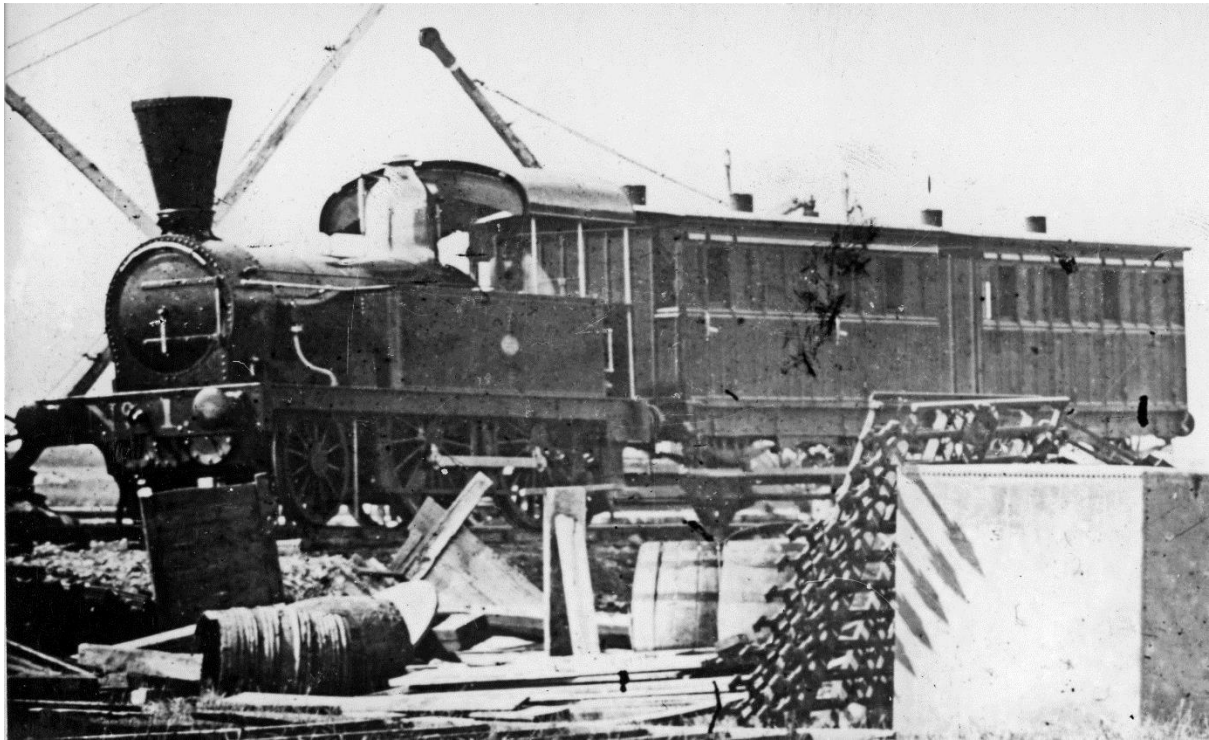


# Canterbury Railways: Full Steam Ahead

## The Provincial Railways of Canterbury, 1863-76

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*A thesis submitted in partial fulfilment of the requirements  
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in the University of Canterbury  
by Alastair Adrian Cross  
University of Canterbury  
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## Abstract

The broad-gauge Canterbury Railways are considered unanimously by New Zealand historians as the origins of the modern-day railway network in New Zealand. Built by the Canterbury Provincial Government in 1863 to relieve transport issues between Christchurch and Lyttelton, the broad-gauge railway later expanded to reach Amberley in the north and Rakaia in the south, opening up the Canterbury Plains and stimulating trade and immigration. Brought under the control of the Public Works Department in 1876 along with several narrow-gauge lines built by the Provincial Government, the broad-gauge was converted to the New Zealand standard narrow-gauge in 1878 and the locomotives and rolling-stock were sold to the South Australian Railways.

Unfortunately, there has been little engagement with the history of the Canterbury Railways in the last fifty years and in particular with the primary sources from the period since the publication in 1964 of W. A. Pierre's book *Canterbury Provincial Railways: Genesis of the NZR*. The majority of what has been written in this timeframe has been for the railway enthusiast market, and therefore has contributed to the marginalisation of the part played by the Canterbury Railways in the context of the wider New Zealand history. By engaging with period primary sources held by Archives New Zealand and suitably supported with selected secondary sources, this thesis aims to recover this history within an academic framework considering, among other themes, the prehistory of the railway before 1863, the operation of the CR network and comparisons with other Provincial-era railway operations within this period.

Careful attention shall be given not only to re-telling the history of the Canterbury Railways, but also to the various personalities behind the railway, their motivations and decisions which shaped the development of the Canterbury Railways, the impact it had both on transport within the wider North Canterbury region and its day-to-day operations and its prefiguring of the great Public Works schemes of Sir Julius Vogel. Special mention will also be made of the great railway gauge debate, its origins in Australia and the subsequent consequences for railway-building in New Zealand which was largely influenced by Australia in this particular matter.

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Professor Katie Pickles and Doctor Joanna Cobley at the University of Canterbury kindly supervised my thesis from start to completion, and provided much needed feedback throughout the process. Thanks to Katie, I was open to not only revisiting the subject of my former Honours project, but considerably expand it beyond a secondary source-based project to one that incorporated original Provincial source material. Both Katie and Joanna also made several excellent recommendations on related materials that otherwise would have escaped my notice and thus left a very narrow scope of focus.

Graeme McClare and Graeme Carter of the New Zealand Railway and Locomotive Society kindly assisted with both encouragement and photographs from the Society's collections, including those of E. J. McClare and W. W. Stewart, two of New Zealand's foremost rail historians. The Society also published many of the secondary works used in this thesis, including William Pierre's definitive work, *Canterbury Provincial Railways: Genesis of the N. Z. R.*, in 1964. Without the efforts of the Society, New Zealand would be considerably poorer for its appreciation of our railways and their heritage.

Finally, this thesis would not have been possible without the encouragement and interest of my family fellow students at the University of Canterbury, and last but not least my fellow volunteers and members of the Tramway Historical Society, who not only helped to keep me interested in my chosen topic but in some cases displayed considerable understanding as I juggled various responsibilities and requirements.

# Introduction

1 DECEMBER, 1863. CHRISTCHURCH, NEW ZEALAND.

It is a little after 2 o'clock, and a warm north-westerly wind gusts across the Canterbury Plains. It whips up clouds of dust, to the discomfort of those who have gathered just outside Christchurch at the new railway station. A small locomotive with brightly-polished brass and green paintwork patiently stands at the platform with five carriages. Suddenly, the guard's whistle shrills out across the scene, followed by an answering cry from the engine. The brakes are released, the throttle is opened, and the whole ensemble slowly accelerates away from its rest. The crowd notices one man standing on the engine's foot-plate with the engine crew and raise a cheer to him; he responds by taking his hat off to them. Then the train sweeps past the end of the platform and away down the line, leaving only a trail of coal-smoke to be blown away by the wind.<sup>1</sup>

Thus was the official opening of the Canterbury Railways on 1 December 1863, at the departure of the first train from Christchurch to Ferrymead, four and a half miles distant on the Avon-Heathcote Estuary. It was not just an occasion for celebration in Christchurch, where the railway promised to revolutionise transport within a few short years. This short line was the first locomotive-operated railway in New Zealand, and is today recognised as the epochal starting moment of more than 150 years of rail transport to come.

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<sup>1</sup> This section is largely based on contemporary accounts written both in 1863 and as later reconstructed over a century later for railway enthusiast publication.

First conceived in 1853 as a means of providing easier access to the port of Lyttelton, sheltered in the lee of the volcanic Port Hills, the broad-gauge Canterbury Railways are linked historically with Canterbury's second Provincial Superintendent, William Sefton Moorhouse. The first line, to Ferrymead, opened in 1863 as a temporary measure while a tunnel was dug through the Port Hills. Completed in 1867, the railway between Christchurch and Lyttelton would become known for linking "port with plain", but this was not the railways' only benefit.<sup>2</sup> Over their lifetime, the railways opened up the Canterbury Plains to settlement, drastically reduced travel times and costs, and acted as an economic stimulus to the region it served. Its benefits were also recognised further afield by Colonial Treasurer, Julius Vogel. Author of a grand Public Works programme in 1870, Vogel's inspiration came from Canterbury's own approach to Public Works, and particularly that initiated under Moorhouse.

At its height, the Canterbury Railways reached as far east as Lyttelton, as far south as Rakaia and as far north as Amberley – though not all simultaneously – with narrow-gauge feeder lines reaching to the outlying communities of Oxford, Eyreton, Southbridge, Whitecliffs and Sheffield. With the abolition of provincial governance in 1876, the railways passed to the control of the General Government, who had the broad-gauge lines converted to the narrower gauge already in use on the feeder lines. This last step would provide the South Island with the start of its Main Trunk Line, envisaged to run from Picton in the north to Invercargill in the south, and which centred on Christchurch as the hub for no less than three parts of this main-line railway network.

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<sup>2</sup> Gavin McLean, *100 Historic Places in New Zealand* (Auckland: Hodder Moa Beckett, 2002), p. 79.

The history of this Provincial enterprise has been well chronicled previously, most notably in the Reverend William Pierre's informative book *Canterbury Provincial Railways: Genesis of the N.Z.R. Network*, written in 1964 and which has become the definitive history of that organisation.<sup>3</sup> Since then, however, little has been written to directly challenge or revise Pierre's work, or to consider the large volume of remaining sources from this period. With the decision of the wider historical community to consign railway history to the niche-market domain of the railway enthusiast, and the subsequent focus by the enthusiast community only on certain elements within New Zealand's rich railway history, there remains some notable gaps both in our understanding of the Canterbury Railways, the initial attempts at railway-making in the late Provincial period, and the politics and motivations behind the construction of New Zealand's first 'true' locomotive-operated railway.

In particular, the Provincial period from which the Canterbury Railways emerged remains a mystery to most railway enthusiasts, largely because little of the period source material remains today. Even fewer photographs exist of the railway itself or of its trains. The Provincial photographers of the 1860s, such as the renowned Doctor Alfred Barker, focused on other subjects and seldom covered the railways.<sup>4</sup> The select Provincial sources which remains comprises either official Central or Provincial Government files held by Archives New Zealand, newspaper accounts, or personal files such as diaries and letters. This has made any scholarly or enthusiast approach to the Provincial period incredibly challenging given the selective nature of what remains. Consequently, both the historical and enthusiast

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<sup>3</sup> W. A. Pierre, *Canterbury Provincial Railways: Genesis of the N.Z.R.* (Wellington: New Zealand Railway & Locomotive Society, 1964).

<sup>4</sup> W. David MacIntyre, "Outwards and Upwards – Building the City", John Cookson and Graeme Dunstall (eds.), *Southern Capital: Christchurch: Towards a City Biography, 1850-2000* (Christchurch: Canterbury University Press, 2000), pp. 95-6.



communities have focused, where applicable, on later and better documented topics and time periods.

Subsequently, this period within our transport history has been largely overlooked by the wider historical community. There are some exceptions, such as André Brett, whose 2013 article “A Limited Express or Stopping All Stations? Railways and Nineteenth-Century New Zealand” comprises a rare academic incursion into the field of rail history with a specific focus on the largely forgotten and misunderstood Provincial period, 1853-76.<sup>5</sup> From a similarly academic but more enthusiast-oriented background, Gerald Petrie’s informative work *In the Beginning: The Story of the New Zealand Locomotive 1863-77* considers both the obscure history of our early railway locomotives, as well as giving insight into some of the factors which shaped New Zealand’s earliest experiments in railway-building.<sup>6</sup>

Like Brett’s article, this thesis aims to rectify the shortcomings of the enthusiast body of literature and focus, by reconsidering the provincial ‘prehistory’ of the railways within an academic framework. Using a combination of period sources such as original Canterbury Provincial Council documents, and more recent secondary publications, I aim to specifically reconsider the history of the Canterbury Railways. In particular, I will focus on the period from 1853 to 1876; although construction work only began in a tentative fashion in 1859 and was resumed with full vigour in 1861, the period between 1853 and 1859 has been significantly overlooked and in particular the planning for the future railway which occurred during this six-year period. In the same way, the transitional period between the demise of

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<sup>5</sup> André Brett, “A Limited Express or Stopping All Stations? Railways and Nineteenth-Century New Zealand”. *Journal of New Zealand Studies*: NS16 (2013), pp. 131-46.

<sup>6</sup> Gerald Petrie, *In the Beginning: The Story of the New Zealand Locomotive 1863-1878* (Christchurch: Locomotive Press, 1996).

the Provincial system and the foundation of the New Zealand Railways Department has received little press either.

This thesis is focused largely on the Canterbury Railways, their development and demise, but mention is also made of the other Provincial and national railway-building activities which occurred concurrent with those in Canterbury. The most notable of these are the early narrow-gauge lines built nationally as part of the great Public Works Policy of Julius Vogel. Slightly before the Vogel boom of the 1870s are the rail-making efforts of the Auckland and Southland Provincial Governments in the early to mid-1860s. While the Vogel-era railways have received a small amount of coverage historically, the earlier Provincial rail-making efforts have largely been overlooked by the wider historical community. Likewise, these early Provincial experiments in railway construction have received little attention from the railway enthusiast community in any significant way in recent years.

This thesis is laid out in a broadly chronological manner, with each chapter dealing with a single time period during the construction and operation of the Canterbury Railways.

Chapter 1 starts out with an assessment of the situation in Canterbury immediately following settlement, followed by the plans to build a railway. Thanks to the actions of its first two Superintendents, James FitzGerald and William Moorhouse, Canterbury conceived its first railway in 1853, and endured two Railway Commissions of 1853-54 and 1858-59, before receiving its first short line to Ferrymead in 1863. In addition, the original extent of Moorhouse's scheme and some of the lesser-known proposals to have been made during this period are also given due consideration, including the ill-fated Sumner proposals made by FitzGerald between 1853 and 1859.

Chapter 2 immediately follows on from the opening of the Ferrymead Railway, and looks at the construction of the first stage of the Great Southern Railway to Rakaia and Timaru in 1865-67, initially under the Superintendency of Samuel Bealey. Challenged by difficult financial times and beset by poor decisions made as a consequence of the lack of available funds, work on the Southern Railway was halted in 1867 and instead attention turned to opening the Lyttelton Tunnel – an act which, although achieved successfully, subsequently strained the goodwill of the original contractor who built both the Southern Railway and the lines to Ferrymead and Lyttelton. These cost-cutting measures also brought about a number of maintenance and safety issues, which are briefly gazetted.

