



(Atkinson, N., 2010a)

Railways

Building the rail network

Travel before rail

Most of New Zealand's early colonial settlements were built on the coast. European settlers, like Māori before them, relied on sea and river transport to link their isolated communities. Overland travel was often extremely difficult, especially in heavily forested, swampy or mountainous areas.

Many colonists, familiar with Britain's extensive rail network, saw the steam railway as a solution. But rail construction was a complex and expensive undertaking, and New Zealand lacked Europe or North America's resources of capital and labour. Other obstacles – a rugged and unstable landscape, dense forests, fast-flowing rivers, provincial rivalries, and (in the North Island) Māori who were unwilling to sell their land – also hampered rail development.

Early steam railways

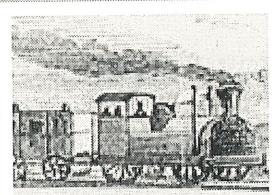
New Zealand's first steam-powered public railway was a 7-kilometre line from Christchurch to Ferrymead, which opened in 1863. Built by the Canterbury provincial government, this line used tiny British-built tank engines and a broad 5-foot 3-inch (1,600-millimetre) 'Irish' gauge track. Work also began on a 2.6-kilometre tunnel through the Port Hills to link Christchurch with the port of Lyttelton – an ambitious project which was completed in 1867.

The Southland provincial government was another rail pioneer. It imported a locomotive from Australia in 1863 and the following year opened a 12-kilometre railway from Invercargill to Makarewa. To save money, this line was laid using thick wooden rails, which became unusable in wet weather. Dry weather wasn't much better, as sparks from the locomotives sometimes set the track alight. An iron-railed line to Bluff, built to the (British) 'standard' 4-foot 8½-inch (1,435-millimetre) gauge, was completed in 1867, but the effort bankrupted Southland province.

By 1870 New Zealand had 74 kilometres of railway, all of it on the eastern and southern plains of the South Island. Emerging from the turmoil of the New Zealand wars, the North Island provinces looked to central government to deliver rail's promise of progress and prosperity.

Push! Push!

Travelling on early colonial railways was often slow and uncomfortable. On occasion Southland passengers were 'politely requested by the railway company to leave the carriage and help to *push* the carriage and engine to the top of the bank. This we did with colonial cheerfulness, and on



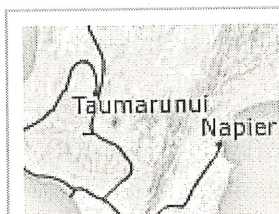
New Zealand's first public railway (1st of 3)



F-class locomotive



Fell engine

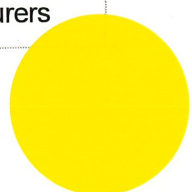


New Zealand's rail network, 1880–1940



Railway labourers

3rd



returning to our seats the guard promptly collected 2s. 6d. apiece from us as our fares!¹

Vogel's railways

In 1870 Colonial Treasurer Julius Vogel announced an ambitious programme to build more than 1,600 kilometres of railways in nine years, financed by massive overseas borrowing. As well as driving economic development, Vogel's railways were designed to spearhead a peaceful conquest of the North Island's Māori heartland.

Narrow tracks

To speed up construction and reduce costs, the government adopted a narrow 3-foot 6-inch (1,067-millimetre) track gauge. (The broader Canterbury and Southland lines were converted to that gauge later that decade.) The gauge itself was not an obstacle to performance, but combined with the steep gradients, tight curves and narrow tunnels of the New Zealand network it would place major constraints on later rail development.

The Rimutaka Incline

The Rimutaka Incline railway, which connected Wellington's Hutt Valley with the Wairarapa plains, was the most dramatic 1870s rail project. The steep eastern side of the Rimutaka Range required special Fell locomotives, which used horizontal inner wheels to grip a raised centre rail. The incline was opened in 1878, and was used until an 8.8-kilometre tunnel was completed in 1955.

Completing the network

By 1880, after the completion of the Christchurch–Invercargill line, New Zealand Railways (NZR) was operating over 1,900 kilometres of track, and carrying almost 3 million passengers and 830,000 tonnes of freight a year.

The pace of building railways slowed during the economically depressed 1880s. Work on the central section of the North Island main trunk line (between Wellington and Auckland) began in 1885 but dragged on for decades. In the 1890s Auckland was connected with Rotorua and Thames, and Napier with Wellington and (via the Manawatū Gorge) Palmerston North. The main trunk line was finally completed in 1908.

The 1920s saw the completion of the long-planned Otago Central (1921), Midland (1923, across the central South Island), North Auckland (1925) and Bay of Plenty (1928) lines. The economic depression of the early 1930s prompted the first significant branch-line closures, reducing the overall length of the network for the first time. Construction resumed in the late 1930s and 1940s, with new lines completed between Napier and Gisborne (1943), and Christchurch and Picton (1945).

Rail network peak

The total length of the national rail network peaked at 5,689 kilometres in 1953. Despite the construction of several new forestry lines in the Bay of Plenty in the 1950s (and numerous deviations and improvements elsewhere), New Zealand's great rail-building days were over. Waves of branch-line closures, beginning in the late 1950s, reduced the national network to 3,898 kilometres in the early 2000s.

Footnotes

1. Quoted in T. A. McGavin, ed., *New Zealand railways to 1900: being an adaptation of three articles contributed to the Railway magazine (England) in December 1899 and January and February 1900*. Auckland: New Zealand Railway and Locomotive Society, 1985, p. 8. Back

Biographies



John Blackett, 1818–1893



Julius Vogel, 1835–1899

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