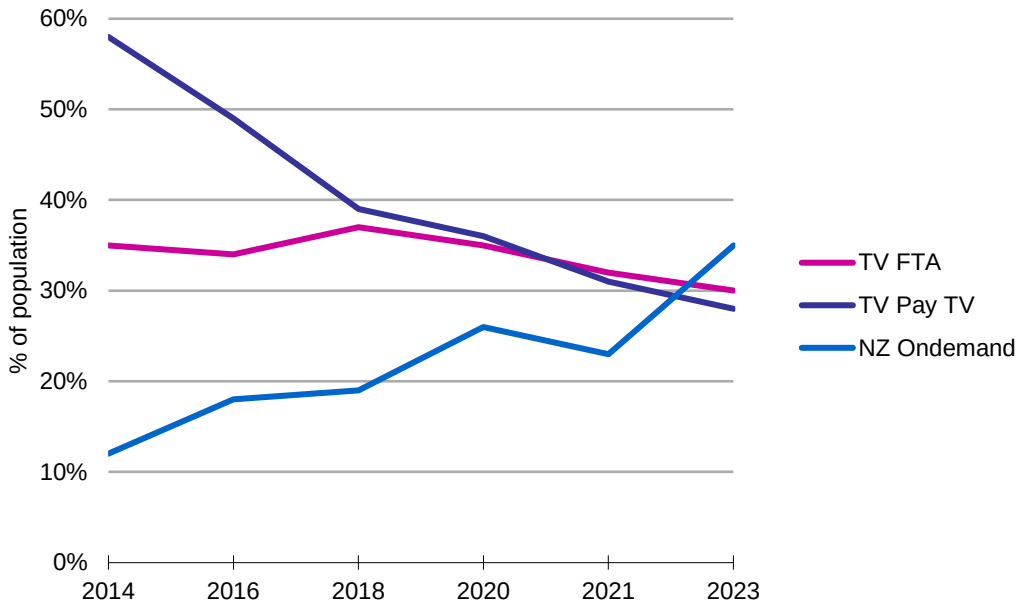

Exhibit 10: *Daily television audience amongst population aged 15 years and over [Source: NZ On Air]*

Although the reach of traditional media has declined, the daily consumption of the active television audience – those who watch or listen to content – in 2023 is similar to that in 2014 (Exhibit 11). However, average daily radio consumption has been declining gradually, with listeners tuning in for 140 minutes per day in 2023, down from the peak of 185 minutes per day in 2018.

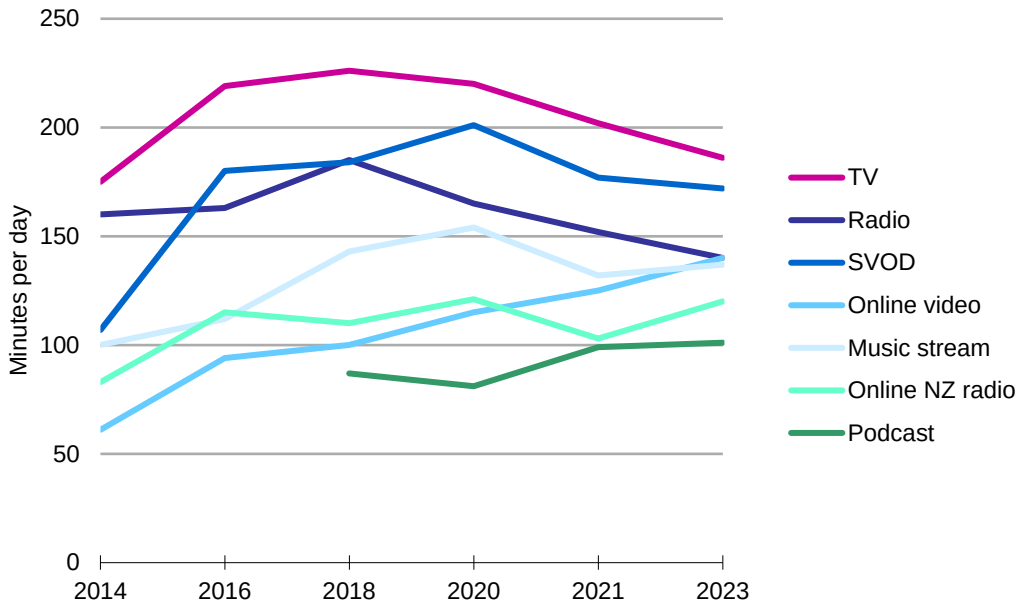

Exhibit 11: *Time spent using different media amongst users aged 15 years and over [Source: NZ On Air]*

As viewers and listeners for traditional broadcasting services decrease, there will be significant implications for the industry. Revenues are dependent upon advertising, which in turn is driven by the size of the audience. Total advertising revenue across main media has exhibited a modest upward trend since 2015, with the exception of a drop in 2020, likely to be affected by the COVID-19 pandemic, and a slight decline in 2023. The growth segment has been 'digital only'[17], comprising over half (55.6%) of advertising revenue in 2023 (Exhibit 12). However television's share of advertising revenue has fallen from 23.4% in 2015 to 13.2% in 2023 – over that time revenue in nominal terms has decreased by over 26%. The decline in radio's share of advertising revenue has been less severe, falling from 10.5% in 2015 to 7.6% in 2023, with revenue in nominal terms declining by just under 6% over the eight years.

17 Social media, such as Google and Facebook, but not including digital television, digital radio, digital newspapers or digital magazines.