Chapter 3 steps back from the history of the Canterbury Railways, and instead considers the financial policies of Julius Vogel and what Brett refers to as his “Great Public Works Policy”.<sup>7</sup> This policy would set the stage for future railway-building enterprises in not only Canterbury but the rest of New Zealand, and led to the creation of several narrow-gauge ‘tramways’ which served initially as feeder lines for the broad-gauge Canterbury network. Mention is also made of the other Provincial railway schemes during the period between 1865 and 1872, when the last of the privately-owned systems, the Dunedin & Port Chalmers, was opened. It is worth noting that 1872 is a pivotal year in the history of railways in New Zealand, as it was the year that the General Government began its railway-building enterprise, thus setting the stage for future expansion of what would become a truly national network under Vogel’s vision.

Chapter 4 returns to the historical narrative of the broad-gauge Canterbury Railways and the completion of the Southern line, including the bridging of the Rakaia River with New

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<sup>7</sup> Brett, p. 135.

Zealand's longest combined road and railway bridge. This work was carried out concurrent with the start of construction on the Great Northern Railway to Amberley, which later became embroiled in heated dispute between local communities over the eventual route taken. Completed in 1876, the Northern line was the last section of broad-gauge railway to be built anywhere in New Zealand thanks to Vogel's Public Works legislation, and concurrent with the gauge conversion of the Southern line to the narrower gauge stipulated under that legislation. By the end of 1876, the Provincial system had been abolished, and the Canterbury Railways passed to the ownership of the General Government, who converted them to the narrow gauge and sold the former broad-gauge stock for reuse in South Australia.

Chapter 5 considers the closing months of the Canterbury Railways, their acquisition by the General Government, and later conversion to the Government's chosen narrow gauge in 1876-77 as part of Vogel's original vision for a main trunk railway network. This marked the end of the Canterbury Railways as an independent organisation, instead becoming part of a national network which remains today. Some consideration is also given to what little remains of the Canterbury Railways, either into the mid-20<sup>th</sup> century where it was noted by W. A. Pierre, or up to the present day, and the official recognition – or lack thereof – these remains have received in the field of history.

Although largely based on the narrative of the Canterbury Railways as New Zealand's first public locomotive-operated railway, in what Brett refers to as a "privileged" focus, this thesis aims to 'bridge' the divide that exists between the largely narrative-based railway enthusiast literature produced up to date, and the academic approach which seeks to consider the factors which influenced and were directly behind the railways and their

construction.<sup>8</sup> Within the narrative of this thesis, the reader will find, for example, politics and technical matters side by side. Occasional remarks may be made from an enthusiast perspective to better support points being made, even including as a necessary explanation dates and events occurring outside of the Canterbury Railways chronology but always with a tangible connection to the subject in question, and always with the benefit of the academic focus.

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<sup>8</sup> Brett, p. 132.

# Chapter 1

## Canterbury – Getting Up Steam 1853-63

The decision of the Canterbury Association to site its harbour at Lyttelton, in the shelter of the Port Hills, proved to be a double-edged sword. Though the hills – the remains of a former volcanic crater – sheltered vessels from Canterbury’s famed north-west winds, they also cut off access to the Canterbury Plains. When the first settlers from England arrived in December 1850, the only way across the hills was a recently-finished bridle path to the Heathcote Valley. Unfortunately for those early arrivals, later known as the Canterbury pilgrims, this track was barely suitable for the task.<sup>9</sup> Later arrivals could turn to coastal and river shipping to reach Christchurch, but this was no solution either. Instead of crossing the Port Hills, travellers now had to cross the treacherous Sumner Bar at the entrance to the Heathcote-Avon Estuary, a task made impossible in low tides or bad weather.<sup>10</sup>

The barrier of the Port Hills was more than physical. It discouraged immigration, and thus Canterbury developed slower than its Provincial siblings of the time, such as the neighbouring Otago and Nelson Provinces. Railway enthusiast writer W. A. Pierre, the foremost authority on the Canterbury Railways, notes that this would remain so until improvement was made, or at least promised.<sup>11</sup> In the meanwhile, England was in the throes of ‘Railway Mania’. Many of the settlers who came to New Zealand post-1840 would have been exposed to the effects of and demand for railways, and might even have

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<sup>9</sup> John Cookson, “Pilgrims’ Progress – Image, Identity and Myth in Christchurch”, Cookson and Dunstall (eds.), p. 16.

<sup>10</sup> Les Dew, *On the Move: The Tidal Travellers. The Small Ships of Canterbury* (Christchurch: A & M Publishers, 1991), pp. 9-10.

<sup>11</sup> Pierre, p. 1.

travelled by train to reach their port of departure. But the colonial New Zealand was, as Government historian Neill Atkinson notes, a “raw colonial frontier” with neither money nor means to build railways at such an early stage.<sup>12</sup> Fragmented settlement, focused mostly around coastal areas, vast tracts of inhospitable terrain – and not infrequently, inhospitable Māori – were barriers to immediate railway construction. The idea of building railways may have been present, but “‘pothole politics’ and local squabbles” would keep settlers preoccupied beyond any such thoughts for the foreseeable future.

In spite of these circumstances, the settlers could foresee a time when New Zealand would have its own railways; moreover, they expected that day to come soon. To those early colonisers, André Brett notes that the railway was “at the heart of the progress industry. To New Zealand’s settlers, drawn predominantly as they were from Victorian Britain, railways represented the pinnacle of scientific achievement and redefined the relationship between time and space; anywhere without a railway was, to the Victorian conceptualization, a backwater.”<sup>13</sup> Within four years of first arriving in Lyttelton, Canterbury’s leading residents were thinking along the same lines – literally. As early as April 1854, James Young Deans was already musing on the topic of railways with a degree of foresight, stating “I expect that in a few years the project of making a tunnel through the hills and laying a railway to Christchurch will not appear such a Utopian idea as when it was spoken of two years ago.”<sup>14</sup>

As Deans wrote those prophetic words, the recently-formed Provincial Government of Canterbury was already considering the possibility of a railway to link port with plains. Acutely aware of the transport difficulties, Provincial Superintendent and Canterbury

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<sup>12</sup> Neill Atkinson, *Trainland: How Railways Made New Zealand* (Auckland: Random House, 2007), pp. 20-22.

<sup>13</sup> Brett, p. 137.

<sup>14</sup> Pierre, p. 18.

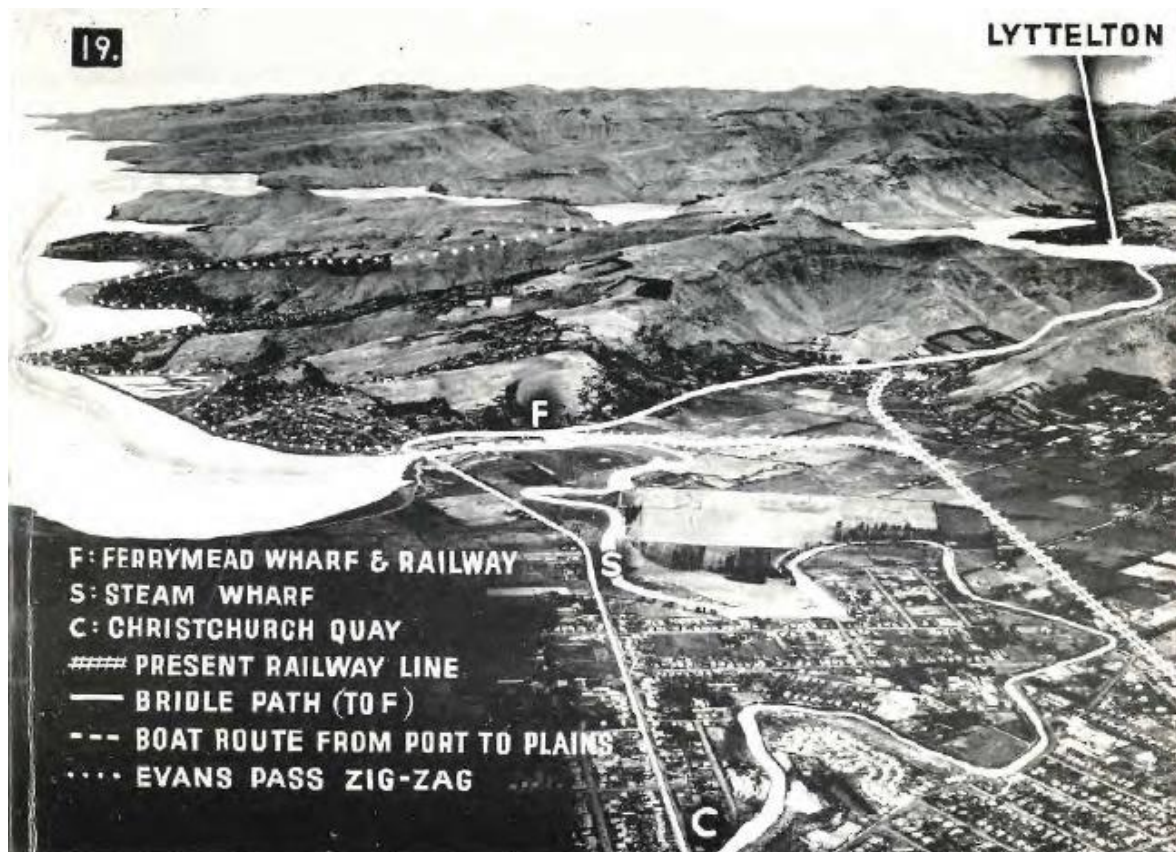


Figure 1. Aerial photograph of Ferrymead-Heathcote area, annotated to show transport links of 1859-63 and present-day railway line running to Lyttelton Tunnel. Photograph: Pierre, p. 21.

Pilgrim, James FitzGerald authorized the creation of a Road Commission to examine and recommend the best ways to link Christchurch with Lyttelton. Railways figured early in the discussion with two routes suggested – the first, a direct line up the Heathcote Valley and thence by tunnel to Lyttelton itself; the other, a longer line via Sumner and Evans Pass to a new harbour at Gollan’s Bay. The latter route, though technically feasible, was not recommended due to the need for expensive earthworks, steep gradients and its greater length. Apart from this, there were technical issues with Gollan’s Bay itself as a prospective harbour, and the line failed to connect Lyttelton, and its established harbour, with Christchurch. Because of this, the Commissioners concluded there was no need for this line to be surveyed in detail.<sup>15</sup>

<sup>15</sup> Pierre, pp. 18-19, 46.



The Commission presented three options back to FitzGerald in early April 1854; either complete the old Sumner Road and Heathcote River bridge, build a new road under Evans Pass, or a ‘most ambitious’ railway and tunnel, suggested conservatively to cost £155,356.<sup>16</sup> The claim of ambition, made by Canterbury historian Edmund Bohan in his autobiography of FitzGerald, was apt. Much too expensive for the embryonic settlement at that time, and technologically beyond what any railway engineers had ever attempted to date, the railway scheme was officially postponed in April 1855. FitzGerald himself admitted the railway could be started sooner but potentially with the prospective risk of financially ruining Canterbury; instead, a cart road would be the Provincial Government’s first priority and it would be completed by 1866.<sup>17</sup>

Although the original railway scheme was firmly off the agenda, it was not the last to be heard on the subject of rail transport. Four months later in August 1856, FitzGerald enthusiastically suggested a slightly cheaper solution, a horse tramway via Sumner and Evans Pass in the *Lyttelton Times* under the pseudonym ‘Old Navy’.<sup>18</sup> Two months after that, he proposed another, this time a railway, but again worked by horses. In reality, both schemes deserve to be known properly as tramways. Derived from the historic ‘tram road’, used in the British mining districts<sup>19</sup>, tramways were little more than a tracked road for wagons to run on.<sup>20</sup> As a point of difference, railways have steel rails<sup>21</sup>, and are typically

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<sup>16</sup> Edmund Bohan, *Blest Madman: FitzGerald of Canterbury* (Christchurch: Canterbury University Press, 1998), p. 104.

<sup>17</sup> Bohan, p. 147.

<sup>18</sup> Bohan, p. 151.

<sup>19</sup> *Oxford Dictionaries*, s. v. “tramway”, accessed 25/03/17, en.oxforddictionaries.com/definition/tramway.

<sup>20</sup> *Oxford Dictionaries*, s. v. “tram road”, accessed 25/03/17, en.oxforddictionaries.com/definition/tram\_road.

<sup>21</sup> *Oxford Dictionaries*, s. v. “railway”, accessed 25/03/17, en.oxforddictionaries.com/definition/railway.

worked by locomotives.<sup>22</sup> While there is some crossing-over between the two, FitzGerald's two schemes both fall under the category of tramways.

FitzGerald may have had permission from the General Assembly for a railway scheme, but this permission hinged on Provincial support. Unfortunately, his hope for support was over-optimistic if anything. FitzGerald's tramway schemes failed to raise enthusiasm among the Canterbury populace, and inevitably his own enthusiasm, likened by Bohan to that of Kenneth Graham's Toad and his passion for motor-cars, was temporarily blunted by public disapproval.<sup>23</sup> The outcome, following further debate and compromise, was to agree on completion of the cart road over Evans Pass using prison labour. A further, final solution would have to wait.

FitzGerald's own schemes may have failed, but his belief in a railway to Sumner may have proved the impetus for one of New Zealand's least-known railway schemes. Even as FitzGerald acknowledged defeat in 1856, a new company, the Christchurch and Sumner Railway & Navigation Company, issued a prospectus outlining plans to build a railway linking Christchurch with new harbour facilities at Sumner.<sup>24</sup> The cost, including the purchase of two steam lighters and construction of railway and harbour, was to be £50,000. Like FitzGerald's schemes, though, nothing came of the proposal. The only practical action taken was to complete the Evans Pass cart road, which was finally opened on 24 August 1857 by FitzGerald himself in his famous high-wheeled dog-cart. It was one of his last public actions

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<sup>22</sup> *Oxford Dictionaries*, s. v. "train", accessed 25/03/17, en.oxforddictionaries.com/definition/train.

<sup>23</sup> Bohan, pp. 151-52, 160, 162, 164.

<sup>24</sup> Dew, 1991, p. 17.

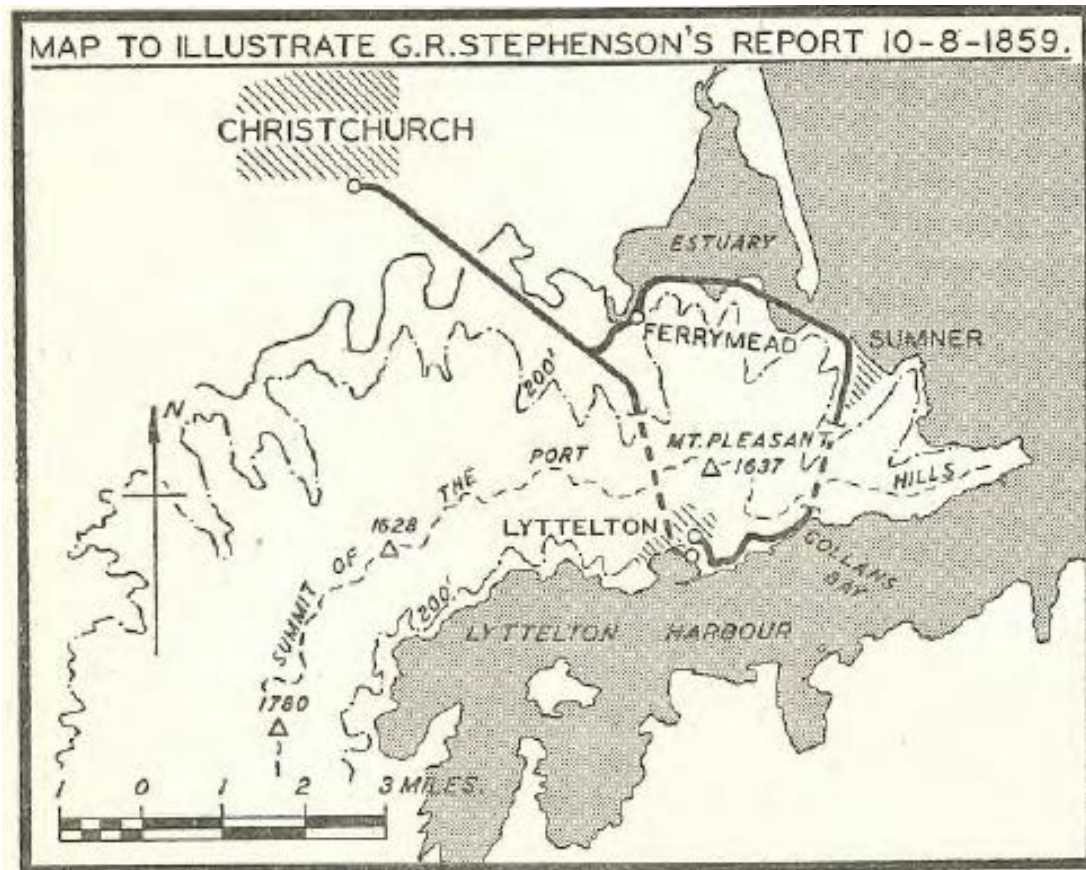


Figure 2. Map of routes surveyed for Railway Commission, 1859. Original drawing: Pierre, p. 20. as Superintendent, six days before he departed for London to become the province's Immigration Agent.<sup>25</sup>

FitzGerald may have alleviated Canterbury's transport woes to a minor extent, but his actions as Superintendent were not enough and it was left to his successor, the dynamic William Sefton Moorhouse to provide a final solution. Moorhouse's vision called for railways to link not only Christchurch and Lyttelton, but the farthest reaches of the Province, and with the help of a second Commission, created plans for a network of lines reaching to Timaru and Amberley at its extremes. Reaching out from these trunk lines were a proposed network of smaller branch lines to places such as Little River and the Burkes Pass, most of

<sup>25</sup> Bohan, pp. 169-71.

which were later built though not always to the extent envisaged by the Commission.<sup>26</sup> Over a century before 'Think Big' would enter the national conscience, Moorhouse was already doing just that at a Provincial level.<sup>27</sup>

As in 1854, a Commission was set up to consider the best route for the railway; this time though, it was a Commission in two parts. In Canterbury, W. B. Bray led a team of six recruited from FitzGerald's original Commission including Provincial Engineer, Edward Dobson. In London, Union Bank of Australia Manager, G. J. Cummins, Provincial Agent Henry Selfe and FitzGerald were to confer with the chosen engineer, Robert Stephenson, the son of pioneering English railway engineer George Stephenson.<sup>28</sup> Robert was in poor health at the time though, and instead nominated his cousin George Robert. Like his brother and uncle, George Robert was also an accomplished railway engineer and who accepted his cousin's nomination to act as the advising engineer for the Lyttelton railway.

Based on the evidence gathered in New Zealand by Bray and his colleagues, Stephenson reported on 10 August 1859 in favour of a direct line by tunnel to Lyttelton, and was duly empowered to obtain tenders from English contractors to build the railway and tunnel.<sup>29</sup> Stephenson's own observations on railway building in England, as tabled several days later by FitzGerald for dispatch to Moorhouse, suggested that it would be absolutely necessary to hire a contractor if the Lyttelton railway and tunnel were to be completed. In the same report, Stephenson also recommended that the railway should not be opened to the

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<sup>26</sup> Dobson (Engineer) to Superintendent - report of Railways Commission - 18/03/1859, box CP17, ICPS 203/1859, Archives New Zealand (ANZ).

<sup>27</sup> Atkinson, p. 26.

<sup>28</sup> Pierre, p. 20.

<sup>29</sup> J. E. Fitzgerald to Superintendent - minutes of railway Commission, England - 9/12/1859, box CP20, ICPS 995/1859, ANZ.

Heathcote Valley before the tunnel was finished, but stated his belief that a ‘temporary solution’ might be preferable in the meantime.<sup>30</sup>

While Stephenson may only have seen the Christchurch to Lyttelton railway as being a link from the wider province to its port, as noted by W. A. Pierre, his argument for the direct route was based in both sound engineering expertise, as well as a reasonable knowledge of local circumstances thanks to the evidence collated by Bray and his fellow Canterbury-based Commissioners. In his report, Stephenson recommended that “any arrangement that did not serve [Lyttelton] would inevitably cause an extent of inconvenience and a disruption of existing relations beyond present calculation... A line of railway from Christchurch to Port Lyttelton must inevitably be the key to the railway system of the whole province.” While no other lines that could be built would offer so much difficulty as the Christchurch to Lyttelton line, Stephenson firmly believed that no other line would offer equivalent financial returns to that of the line linking the “shipping-port of Canterbury with the centre of the settlement.”<sup>31</sup>

Moorhouse accepted Stephenson’s recommendation, but the decision caught FitzGerald, once more in the midst of his own schemes, by surprise. Out of office and without power to authorize anything, FitzGerald and his fellow London-based Commissioners had been attempting to revitalize the long-deceased Sumner tramway scheme. With permission to loan £70,000, a contractor available to lay rails, convenient advice from a railway engineer who claimed the Sumner line better and more feasible than any tunnel, and authorization to relax Provincial borrowing restrictions, FitzGerald had hoped to convince Moorhouse to the

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<sup>30</sup> J. E. Fitzgerald to Superintendent - minutes of railway Commission, England - 7/12/1859, box CP20, ICPS 971/1859, ANZ.

<sup>31</sup> G. R. Stephenson – Report to the Commissioners for the Province of Canterbury, New Zealand – 10/08/1859. Cf. Pierre, p. 46.

benefits of his scheme and allow the Sumner tramway to be built. In this, FitzGerald was to be disappointed. Not only did Moorhouse settle for the tunnel scheme, he also reminded FitzGerald that his own Commission of 1854 had ruled out the Sumner line by sending him a copy of their report with the new plans for the 'direct' line.<sup>32</sup>

Although the London-based Commission cooperated with Moorhouse and Stephenson, the latter being specially advised by Bray who was sent to London for that purpose, their cooperation was not of a congenial nature. FitzGerald firmly stated his disapproval to Moorhouse in June 1859, stating that he must "decline to take any step to further a scheme of which I cannot but strongly disapprove, except such steps as I must formally take to give effect to your instructions."<sup>33</sup> His reservations about the cost may have seemed reasonable, but his feelings on the Sumner line were less so. It had been clearly proven as uneconomic, and by FitzGerald's own admission would be more expensive to build, costing £490,000 to build the permanent line to Sumner and a temporary one from there to Lyttelton.

FitzGerald's suggested opening date of Christmas 1860 was again overly optimistic.

Although the Sumner scheme was unworkable, Moorhouse may have been prepared to entertain the possibility of it being a better option, at least to the point that he requested Dobson and his fellow Commissioners to reconsider FitzGerald's proposals. In what proved to be another disappointment for FitzGerald, Dobson took just two days to subsequently demolish the three proposals by noting their flaws and impracticalities, and rebut FitzGerald's arguments against the tunnel. It is important to note that Dobson did not condemn the Gollan's Bay line as impossible to build, but merely stated that it would be considerably more expensive to build. The suggestion of altering the Evans Pass Road for

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<sup>32</sup> Bohan, pp. 175-76.

<sup>33</sup> J. E. Fitzgerald (Emigration) to Superintendent - minutes of English Commission on Railways. Filed 698 (1) - 26/08/1859, box CP19, ICPS 698/1859, ANZ.

use as a railway was, however, impossible due to the severe gradients and sharp curves; modifying it for use as a horse tramway would offer no practical improvement either, and in the Commissioners' opinion, would be "a useless waste... the cost of carriage would not be heavily reduced and the necessary shutting up of the open road would be a serious injury to the Province."<sup>34</sup> It was the last time any of FitzGerald's Sumner tramway proposals would be considered by Provincial authorities in any seriousness and, apart from a brief reprise in May 1861, all three schemes were consigned to history.<sup>35</sup>

In retrospect, it is not hard to see why FitzGerald was so adamantly in favour of the Sumner tramway. By 1859, Sumner was a largely isolated coastal community along a less than satisfactory road which became almost impassable in poor weather. The tramway scheme as proposed would have two benefits for the area; firstly, it would alleviate some of those transport woes in travelling from Christchurch to Sumner, thus bringing the two closer together; and secondly, it would have been of great political benefit to FitzGerald and his ambitions. However meritorious the tramway scheme might have been to the Sumner area though, the best interests of the wider Canterbury Province were felt to be better served by the direct railway and tunnel, as would subsequently be proven correct. Sumner subsequently had to wait until 1888 for any improvement to its transport links when the Christchurch Tramway Company opened an extension of its street-tramway line from Heathcote. This tramway was more than just a significant improvement over the old Sumner Road. The tramway brought Sumner closer to the central city which resulted in its becoming

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<sup>34</sup> Railway Commission to Superintendent - veto railway Lyttelton to Christchurch via Sumner - 29/08/1859, box CP19, ICPS 720/1859, ANZ.

<sup>35</sup> Bohan, p. 196.

a dormitory suburb of Christchurch decades before that term would enter common usage, and turned it into a highly popular destination among city-dwellers for days by the seaside.<sup>36</sup>

Within two weeks of the defeat of FitzGerald's last scheme, the focus was once again on the direct line and its construction. On Stephenson's own suggestion and Moorhouse's authorization, FitzGerald and his fellow English Commissioners signed a contract with British contractors John Smith and George Knight of London on 7 September 1859. The Provincial Council set a maximum figure of £235,000 for construction of the whole railway and tunnel; Smith & Knight were also obligated to provide the station buildings, locomotives, and rolling stock for a further £35,000. Although Moorhouse had found a willing contractor and obtained a contract for construction of the railway, his enthusiasm caused him to temporarily forget that the necessary legislation to authorize such projects could not be made by Provincial Governments. Consequently, the Lyttelton and Christchurch Railway Ordinance was disallowed by then-Premier, Gore Brown, in what would prove to be the first of a series of minor setbacks. This particular setback was quickly overcome. Moorhouse was both the Superintendent of Canterbury and the Member of Parliament for Akaroa at the time, and he redrafted his Ordinance as a Parliamentary Bill. This revised Bill was duly passed, thus clearing the way for construction could begin.<sup>37</sup>

Regrettably, construction was not to proceed at anything like the pace envisaged by Moorhouse or his fellow Cantabrians. As part of their contract, Smith & Knight were obliged to send fourteen men – an agent, head miner and twelve miners and masons – to Canterbury to dig trial shafts and confirm whether the sum of £235,000 to construct the

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<sup>36</sup> Mark Alexander, *On the Move: Rails in the Roads. The Steam and Horse Tram Era in Christchurch* (Christchurch: Designprint Press Ltd, 1988), p. 9; see also Katie Pickles, *Christchurch Ruptures* (Wellington: Bridget Williams Books, 2016), pp. 151-52.

<sup>37</sup> E. M. Peck, 'William Sefton Moorhouse: with a Chapter on Samuel Bealey', MA and Honours thesis (History), University of Canterbury, 1923, p. 15.



whole railway and tunnel was adequate. Their discovery of hard rock at the Lyttelton end of the tunnel, however, was an unlucky coincidence. Believing it impossible to build the railway for the agreed sum, the agents McCandish and Baines attempted to negotiate an additional £30,000, an increase of 12.8 per cent over the original costs and raising the final projected cost to £265,000. The Provincial Government declined to increase its intended maximum of £235,000 for construction of the railway and tunnel;<sup>38</sup> determined to maintain its original fixed maximum and with advice from Stephenson that the tunnel was feasible for the stated cost, the Provincial Council duly relieved Smith & Knight of their contractual obligations on 24 November 1860.<sup>39</sup>

The decision to release Smith & Knight from their contract was unfortunate; it was a disappointing blow to the Provincial Council's intentions and gave FitzGerald, now planning his return to Canterbury and politics, ammunition against Moorhouse and his Provincial Government. It must be said in fairness that the circumstances were not in the contractors' favour though; they were, as Pierre notes, at that time "'stony broke'. Not even Stephenson's reassurance would tempt them to hazard their future on the £235,000 contract."<sup>40</sup> As suggested by their attempts to renegotiate the contract, Smith & Knight had been struggling financially for some time before they accepted the Canterbury contract. Despite financial restructuring as a limited liability company in 1861, Smith & Knight eventually failed and the company was wound up in 1866. While FitzGerald and his allies howled in triumph at the departure of the contractor, Moorhouse sought the independent advice of noted geologist, Julius Haast, who, after studying the various strata, confirmed

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<sup>38</sup> Doreen Kemp, 'William Sefton Moorhouse, 1825 – 1881', MA thesis (History), University of Canterbury, 1950, p. 15.