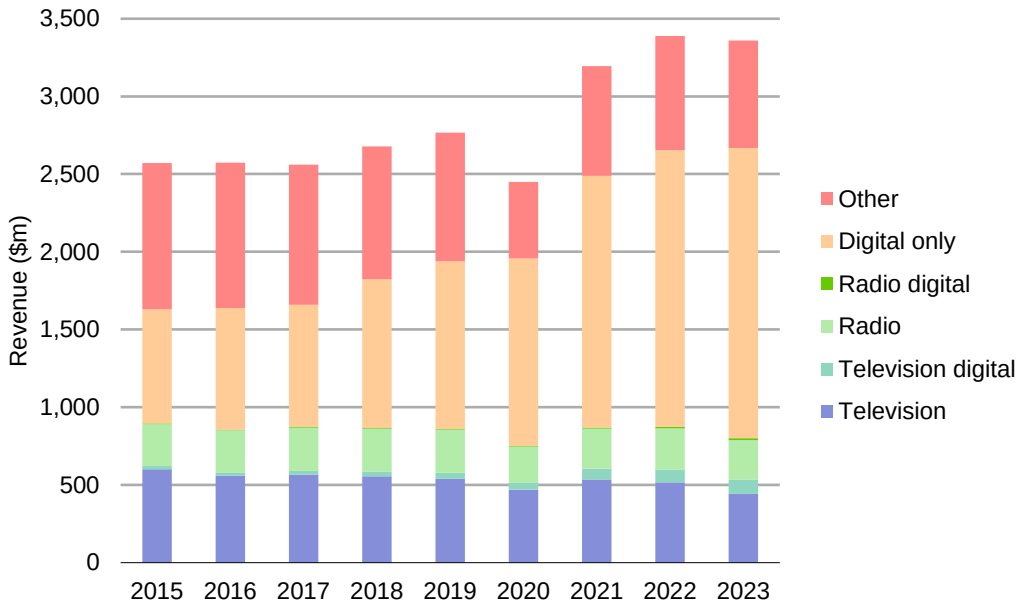

Exhibit 12: *Advertising revenues, New Zealand, 2015 to 2023 [Source: Advertising Standards Authority]*

New Zealand broadcasters have acknowledged that embracing digital streaming and IP platforms is critical for their future survival. TVNZ stated:

> The New Zealand media and entertainment landscape is experiencing a period of revolutionary change. Global streaming giants and social media platforms continue to reshape viewing habits and in recent years have secured the majority share of the digital advertising market in New Zealand…
>
> People are watching more TV shows than ever before, but how they are watching continues to change significantly. The direction consumers are moving is clear and digital streaming is critical to TVNZ's future success.[18]

[18] TVNZ (2023), *Annual report financial year 2023*, 6 December 2023, pages 7 and 9.

As an illustration of this trend, digital services are now a key revenue stream for Sky. Sky's streaming service had 467,500 subscribers as at June 2023, compared with 515,000 Sky Box subscribers (Exhibit 13).[19]

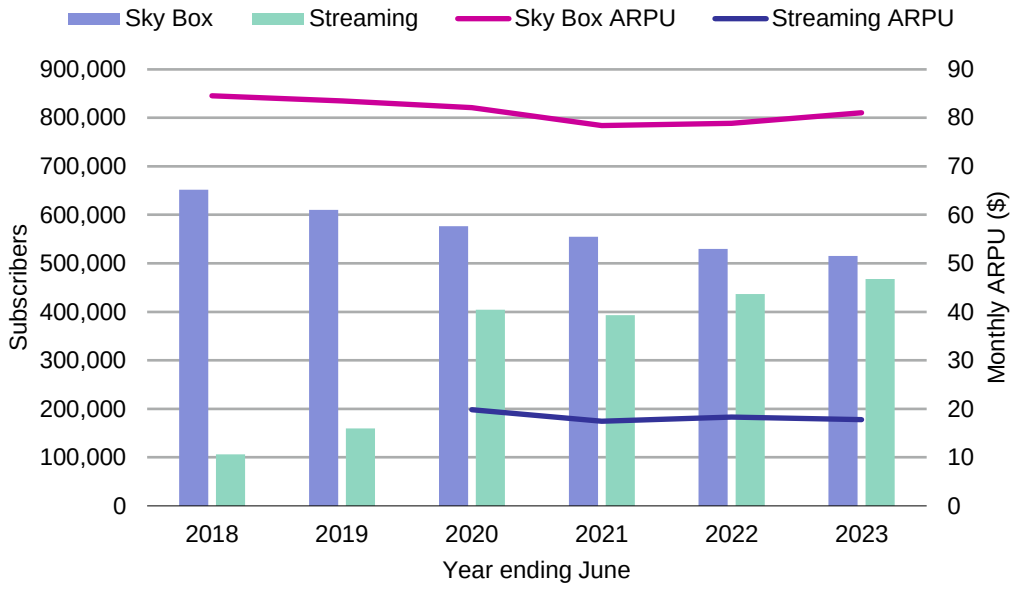

Exhibit 13: *Sky subscribers and monthly ARPUs, 2018 to 2023 [Source: Sky annual reports]*

7 Concluding remarks

There is considerable pressure on purchasers of broadcasting transmission. As audiences shift to other platforms, advertising revenues for traditional media are falling. Broadcasters are implementing strategies for digital media in efforts to retain their audiences, but must also continue to pay for legacy transmission services if traditional broadcasting is to be retained. Meanwhile the providers of legacy transmission services face declining revenues and increased costs, particularly in relation to maintaining and continuing to invest in ageing infrastructure. Hence an overall trend of increasing costs of technology and transmission is becoming apparent.

19 Sky (2023), *Annual report 2023*, 24 August 2023.

Given the ongoing disruptive market forces and emerging consequences, it will be important for the Commission to continue to monitor developments in both the demand- and the supply-side of the market, to assess whether further investigations into broadcasting transmission may be warranted.