<sup>39</sup> Les Dew, *On the Move: The Country Commuter. The Regional Railway Network of Christchurch* (Christchurch: A & M Publishers, 1988), p. 7.

<sup>40</sup> Pierre, p. 67.

Stephenson's assessment that the tunnel could be built and for the sum already approved. With this in mind, Moorhouse sailed for Melbourne, determined to personally ensure the success of the Lyttelton Railway and obtain a contractor who was both in a better position financially and could build the tunnel and railway for the sum named.<sup>41</sup>

Of the three tenders received by Moorhouse during his Melbourne visit in early 1861, only one was eventually acceptable – the first failed to provide financial security for the work, a not-unreasonable requirement since the failing of Smith & Knight on similar grounds, while the second was reputedly unwilling to accept the contract due to the toughness of the volcanic rock. That left just the third tenderer, George Homes & Company, whose tender of £240,500 was the highest of the three. Holmes himself accompanied Moorhouse back to New Zealand to confirm the scope of works; duly satisfied, the contract was signed and on 16 April 1861, Holmes & Company became the new contractors to build both railway and tunnel.<sup>42</sup>

Although the contract had been signed, one notable difficulty remained – namely, how to get the necessary materials from Lyttelton to Christchurch. The tunnel would not be ready for some time and it was only now that people realized, in the aftermath of the contract and the ceremonial turning of the first sod, the enormity of the task before Holmes & Co.<sup>43</sup> As no-one had yet tunnelled through an extinct volcano, there was no estimate of how work would proceed, or when it would be finished. Again, a temporary solution was needed, and

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<sup>41</sup> Kemp, pp. 52-4, 56-8.

<sup>42</sup> Pierre, pp. 68-9; Dew, 1988, p. 7

<sup>43</sup> Dew, 1988, p. 7.

for this the Provincial Government decided to obligate Holmes & Co. to build a wharf where both materials and equipment could be brought ashore.<sup>44</sup>

As early as March 1859, Dobson and his fellow Commissioners had recommended building a line from Christchurch which would connect with the “river navigation by a line to a wharf on the south bank of the River Heathcote.”<sup>45</sup> In light of the time needed to complete the Lyttelton Tunnel, this was reasonably sound advice, though such a line would only ever be effective so long as it was not in direct competition with the railway tunnel. The advice of the Commission was heeded; the Provincial Council stipulated in the contract that a temporary port should be built at Ferrymead, just below the Heathcote Ferry, as a place to unload materials and equipment. Although far from satisfactory due to the need for goods to cross the Sumner Bar, it was a temporary means to achieve a permanent solution in the form of the Lyttelton Tunnel.<sup>46</sup> That solution would spell the end of the riverboats; as the Provincial Council knew from its Select Committee inquiry into the future effects of the railway in 1860; as an all-weather route, with considerably greater carrying capacity and considerably cheaper goods tariffs than its competitors, the opening of the railway would mark the end of the river trade on the Avon and Heathcote Rivers.<sup>47</sup>

By this time, FitzGerald had returned home to Canterbury and was once more in full cry, savagely attacking Moorhouse – who, for his part had respect enough for FitzGerald’s Superintendency – and his public works scheme which he decried as ‘Yankeeism’.<sup>48</sup> He was

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<sup>44</sup> Dew, 1988, pp. 7-8; Dew, 1991, p. 37.

<sup>45</sup> Dobson (Engineer) to Superintendent - report of Railways Commission - 18/03/1859, box CP17, ICPS 203/1859, ANZ.

<sup>46</sup> Dew, 1991, p. 37.

<sup>47</sup> ‘Report of the Evidence given to Committee of the Canterbury Provincial Council on Lyttelton to Christchurch Railway’, in Special Subject Files Published reports etc. on Canterbury Railways, box 353, CP353c, ANZ.

<sup>48</sup> Cookson and Dunstall (eds.), p. 17.

unable to unseat Moorhouse even when he apparently erred on the side of imprudence by personally acquiring land for the railway to head off property speculation and then selling it on to the Provincial Government in August 1861; this was almost a fatal move on Moorhouse's part, given the perilous state of his finances. From this time on, FitzGerald's greatest weapon became the newspaper he founded, *The Press*. Referred to by Bohan as having an "aggressive and often offensive" tone in its early issues, its origins and approach have been noted by André Brett as being indicative of "the extent to which the tunnel debate overtook the young community."<sup>49</sup>

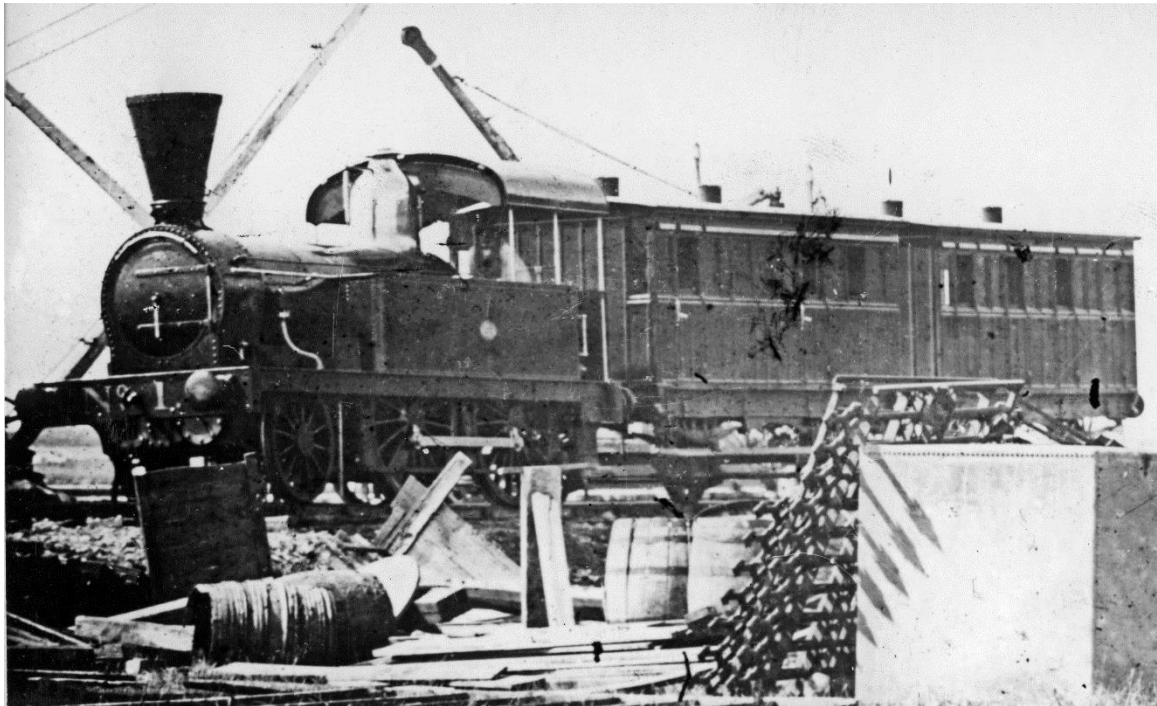
FitzGerald may have been a splendid writer in his better moments, but his last great offensive fell flat. Instead of provoking the citizenry against Moorhouse, *The Press* instead provoked a tart response from competing paper, the *Lyttelton Times*, and scathing comment from FitzGerald's mentor and good friend, founding Cantabrian John Robert Godley. It was a misjudgement on FitzGerald's part; the residents of Canterbury remained firmly behind Moorhouse and backed his visionary scheme, and nothing FitzGerald could say, or write, would alter their opinion. Even his attempts to "conjure up the dark memories of British and American railway history to show Moorhouse and his associates were unprincipled speculators of the most financially depraved kind" made no impression.<sup>50</sup> The mood of public opinion on *The Press* and its political aims was perhaps best summed up in Bohan's quote from W. J. V. Hamilton, onetime Provincial Councillor and holder of an interest in the *Lyttelton Times*, when he stated it was "a tremendous mistake... by a too dead-set against Moorhouse and a too loud cry for FitzGerald."<sup>51</sup>

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<sup>49</sup> Bohan, p. 196; Brett, p. 137.

<sup>50</sup> Bohan, p. 196

<sup>51</sup> Bohan, p. 197.



*Figure 3. Locomotive N° 1 Pilgrim and two carriages at Ferrymead Wharf, 1864. Photograph: E. J. Clare Collection, courtesy New Zealand Railway & Locomotive Society.*



*Figure 4. Ferrymead Railway Station, showing the goods shed and station buildings, 1864. Photograph: Pierre, p. 74.*

All the while as FitzGerald fulminated and Moorhouse attempted to keep Canterbury and its ambitious scheme moving ahead, Holmes & Company was continuing with construction of the Lyttelton Tunnel and the short branch line to Ferrymead. Despite technical difficulties with the riverbank site, enough of the wharf was ready to accept New Zealand's first steam locomotive on 4 May 1863. Built in Bristol by Slaughter, Gruning & Company of Leeds for the Melbourne & Essendon Railway, it was both brand-new and second-hand after its original owners ordered it for a future increase in traffic which had failed to eventuate. As a result, it had been brought cheaply by Holmes & Company in late 1862 and was dispatched to New Zealand. It may have been first to arrive, but it was not the first locomotive to be put in steam in New Zealand. That honour fell to another, more primitive-looking locomotive, the Australian-built *Lady Barkly* which was trialled along Invercargill's Stead Street Wharf on 8 August 1863, of which more will be seen later.<sup>52</sup>

Within a few months of its arrival, the engine was assembled, put into working order and was used for the first time to assist with completion of the railway. By late November the line was complete; enough stock was by now available and on hand to open the Christchurch-Ferrymead line, and so on Tuesday, 1 December 1863, the first public railway in New Zealand was opened with great fanfare. The *Lyttelton Times* covered the opening of the railway with a mixture of journalistic reporting and social commentary, referring to it as an "epoch in the history of people", and that overall the event was "the most English spectacle" Christchurch had seen.<sup>53</sup> This was a highly significant statement and reference to the city's origins; Christchurch had been conceived as a proper English city transplanted to the Antipodes, and was now about to receive one of the greatest English innovations of the

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<sup>52</sup> Petrie, pp. 65-66, 150-151.

<sup>53</sup> THE FIRST RAILWAY IN NEW ZEALAND. *Lyttelton Times*, Volume XX, Issue 1165, 3 December 1863. URL: <http://paperspast.natlib.govt.nz/newspapers/LT18631203.2.15>. Sighted 06/04/2017, 1:53pm.

nineteenth century, a railway. Unfortunately for those gathered, the weather was less than pleasant, with one of Canterbury's infamous north-west winds blowing through:

*THE LYTTELTON TIMES, 3 DECEMBER 1863*

At an early hour the streets of Christchurch presented a gay and animated appearance, flags of every description were displayed in all quarters of the town. The road to the railway terminus was thronged by vehicles loaded with passengers and crowds of pedestrians all making their way to the scene of the day's enjoyment. Arriving there about noon, we found the most numerous assemblage of people ever congregated together at one spot in Canterbury. On the whole it was the most English spectacle that it has been our lot to witness in the province. The booking offices, wool store, engine shed, and other buildings connected with the railway, were ornamented with bunting, flowers, and evergreens. Several refreshment booths offered apparently irresistible attractions to thirsty souls, and perambulating orange vendors were plying a profitable trade. There was an extensive demand for ginger beer, and the prices of dyspeptic pastry and sticky confectionery ruled high. On and about the platform promenaded a crowd of elegantly dressed ladies and gentlemen, and everybody seemed to be impressed with the necessity of shaking hands with everybody else as frequently as possible, while healthy, happy smiling faces everywhere met the view. But above all and about all, and through everything and everywhere, circulated dense clouds, or rather waves, of dust, as if the unaccustomed earth stirred up to wrath by the remorseless trampling of thousands of feet, and lashed to fury by a fierce north-wester, had turned again and was working out its vengeance in its own peculiar

way. With the assistance of a pretty hot sun, it played strange pranks with the ladies, and discomposed the gentlemen; it tickled your nose, and made you sneeze; it powdered your hair and beard; it ground your teeth to an excruciating edge, reduced your eyes to a chronic state of rheum, defiled your pocket-handkerchief, and brought you generally to a state of griminess impossible to describe. Apart from the main body of the company were little knots of holiday keepers enjoying dusty rations, bottled porter, and [jelly] babies, and everywhere the expression of contentment, fun, and determination to be jolly, depicted on every countenance, was a sight to see.<sup>54</sup>

Moorhouse had by now resigned and been succeeded as Superintendent by Samuel Bealey, but was present on the day and both rode on the locomotive's footplate on the inaugural run before making a speech both during the banquet held in the railway goods shed at Christchurch Station after returning, and again later for the benefit of the greater public in attendance that day. Moorhouse's closing remarks were recorded more than a century later by the noted New Zealand railway writer and historian, Gordon Troup:

Canterbury is an ideal shape and form for the girding and strengthening effect of a railway system. This system we have begun to see in action today, and I venture to prophesy that at no distant date we shall be able to breakfast at Christchurch and dine at Timaru. Yes, you may laugh, you can afford to, so peaceful, so fortunate are

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<sup>54</sup> THE FIRST RAILWAY IN NEW ZEALAND. *Lyttelton Times*, Volume XX, Issue 1165, 3 December 1863. URL: <http://paperspast.natlib.govt.nz/newspapers/LT18631203.2.15>. Sighted 19/04/17, 3:26pm.



you at a moment when our brothers in the North are burying the fallen and consolidating the victory at Rangiriri.<sup>55</sup>

The laughter Moorhouse notes was both incredulous and derisive. The settlers, like Stephenson, only saw the nascent Canterbury Railways as a link between port and plains. Moorhouse, on the other hand, had a grandness of vision perhaps only matched by that of Julius Vogel and his great Public Works scheme of 1870. Yet Moorhouse and his prophecy would ultimately be proven correct, and within no less than 15 years. The broad, flat Canterbury Plains lent themselves well to railway construction with the exception of its wide, braided rivers. In spite of difficulties such as a financial depression, caused in part by ongoing conflicts with Māori in the North Island, and the change to a narrower gauge, the railway reached Timaru in February 1876.<sup>56</sup>

The opening of the first, short section of railway was cause in itself for celebration, even though the Lyttelton Tunnel was not as yet complete. Unfortunately, the occasion was not celebrated by all; FitzGerald and his *Press* were still on the offensive against Moorhouse. The opening of the railway to Ferrymead provided FitzGerald with ammunition to make another personal attack on his perceived opponent's character and his perceived aloofness. The instance that FitzGerald chose to attack occurred when Moorhouse rode on the locomotive's foot-plate for the official first round trip between Christchurch and Ferrymead:

*THE PRESS*, 3 DECEMBER 1863

We observed Mr. Moorhouse standing on the engine, with an air of severity on his features. We noticed that as the train passed the platform end he did not move a

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<sup>55</sup> Gordon Troup, *Footplate: The Victorian Engineman's New Zealand* (Wellington: Reed, 1978), pp. 5-6, 11.

<sup>56</sup> Atkinson, p. 34.

muscle in his countenance; neither did he lift from his head that shabby, dusty hat with which we are so familiar, until a vociferous cheer greeted him from the masses. But before the sound of the cheer reached him, his face unbent, his hat was off his head, and he seemed for the first time to feel himself at home. The trait is too characteristic to be passed without notice.<sup>57</sup>

In spite of any shortcomings, Canterbury had its first railway – the first locomotive-operated railway in New Zealand. The *Lyttelton Times* summed up Moorhouse's hopes from his speech during the official banquet in the goods shed, which both acknowledged the opposition of FitzGerald and the concurrent efforts of the Southland Provincial Government to build their own railways, as well as looking forward to the future:

THE LYTTELTON TIMES, 3 DECEMBER 1863

The project had survived all opposition, although the promoters had been opposed by the heaviest intellects in the colony. It was the inauguration of a new era in the history of the settlement, and although their resources were limited as compared with some, yet they had set an example which could be followed by their neighbors in the South with advantage...He believed the time was not far distant when they could breakfast at Christchurch and dine at Timaru; in fact they would journey to the extreme limit of the province transact business and return to town in a day. It was not a mere fanciful or theoretical idea, but a great mercantile fact. The government of the province could not stop in the onward career in store for them, and he expressed a hope that the Superintendent would in a comparatively short time take action for opening a line south of Timaru. The railway would tend

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<sup>57</sup> *The Press*, 3 December 1863; cf. Pierre, p. 6.

to the improvement of the pastoral districts, so that where one sheep was now upon the ground there would be seven. If the people expected the government to do well for them they must do well for the government by breaking up their lands and employing labor in the cultivation of them, as upon this the success of the colony materially depended. The speaker concluded amid a storm of applause, the band playing "For he's a jolly good fellow."<sup>58</sup>

One feature of the railways Moorhouse did not mention in his speech, however, was their effect on immigration since plans for the Christchurch and Lyttelton Railway were first announced in 1859. In fact, the date of 1859 is incorrect; the immigration surge began in 1857. In his history on Irish migration to New Zealand, Lyndon Fraser notes that Canterbury enjoyed a boom period in 1857-64.<sup>59</sup> There was a need for further migrant labour, and particularly so on the railway, which itself would contribute to increased immigration to Canterbury. There was one negative consequence to this though; the stringent migrant quality controls needed to be loosened up in such times in order to meet demand. FitzGerald made one such abortive attempt in 1858 to take orphaned girls as domestic servants, hoping to attract an increase in quality migrants, but was censured by the Provincial Council for his attempt.<sup>60</sup>

Another option was to turn to Southern Ireland, a centre of Roman Catholicism which had previously been ignored and would be ignored over the decades by successive Immigration Agents for staunchly religious reasons.<sup>61</sup> There were few exceptions to this policy, other than the boom periods that Fraser notes, under which the restrictions on Irish immigration

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<sup>58</sup> THE FIRST RAILWAY IN NEW ZEALAND, *Lyttelton Times*, Volume XX, Issue 1165, 3 December 1863.

<sup>59</sup> Lyndon Fraser, *To Tara via Holyhead: Irish Catholic Immigrants in Nineteenth-Century Christchurch* (Auckland: Auckland University Press, 1997), p. 33.

<sup>60</sup> Bohan, pp. 174-75.

<sup>61</sup> Fraser, p. 38.

might be eased temporarily. The preference was for Northern Irish migrants, who were seen as less likely to be non-Catholic, and therefore less likely to be trouble. Paradoxically, it could be argued that the railway and the confidence it inspired in Canterbury brought these concerns of quality, already at the back of most settlers' minds, to the forefront. Without the railway to inspire confidence in Canterbury, however, there would have been considerably less immigration and consequently, slower progress in its development by the predominantly English settlers.

While the opening of New Zealand's first locomotive-operated railway has contributed directly to the inclusion of William Moorhouse in our national history, this has been to the expense of James FitzGerald, the true architect of the early Canterbury Railways. It was FitzGerald who laid the foundations for Moorhouse to build on; even with his characteristic tenacity and determination, Moorhouse would likely have been unable to achieve anything like that which was achieved, and in that particular timeframe, without the efforts of both FitzGerald and his Provincial Commission in 1854. The case needs to be made to recast the joint history of the railway in New Zealand and in Canterbury, and in doing so give FitzGerald the long-overdue recognition of his efforts to bring about change, and New Zealand's first railway.

The same retrospective revision needs to also be applied to the history of Canterbury and its early attempts at rail transport in the period 1853-63. The vast majority of histories available to date note the origins of the Canterbury Railways in the FitzGerald Commission of 1853-54, but then skip forward to the Moorhouse Commission and its efforts, with little or no mention of FitzGerald's alternative schemes and the politics which followed. Even W. A. Pierre, the authoritative voice on the Canterbury Railways, remains largely silent on this

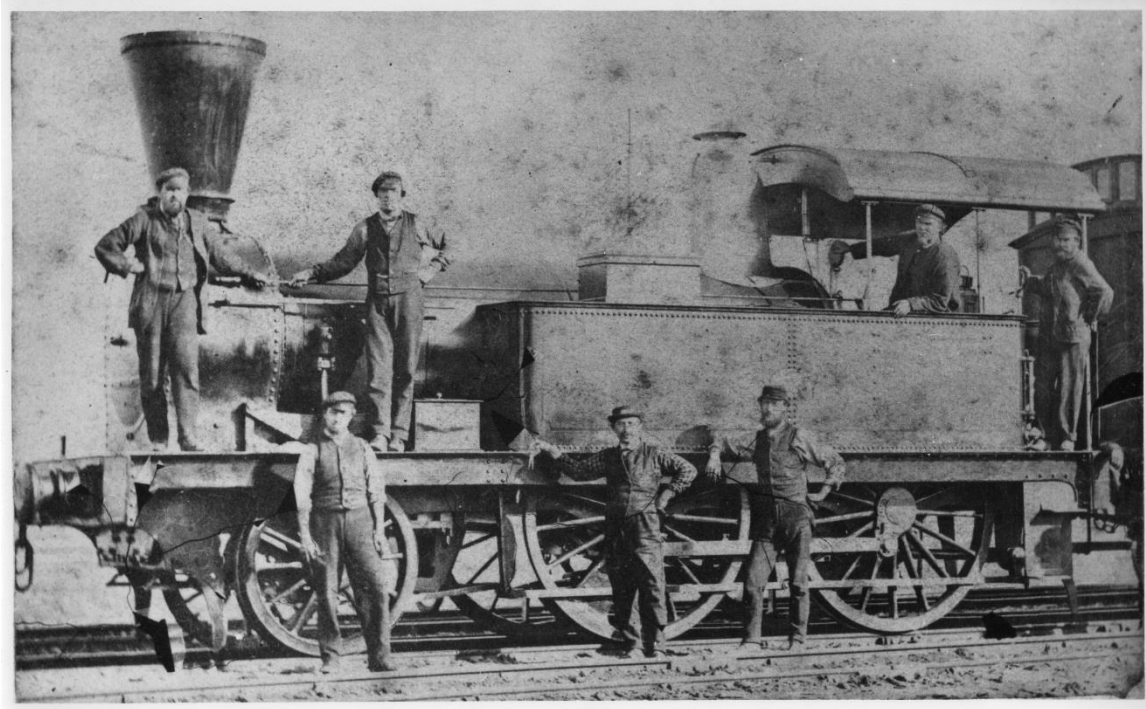
period; the only scheme he notes, besides the direct line as built, is the infamous Gollan's Bay line as suggested under the 1853-54 Commission.<sup>62</sup> Though the current Christchurch to Lyttelton railway is the best known of the Provincial schemes in Canterbury, it was not the only one to have emerged from this period of preparation, and this fact also requires full recognition.

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<sup>62</sup> Pierre, pp. 18-20.

## Chapter 2

### Canterbury – On Track 1864-69



*Figure 5. The most well-known picture of the Canterbury Railways: locomotive N<sup>o</sup> 1 at an unknown location, believed to have been taken in 1863. One of only two known portraits of Canterbury Railways broad gauge locomotives in New Zealand. Photograph: Courtesy New Zealand Railway & Locomotive Society.*

By January 1864, Canterbury had the distinction of possessing New Zealand's first locomotive-operated railway. With the great public fanfare of the opening day now behind it, the Canterbury Railways began operating regular services under the control of Holmes & Co. At this time lacking competent operating staff to run a railway, the Canterbury Provincial Government instead preferred to lease the railway to Holmes & Co., who possessed the staff to do so. Their first full year of operation, in 1864, seems to have been largely uneventful and does not receive any considerable coverage in any established histories such as Pierre's. That being said, 1864 was a year of consolidation and preparation. Canterbury

needed to get its railway running, and the Provincial Council had to decide where it would build its next railway to.

For the first seven months of its operation, the Canterbury Railways had only a small selection of rolling-stock on hand, and one locomotive, the much-venerated *Pilgrim*.

Although the locomotive has become well-known historically under this title, there is no direct evidence to ever suggest that the engine actually carried the name in service at any time. The few photographs of the locomotive, mostly from the collection of the provincial photographer, Doctor Alfred Barker, suggest that the only identification it ever carried was a number, N<sup>o</sup> 1. The most compelling suggestion for the origins of the name is that it was given by the *Lyttelton Times* shortly after the locomotive arrived from in New Zealand from Melbourne in May 1863:

THE LYTTELTON TIMES, 6 MAY 1863

The First Locomotive has been safely brought alongside the Railway Wharf at Ferrymead. The engine, which was constructed at Bristol, by Slaughter [Gruning] & Co., was transhipped from the schooner *Choice* into a lighter by the assistance of the crew and mainyard of the ship *Mermaid*. As the body of the engine is of considerable weight and size, some anxiety was felt by the contractors relative to its passage over the Sumner Bar, needlessly however, for though an accident happened to the *Mullogh* while in the act of towing the schooner, which obliged both craft to return to Port Levy, the end was happily accomplished in safety on the following day, and by this time the "Pilgrim"—for so we hear the locomotive

has been named—is probably safe on terra firma, the first of its family in New Zealand.<sup>63</sup>

Irrespective of name or number, it was not possible for Holmes & Co. to run the railway with just one locomotive, leaving no cover in the event of accident damage or mechanical failure. The first order of business was to obtain more motive power and rolling-stock, and to this effect a second locomotive of similar pattern to N<sup>o</sup> 1 was ordered from the same Bristol manufacturer. The new engine, N<sup>o</sup> 2, arrived in March 1864 and was put into steam within three months of arriving; before that, a further twenty goods wagons had been built and entered into service by April. It is worth noting that no new passenger carriages were built during this time, a fact which suggests that the railway was not predominantly built for carrying people, but instead the products of Canterbury's labours for wider export.

This Provincial expansion and opening up of the Canterbury Plains had been the driving force behind Moorhouse's plans. These plans would take time to come to fruition though. The Provincial Council had to determine the route, authorize finances, and decide upon the best method of construction. The first step was finally taken nearly a year later, when then-Secretary for Public Works, John Hall published the following notice in *The Press* in early November 1864:

*THE PRESS*, 11 NOVEMBER 1864

THE CANTERBURY GREAT SOUTHERN RAILWAY

NOTICE IS HEREBY GIVEN that application is intended to be made to the General Assembly of New Zealand in the next Session for and on behalf of the

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<sup>63</sup> TOWN AND COUNTRY NEWS, *Lyttelton Times*, Volume XIX, Issue 1094, 6 May 1863. URL: <http://paperspast.natlib.govt.nz/newspapers/LT18630506.2.16>. Sighted 06/04/2017, 2:57pm.



Superintendent of the Province of Canterbury, for leave to bring in a Bill to make and construct a railway commencing at the Christchurch terminus of the Lyttelton and Christchurch Railway, and terminating at a point on the northern bank of the River Rakaia, within Reserve No. 317, made by the Government for that purpose, and passing through the several sections enumerated in the schedule hereunto annexed and to confer on the said Superintendent power, for the compulsory purchase of lands and houses along the said line, and for such other usual provisions and powers as may be necessary or desirable for the making, construction, and establishment of the said railway, and to confer on the said Superintendent powers for the selling or leasing the said railway, and for selling or leasing the railway severances of such railway.<sup>64</sup>

The contract was finally awarded to Holmes & Company in May 1865, following a short tendering process within New Zealand. Pierre merely notes that there were some financial and physical circumstances which prevented the Provincial Government from tendering further afield, while also noting in slightly more depth that Holmes & Co. held the lease on the Lyttelton and Christchurch line, and unless bound to do so by the Provincial Government, they were not obliged to allow another contractor rail access to Christchurch station or to use their rolling-stock in the event someone other than Holmes & Co. received the contract. The cost of the entire contract, running from the Christchurch station to the northern bank of the Rakaia River, was over £200,000. The exact amount differs between

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<sup>64</sup> THE CANTERBURY GREAT SOUTHERN RAILWAY., *Press*, Volume VI, Issue 635, 11 November 1864. URL: <http://paperspast.natlib.govt.nz/newspapers/CHP18641111.2.17>. Sighted 06/04/2017, 3:20pm.

sources; W. A. Pierre quotes it at £201,000, while Les Dew, writing in a history of Canterbury's various transport services, states the contract price was £210,000.<sup>65</sup>

Unfortunately for the Provincial Government and its public works schemes, though, all of New Zealand was now facing an economic recession. Canterbury's railways had originally been conceived during a period of economic recession in the 1850s; during 1862-63, both Canterbury and the rest of New Zealand had enjoyed financial prosperity. That prosperity then disappeared in 1864 as the effects of prolonged conflict began to sink in. By then, the New Zealand Land Wars had been raging on for some time and had expanded from the Waikato back into Taranaki and over to the Bay of Plenty. There was little prospect of any financial return being made on any loan moneys expended during this period.<sup>66</sup> By 1865, New Zealand had slumped into another financial recession and Canterbury was forced to temporarily halt its public works scheme.

With funds short and the effects of the recession already being felt, the 1865 contract included no less than two provisions to extract the Provincial Government from its obligations in the event circumstances dictated a cessation of works. One of these provisions specified that the Provincial Government could, at any time, call a halt to any works being carried out if it became short of funds with which to proceed. The other allowed Holmes & Co. to be paid with either loan debentures or "waste lands of the Crown" not in use by either the settlers or the local Ngāi Tāhu Māori, each to be issued up to a sum

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<sup>65</sup> Dew, p. 23; Pierre, p. 75.

<sup>66</sup> Pierre, p. 36 references the wars and their effects as a whole.

total of £50,000 pounds instead of cash.<sup>67</sup> As would later be seen, circumstances did force the Provincial Government to invoke the former clause.<sup>68</sup>

During this critical period, the Provincial Council was under the leadership of Samuel Bealey, third Superintendent of Canterbury, and perhaps the least successful person to hold that post. Like FitzGerald and Moorhouse before, Bealey was an early Canterbury colonist, originally from Lancashire and with a degree from Trinity College in Cambridge. Arriving in New Zealand in 1851, he had become both a pastoral run holder and later a member of the Canterbury Provincial Government until he stood for the Superintendency in 1863.

Moorhouse, then in financial trouble at the time, saw Bealey as a man who could continue Canterbury's public works schemes and accordingly supported his election.<sup>69</sup>

Historically, Bealey has received a poorer press than any of the other Superintendents Canterbury had. The majority of opinions held at the time refer to him as a "nobody"; he only sporadically indulged in "sudden and unpredictable bursts of activity" and he is noted to have been uncomfortable at first in the role – so much so, that his erratic initial actions caused his entire executive to resign, along with Provincial Surveyor, Edward Dobson, and Assistant Engineer, James Wylde.<sup>70</sup> Theirs were not the only prominent resignations in this period; Bealey's actions also led to the resignation of Henry Selfe, one of FitzGerald's staunchest allies and his relative by marriage, from the post of Provincial Agent in London in

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<sup>67</sup> Dew, 1988, p. 23; Pierre, p. 75.

<sup>68</sup> Pierre, p. 76

<sup>69</sup> George Ranold McDonald, 'BEALEY, Samuel', McLintock, A. H. (ed.), *An Encyclopaedia of New Zealand*, vol. 1 (Wellington: R. E. Owen, 1966), pp. 174-75.

<sup>70</sup> McLintock (ed.), p. 175.

1866 as a reproach for what he saw as reckless risk-taking in order to urgently fund necessary public works such as the West Coast Road.<sup>71</sup>

For Bealey, the ultimate goal was to advance the railway south to Timaru and South Canterbury as per Moorhouse's plan of 1858. The Rakaia River, which had until then prevented the two halves of the province from being united, would be bridged and the Provincial Council supported this to the tune of £200,000 from Provincial revenues. This support, however, was not unanimous. It is recorded that FitzGerald and *The Press* once more went on the attack, questioning whether the southern line and the choice of route was entirely sensible:

*THE PRESS*, 1 AUGUST 1869

That our first railway extension should not have been to the north where a fair traffic for passengers and goods was certain, may be accepted as a mistake, but that the southern line should be taken precisely where it is most unavailable for the Lincoln and Ellesmere districts on the one hand, and for the coal districts on the other, is as another mistake comparatively wonderful.<sup>72</sup>

The reason for choosing the southern line, though, seems to have been based on the desire to tap the agricultural produce of the southern Canterbury Plains and open this region up to wider settlement. The perceived failures of not building railways into the Ellesmere, Lincoln and the Malvern Hills regions was not as great an injury as claimed by *The Press* either. The stations of Leeston Road and Selwyn handled significant volumes of goods from the Ellesmere District and coal from the Malvern Hills respectively, now brought slightly closer

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<sup>71</sup> Pierre, p. 39.

<sup>72</sup> *The Press*, 1 August 1869; cf. Pierre, p. 51.

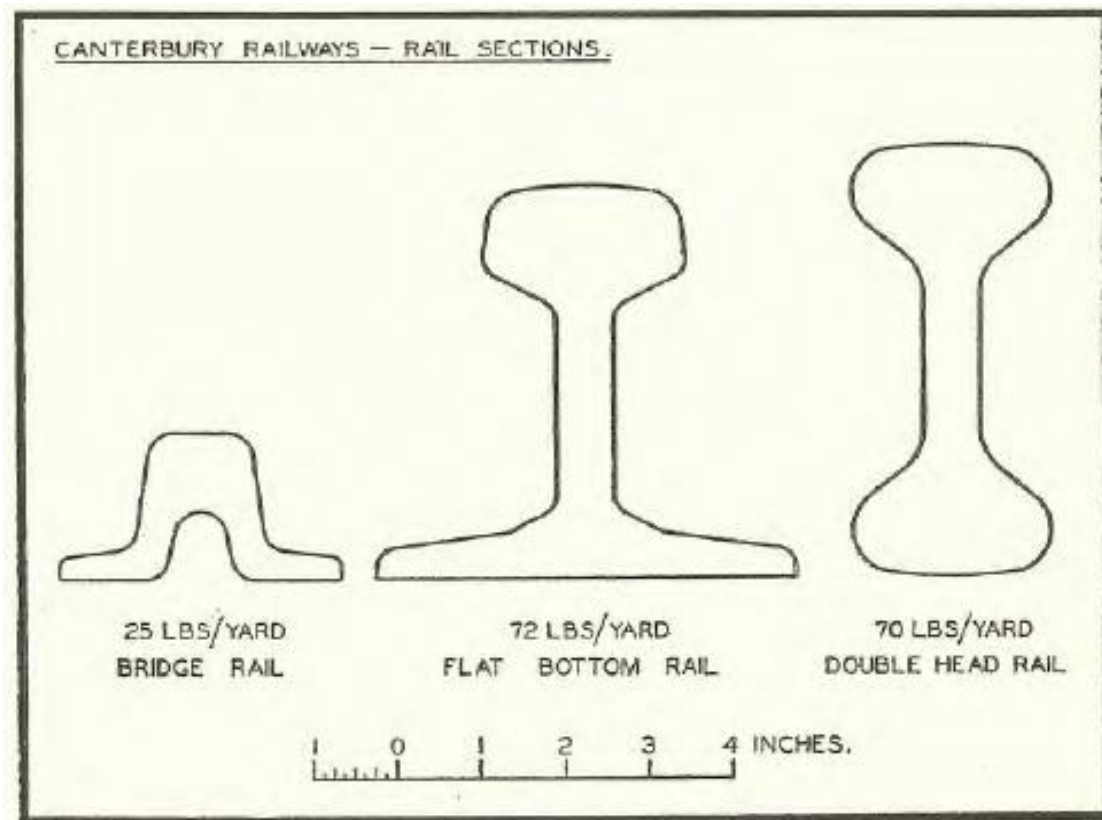


Figure 6. Section drawings of representative rails used on Canterbury Railways. Bridge rail as shown used in Australia but substituted for Canterbury version which was no longer traceable. Original Drawing: Pierre, p. 105.



Figure 7. Section of recreated broad gauge track with double head rails at Ferrymead Heritage Park, 24 October 2016. Photograph: A. A. Cross.

to Christchurch by the opening of the Southern Railway.<sup>73</sup> In later years, as will be seen, these outlying districts themselves would be linked by railways.

Work began on the Southern line shortly after the contract was issued to Holmes & Co., heading due west from the Christchurch station towards the present-day suburbs of Hornby and Islington, from where it turned south-east towards what would soon become the town of Rolleston. One critical error was made during this time, however, when an inferior type of rail was chosen. Previously the Provincial Government had used wrought-iron bull-headed or double-headed rail, weighing 70 pounds per yard and cast in an “I” shape. It was considerably more long-lived than most other types of rail then available, but it was also considerably more expensive to install since it required specialised chairs and keys to support it. Its use, however, was typical of contemporary English railway practice and had been recommended by G. R. Stephenson during his report of 1859.

The substitute type of rail used was a type known as historically as bridge rail, or, as in Pierre’s history of the Canterbury Railways, “Great Western type rail”. This latter name stems from its most famous use, on the broad-gauge lines of the Great Western Railway in England. Although Pierre himself describes it as being “B”-shaped, the accompanying outline drawing of a lighter Australian version he used for illustrative purposes is closer in shape to a flattened “U” or non-capitalised “N”-shape. Lighter than the bull-headed rails at 56 pounds per yard, it proved to be painfully inadequate for its intended purpose. Within a short time, the rails had worn out and been bent and twisted out of shape, while the flat shape of the top of the rail, or rail head, had damaged the wheels of the locomotives and rolling stock. Those rails which could be repaired were relegated to use on sidings; the rest

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<sup>73</sup> Dew, 1988, p. 24.

were replaced, in an expensive lesson which would later hold some bearing on construction of future railways in Canterbury and particularly the Northern line.

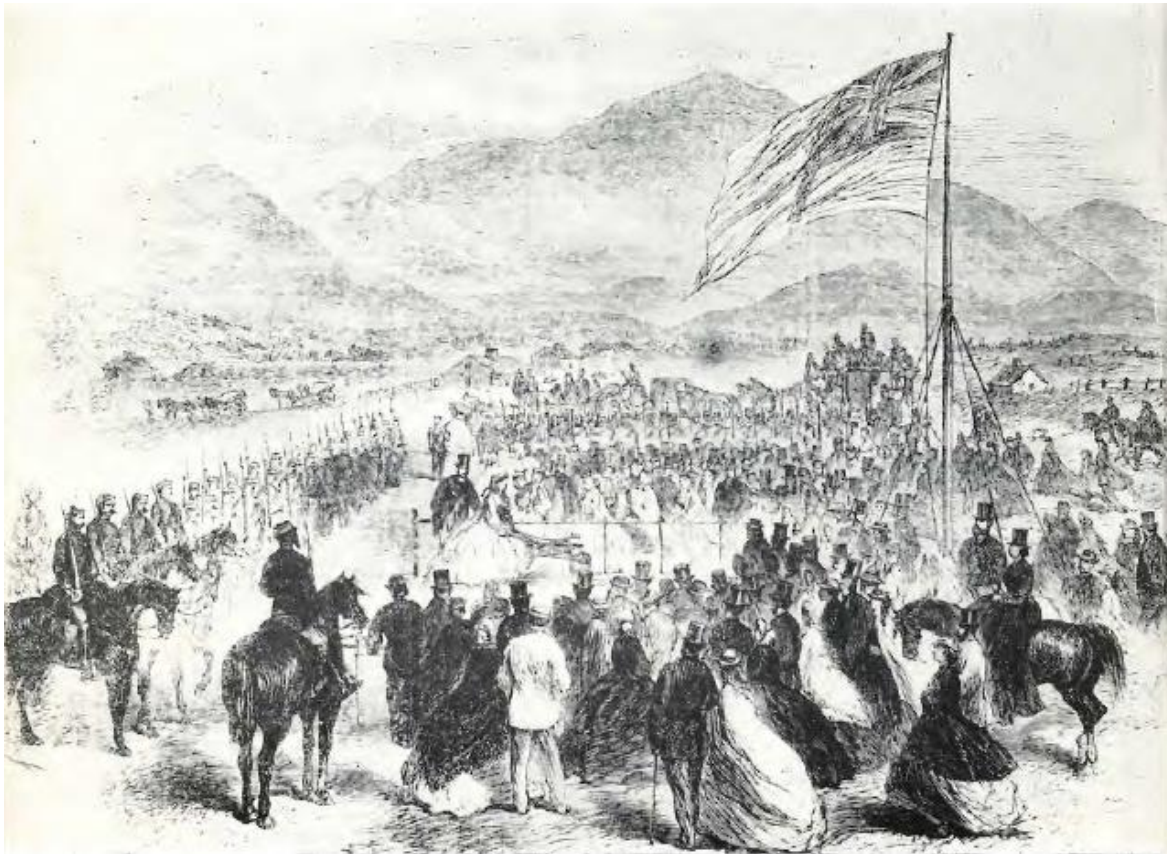
There were, in fact, two issues with using bridge rail. Firstly, it needed a vastly greater level of support than traditional double-headed or, alternatively, the aptly-named flat-bottom rails with their flat bases. Secondly, without this support, the use of engine N<sup>o</sup> 1 and its sisters, now numbering three since the arrival of a further two engines to the same design, was inadvisable given their considerable weight per axle, or axle load. As used on the Great Western Railway, bridge rails were laid on longitudinal sleepers giving greater support to what was in effect merely just a running surface; in New Zealand, however, the rails were laid in the traditional manner on transverse sleepers. Before long, trouble ensued as the weak rails buckled under the weight of trains and particularly the heavier engines which ran over the line at busy periods.

What the Southern line really needed, though, was lighter locomotives, and Holmes & Co. had brought two for this purpose, CR numbers 5 and 6. These two engines were an improvement on the earlier four, but were still not entirely successful. The engines had a low centre of gravity, low-slung water tanks under the boiler which limited their practical range, and radial trailing wheelsets which allowed more flexibility than a fixed wheelset. As Pierre suggested in 1964, this latter feature was not as beneficial as hoped. Instead, the engines behaved more like modern diesel and electric locomotives with their low centres of gravity, and slammed against the rail instead of “riding pendulum-like on their springs.”<sup>74</sup>

Writing in 1872, Public Works Department engineer H. P. Higginson stated that the resulting

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<sup>74</sup> Pierre, p. 106.



*Figure 8. Engraving from the Illustrated London News of Bealey's wife turning the first sod of the Southern Railway, Queen's Birthday 1865. Photograph: Pierre, p. 12.*

lateral friction had been detrimental to the tyres, or flanges, of the locomotives' trailing wheels, causing considerably more wear than on their driving wheels.<sup>75</sup>

All of this, chronologically speaking, was some time ahead in the future though. Holmes & Co. had received the contract in 1865 and the ceremonial 'first sod' was turned by Bealey's wife on Queen's Birthday, 1865.<sup>76</sup> By October 1866 the rails had reached Rolleston and were open for traffic; little over ten months later, on 10 July 1867, the line reached Selwyn, where it ground to a halt as worsening financial conditions took effect.<sup>77</sup> The situation in Canterbury by now was hardly pleasing; the financial depression of the 1860s had now well and truly begun, and the Provincial finances were in disarray largely due to the public works

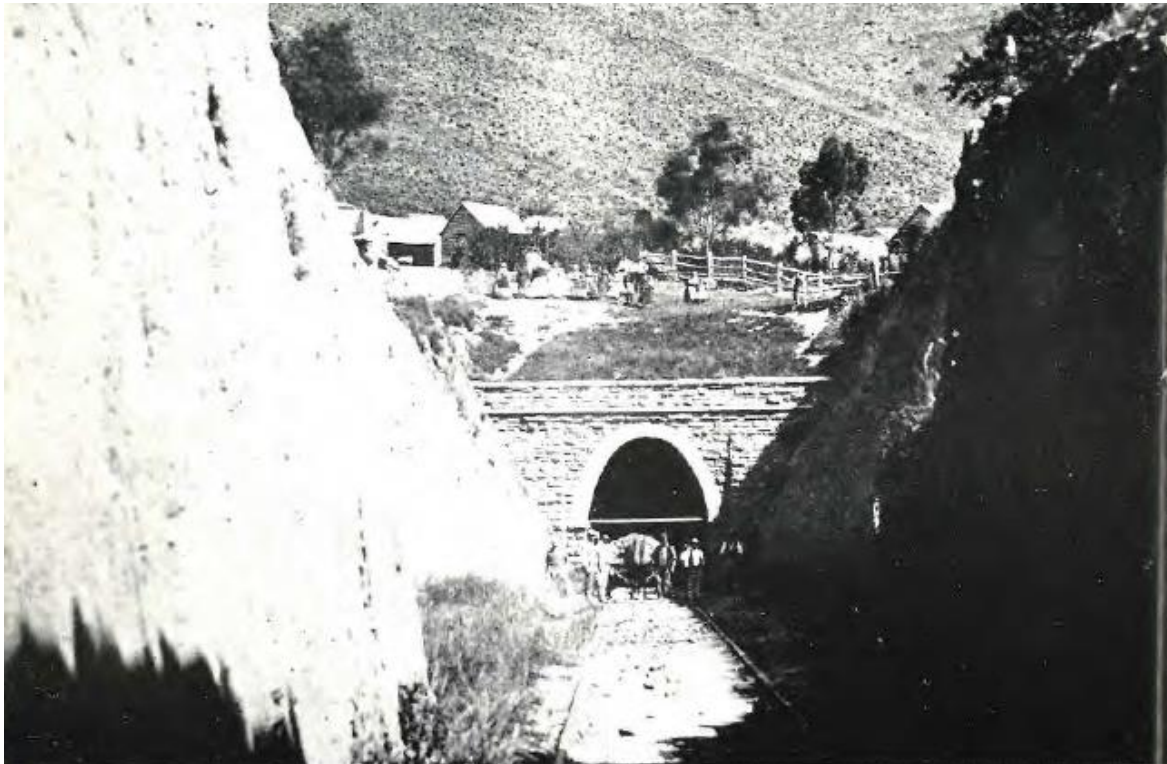
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<sup>75</sup> Higginson cited in Pierre, p. 114.

<sup>76</sup> Pierre, p. 12.

<sup>77</sup> Dew, 1988, p. 23; Pierre, p. 76.





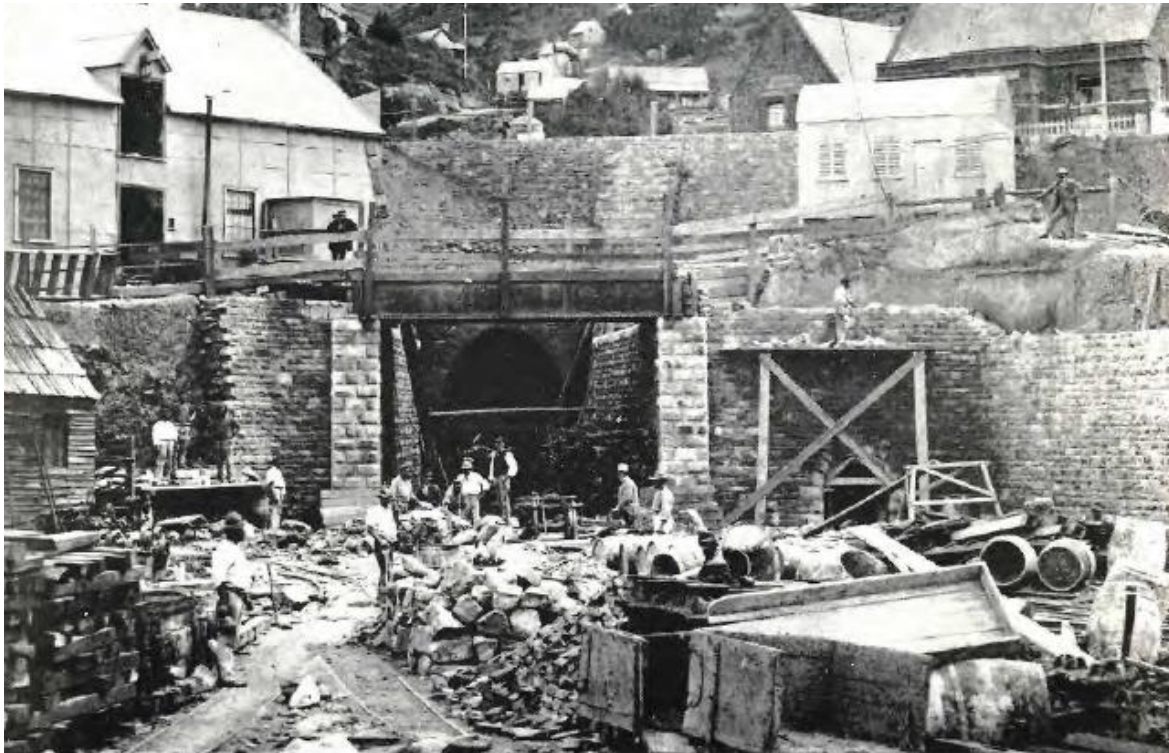
*Figure 9. Heathcote end of the Railway Tunnel below I. T. Cookson's garden, date unknown. Rails are laid to a wider gauge for the contractor's spoil wagons. Photograph: Pierre, p. 72.*

schemes of Moorhouse and Bealey. Not even the West Coast gold-rush of 1864 could alleviate this unfortunate situation. A stronger leader was needed; Bealey resigned in 1865 and returned to England, and Moorhouse was returned to the Superintendency, much to the disappointment of FitzGerald who, for the most part, saw Bealey only as a stop-gap measure until Moorhouse could pay off his debts and assume office once again.<sup>78</sup>

The one bright spot in this period for Moorhouse and the wider Province was that its greatest public works scheme was about to come to fruition. Holmes & Co. had been tunnelling through the Port Hills since 1861, as well as running the Christchurch-Ferrymead railway and building the Southern line; but one morning in May 1867, six years after work began, the two ends of the tunnel finally met up. The story is told, somewhat apocryphally, that one of the workmen was sent to the Moorhouse residence to inform the

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<sup>78</sup> Bohan, pp. 262-63, 283-85; Peck, pp. 22-23.



*Figure 10. Lyttelton portal of the Railway Tunnel, 1865. A ventilation pipe for the tunnel works can be seen in the background above the portal. The tracks for the spoil wagons at this end of the tunnel appear to be narrower than those at the Heathcote end; two such wagons can be seen in the immediate right foreground amongst the construction debris. Photograph: Pierre, p. 73.*

Superintendent that the men on the Lyttelton side had broken through to the Heathcote side; unable to gain Moorhouse's attention, the workman reputedly resorted to scooping up a handful of gravel and throwing it against a window. This latter action got the attention of Moorhouse's wife Jane who in turn passed the message on to her husband.<sup>79</sup>

Officially, there seems to be some confusion with the dates on which the breakthrough between the two headings occurred. Pierre notes that it occurred on 28 May but does not name any source to support this claim. The *Lyttelton Times*, which published a special edition to mark the occasion, claims that the breakthrough between headings took place on 24 May, and this is understood to have been the correct date. As the *Lyttelton Times* stated the day after:

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<sup>79</sup> Peck, pp. 24-5.

THE LYTTELTON TIMES, 25 MAY 1867

At 6.30 a.m. on Friday, the 24th inst., communication was established between the two drives by the miners on the Port side breaking into a drill hole sunk some days previously in the face of the Heathcote drive. After a few minutes spent in enlarging the opening, an iron rod was passed through from drive to drive, the distance between the two faces being fourteen feet. The alignment and the levels are thus proved to have been perfectly correct.<sup>80</sup>

The hole between the two ends was eventually widened enough that early on the morning of 29 May, the miners at the Lyttelton end were able to pass through the tunnel to inform George Holmes himself, now a resident in the Heathcote Valley, of their achievement which earned them the reward of an early breakfast. Within several months of this the tunnel had been provisionally finished and rails were laid through; the first train from Christchurch to Lyttelton passed through the tunnel on the evening of 18 November while the Provincial Council began accepting goods destined for Lyttelton by rail three days earlier. The tunnel itself though was not officially opened until 9 December 1867 when the official first train, carrying five hundred passengers, departed Christchurch for Lyttelton.<sup>81</sup> Regrettably, no photographs of the occasion appear to have survived, if any were actually taken.

The opening of the tunnel was a considerable novelty for Cantabrians who flocked to witness their latest engineering feat in action from the moment it was opened. In his Traffic Returns for 1869, General Manager John Marshman noted that 12,061 passengers had passed through the tunnel during December 1867 with a return of £842.10s.11d, while the

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<sup>80</sup> COMPLETION OF THE MOORHOUSE TUNNEL., *Lyttelton Times*, Volume XXVII, Issue 2006, 25 May 1867. URL: <http://paperspast.natlib.govt.nz/newspapers/LT18670525.2.9>. Sighted 08/04/2017, 10:07pm.

<sup>81</sup> Dew, 1988, p. 12

following month saw an even greater increase, 16,466 passengers with a return of £1,141.12s.0d.<sup>82</sup> It should be noted that most of those who travelled would have been day-trippers visiting Lyttelton by rail for the sheer novelty of experiencing the tunnel, with excursionists attending events such as the Canterbury Anniversary Day celebrations and the 1868 New Year's Day regatta coming a close second.<sup>83</sup> Including the totals for goods traffic, the overall profit for the Christchurch and Lyttelton Railway in December 1867 came to £2,289.3s.7d, increasing the following month to £2,683.6s.5d. By comparison, the Southern Railway to Selwyn only managed £593.5s.6d for goods and passengers combined, and increasing the following month to £969.1s.4d.<sup>84</sup>

The returns from the Christchurch and Lyttelton Railway were an exception rather than the norm at this time. Like its fellow provinces, Canterbury was in the midst of economic depression and needed to both generate revenue from its public works expenditure, as well as interest on its loans. In hindsight, while this decision alleviated some of the province's short-term woes, it proved to be a greater headache in the longer term. The tunnel was only roughly completed and the decision to open it sparked a series of *contretemps* between Provincial Council and their contractors. Despite their best efforts, the Provincial Council failed to prevent the most serious consequence of their actions in July 1867, when the tunnel was closed for a little over three weeks to allow work to proceed unhindered. The Ferrymead line, still in use at this point as a minor branch line, once more handled the traffic on offer until the tunnel itself reopened later that month.

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<sup>82</sup> J. Marshman, Railways to Provincial Secretary - traffic returns Canterbury Railways - 6/03/1869, box CP101, ICPS 286/1869, ANZ.

<sup>83</sup> Dew, 1988, pp. 12-13.

<sup>84</sup> Marshman to Provincial Secretary – traffic returns Canterbury Railways - 6/03/1869.

With this urgent work carried out, the reopening of the tunnel spelled the end of the Ferrymead line which had only been a temporary measure until the tunnel was completed. Neill Atkinson writes that the completion of the tunnel, “New Zealand’s first ‘think big’ project... rendered the four-year-old Ferrymead line redundant and prompted the country’s first railway closure.”<sup>85</sup> Officially however the line did not close in 1867; that came nine years later, in December 1877, by which time coastal shipping from Lyttelton to Christchurch had declined markedly as a consequence of the railway tunnel’s completion. From July 1868 onwards, the Ferrymead Railway was used as nothing more than a siding.<sup>86</sup> Likewise, the railway and tunnel had a similar effect on Lyttelton which now lost its importance as a provincial hub in pre-railway days. Thanks to the tunnel, visiting dignitaries could be whisked through the tunnel to Christchurch in a matter of minutes instead of being detained in Lyttelton, where the appropriate ceremonies in conjunction with their visit would be held. Lyttelton would retain something of its importance as the main seaport for Christchurch, but in the longer term its fortunes and significance declined dramatically with the opening of the railway tunnel. Although it remains known under the title “the Lyttelton Tunnel” in many publications and sources, it has also alternatively and selectively been dubbed by others “the Moorhouse Tunnel” as recognition of his part in its construction, most notably by Heritage New Zealand.<sup>87</sup>

The opening of the Lyttelton Tunnel was for the Canterbury Railways the highest point of 1867-68, but it was not to be the solution to all their woes; instead, the premature opening of the nearly-finished tunnel created another. As noted earlier, Holmes & Co. were forced to

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<sup>85</sup> Atkinson, p. 26.

<sup>86</sup> Pierre, p. 48.

<sup>87</sup> “Moorhouse Railway Tunnel”, Heritage New Zealand Pouhere Taonga. URL: <http://www.heritage.org.nz/the-list/details/7172>, sighted 27/04/2017, 11:40pm.

close the tunnel for several weeks to allow finishing works to be carried out in addition to those already being done at night. Unfortunately for them, there was still worse to come thanks to undue scrutiny from a newly-formed “Financial Reform Association”. Determined to “bring Economy into the Affairs of the Province”, the complaints of the Association and its members led the Provincial Council to form the Paterson-Symington Commission of 1868, shortly before it was due to take over operation of the Canterbury Railways.<sup>88</sup>

Although Holmes & Co. were able to satisfactorily prove that they had discharged their duties in good confidence, the report highlighted a few key issues at the start of what has been referred to as a “particularly fevered period”. The Canterbury Railways were short of money and the railways suffered as a result, despite regular representations from Dobson in his capacity as Provincial Engineer. Coupled with the Provincial reluctance to spend scarce funds in a recessive economy as was the case in 1868, deterioration and lack of maintenance, previously considered as a given in the rough colonial conditions, became an even more significant issue than before.<sup>89</sup> Both permanent way and rolling stock suffered as a result of this financial frugality, as will be noted later. To further compound matters, Holmes & Co. were about to hand over the railways and their operation to the Provincial Council, and the Commission’s timing could hardly have been described as fortuitous.

The handover itself was not as smooth as perhaps both Holmes & Co. and the Provincial Council would have liked it to have been. The original intention held by the Provincial Council was to take over both the railway and its employees from Holmes & Co. in 1869, but in the event this did not happen. Holmes & Co. had invested considerable time and money into its employees and was not prepared to simply give them up. In the end, the newly-

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<sup>88</sup> Pierre, p. 75.

<sup>89</sup> Pierre, pp. 78-80.

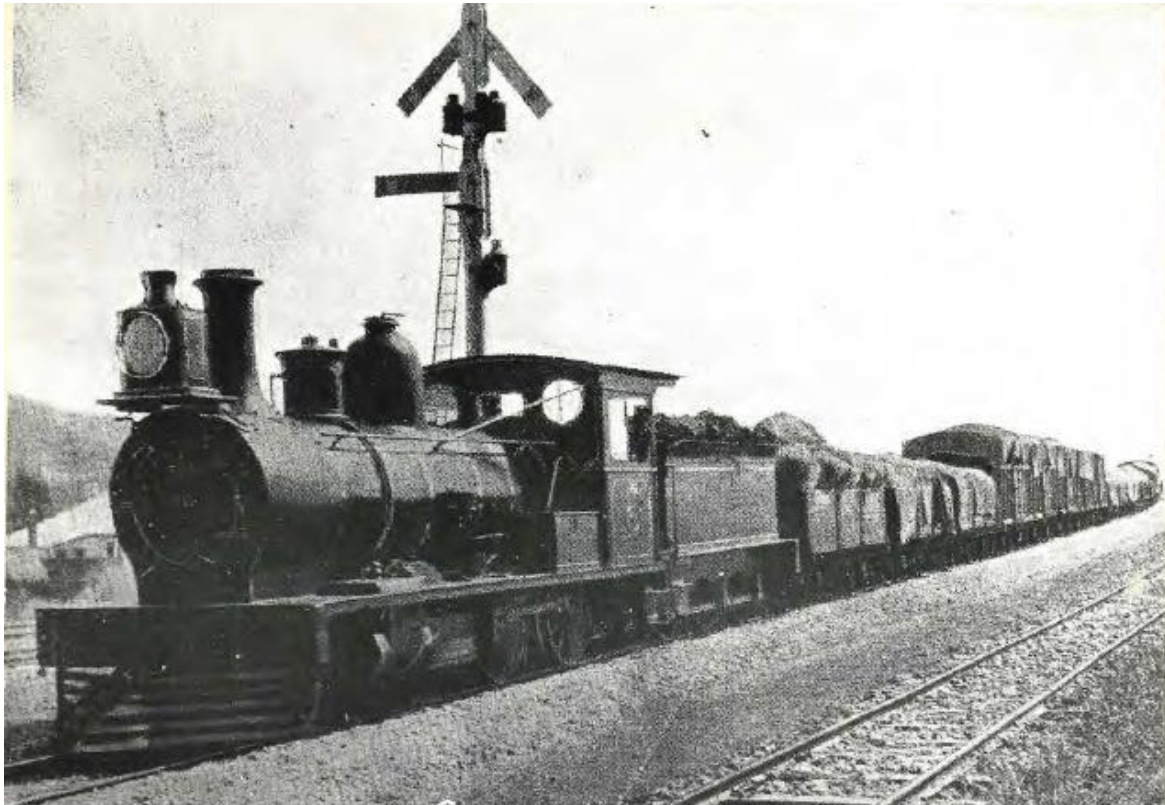
formed Canterbury Railways received just four men from Holmes & Co; two engine-drivers, Abraham Beverly and a Mr. Dickenson, and their two firemen whose names were not recorded.<sup>90</sup> This was the last compromise made between the two parties; the damaging Paterson-Symington Commission of 1868, combined with the premature tunnel opening and the proposal to take over all of Holmes & Co.'s staff caused a direct deterioration in the working relationship between the contractor and the Provincial Council. The matter itself was to come to an ignominious close when Holmes & Co. were forced in 1877 to approach the General Government in Wellington, wanting to settle an old account with the now-deceased Provincial Council for additional works carried out in connection with the Lyttelton railway.<sup>91</sup>

As another consequence of the worsening financial conditions in New Zealand, the Canterbury Provincial Government was forced into making a series of cost-cutting decisions in order to maximise its profits and minimize expenditure. Regrettably, some of these measures had significantly negative impacts on the day-to-day operation of the railways; as noted earlier, maintenance of the permanent way was one casualty of this policy. This was not the only area of note to suffer under this policy, as both adequate safety systems and maintenance of the locomotives and rolling-stock also suffered from lack of expenditure. Matters would change for the better early in the 1870s, but this legacy of inadequate maintenance and investment would continue to haunt the Canterbury Railways for the rest of its existence.

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<sup>90</sup> Pierre, p. 122.

<sup>91</sup> Pierre, pp. 25, 80.



*Figure 11. J-class locomotive pulling goods train near Heathcote Station, 1897. The siding in the foreground was once part of the Ferrymead branch line. Old-fashioned slotted signal behind the locomotive cab. Photograph: Pierre, p. 150.*

It was the safety systems – or rather, extreme lack thereof – which caused the most concern during the brief period of Provincial management. Only three stations on the whole system are known to have had fixed signals – those at Christchurch, Ferrymead and Lyttelton – the rest had to make do with flags during daylight hours or hand-held signal-lamps at night. The signals themselves were of a type known as slotted signals, on which the signal arm pivoted from within the mast. Imported from England where they were one of the predominant types of signal in use, the end of this type of signal came – as has been well recorded by British railway enthusiasts and also by Pierre – during the British winter of 1875-76.<sup>92</sup> Their vulnerability to obstruction was demonstrated during the triple rear-end collision on the

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<sup>92</sup> Pierre, p. 156.



Great Northern Railway at Abbots Ripton,<sup>93</sup> a tragic disaster which had little or no direct bearing on the situation in New Zealand. By this time anyway, there would have been little incentive to change, particularly in light of Provincial abolition and the staunchly Provincial attitudes of key figures at that time.

Linked with the signalling system was the need for improved communications to ensure that any delays or the departure and arrival of unscheduled trains was notified where appropriate, therefore reducing the likelihood of trains meeting each other on a single-track section of line with unhappy consequences for timekeeping. What the railway needed was a telegraph system and a complementary system of single-line occupancy, or block working. Already a telegraph line had been installed over the Port Hills during construction of the Lyttelton Tunnel, and was noted as having been paid for by the railway during the Paterson-Symington Commission's investigations, but it was not until 1872 that a set of telegraph instruments were installed at Heathcote and Lyttelton, thus instituting a marginally more robust method of safe-working. Regrettably, it was not as entirely robust as could have been hoped for. The system failed regularly and was replaced just two years later by another type, the Cooke and Wheatstone needle telegraph. This latter equipment might well have been an improvement on the previous equipment, but it was also vastly more complicated than its predecessor and consequently remained inactive for some time.<sup>94</sup>

The defective telegraph system was in itself cause for concern. There was a complete lack of any telegraph system on the other lines, beyond the General Government's line to Dunsandel on the Southern line, and this was nothing short of a potential disaster. By now, the Canterbury Railways had outgrown this primitive method of train control, and it would

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<sup>93</sup> For more information, please refer to O. S. Nock, *Historic Railway Disasters*, rev. ed. (London: Ian Allen Limited, 1987 [1966]), pp. 31-40.

<sup>94</sup> Pierre, pp. 157-8, 161.

take nothing short of a serious accident to jar them from complacency. That accident took place on the afternoon of 18 December 1874, when a scheduled goods train collided with the Lyttelton shunting engine, which had set back into the tunnel while shunting wagons from one siding to another. The official cause of the accident was determined as staff error, and dramatically highlighted the shortcomings of the existing system. Ironically enough, and as Pierre notes, the replacement system was not immune either; little more than three months before, the same Cooke and Wheatstone telegraph equipment had played a central part in the fatal Thorpe collision on the Great Eastern Railway.<sup>95</sup> That collision, caused by staff error in allowing two opposing trains to enter the same stretch of single track, killed 25 people. There were no fatalities in the Lyttelton collision, thankfully, but the same cause of staff error and the fallibility of early signalling systems remain undeniable.

Whether any major improvements were made in the wake of this is unclear. Certainly part of the issue arose from the layout and location of the original railway yard and wharves at Lyttelton, on a highly cramped portion of reclaimed foreshore, meaning that the shunting engine often had to set back into the tunnel to move wagons from one siding to another. Staff competence and equipment soundness were also of concern, and it is recorded that three railway employees at Lyttelton were all dismissed for their lack of competency; the poor stationmaster at Heathcote, despite his scrupulous honesty and excellent conduct, suffered the indignity of being reposted to a “less responsible position” to maintain public confidence in a system that had failed to adapt to the times.<sup>96</sup>

Although some improvements were made, Pierre – our main authority on the operation of the Canterbury Railways – only refers to changes made after 1876, following broad-gauge

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<sup>95</sup> Pierre, pp. 158-61. See also Nock, 1987, pp. 27-30.

<sup>96</sup> Pierre, p. 160.

abolition, in the wake of the tunnel collision. What was really needed was a system of permissive block working, such as the ‘tablet’ system designed by British railway signalling engineer, Edward Tyer. His system came into production in 1878, four years too late for the Canterbury Railways, and just beyond the financial means of the newly-formed New Zealand Railways of that time.<sup>97</sup> This, however, would change suddenly on 11 March 1899 when an excursion train collided with the rear of another at Rakaia station, killing four people. Once again, the lack of safety systems was to blame for the crash – particularly signalling, communications, and continuous brakes on the trains themselves.<sup>98</sup> Irrespective of who was at fault, the Commission of Inquiry was strongly critical of the safety systems in place at the time and recommended change. The speed in which it happened, as railway historian Gordon Troup suggests, “gave ample evidence of a guilty conscience.”<sup>99</sup>

Thankfully for the Provincial Council, the Canterbury Railways suffered few significant accidents over its working life. Of the few on record, only one, at Dunsandel in 1873, was fatal.<sup>100</sup> The majority of accidents known from an enthusiast perspective were minor collisions with no fatalities and only minor damage. More commonly noted were issues with the locomotives, on which maintenance was not what it should have been. Dunedin historian Ian Dougherty alleges that the Canterbury Railways opened the first railway workshops in New Zealand in 1863, at the Christchurch railway station;<sup>101</sup> while the Canterbury Railways had the ability to carry out some repairs, the so-called ‘workshops’ that

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<sup>97</sup> Michael A. Vanns, *Signalling in the Age of Steam* (Shepperton: Ian Allen Publishing, 1995), pp. 71-6.

<sup>98</sup> Geoff Conly and Graham Stewart, *Tragedy on the Track: Tangiwai and other New Zealand Railway Accidents* (Wellington: Grantham House, 1986), pp. 73-7.

<sup>99</sup> Troup, p. 183.

<sup>100</sup> Pierre, p. 162.

<sup>101</sup> Ian Dougherty, *More than just a place of work: a history of Dunedin’s Hillside Railway Workshops* (Wellington: New Zealand Railway & Locomotive Society, 2015), p. 9.

Dougherty refers to were in fact anything but. The majority of facilities on hand during the Provincial period were highly disorganised and primitive in the extreme. That much of the work was contracted out to local firms, or, in extreme cases, to British engineering companies, indicates just how disorganised and ill-equipped the Canterbury Railways were.<sup>102</sup>

Central to this was the management of the locomotives and stock, carried out by former engine-driver Abraham Beverley between 1868 and 1871. His elevation to this position came as the Canterbury Public Works Department completed the handing-over of the railways from Holmes & Co.; while he may have been capable of managing this duty when first promoted, by 1871 Beverley had become addicted to alcohol, and was consequently dismissed. Although most of the wagons and coaches at that time were in reasonable physical – but not mechanical – condition when inspected the following year by H. P. Higginson, an engineer with the Colonial Public Works Department, the same could not be said for the engines.<sup>103</sup> Beverley's former engine N<sup>o</sup> 1 was in fact on the verge of a boiler explosion, its boiler platework having worn thin from excessive rusting; in addition, Pierre notes that two more had boiler and cylinder problems, with a fourth unserviceable since at least 1869 with a collapsed internal steam-pipe.<sup>104</sup> Holmes & Co. were not entirely faultless either. By their own admission in 1868, their engine-shed was only large enough to cover one of the three engines then working, which in turn resulted in higher maintenance and

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<sup>102</sup> Pierre, p. 121.

<sup>103</sup> Printed correspondence regarding Canterbury Railways rolling stock - 1517(2) of 26/06/1875, in Large file regarding provision of narrow gauge railway wagons, box CP286, ICPW 2307/1876, ANZ; Pierre, p. 142.

<sup>104</sup> Pierre, p. 114; Petrie, p. 68.

cleaning costs over the past year.<sup>105</sup> The matter was only resolved, with three more engines on the way, by building a larger engine shed and using the old one as a workshop.

Edward Dobson had recommended building proper repair facilities to look after the locomotives and rolling-stock in 1868, but this recommendation was not acted on straight away.<sup>106</sup> Two years after Higginson's report, in 1874, the Canterbury Railways possessed nothing more than an ordinary lathe, which, as Locomotive Engineer J. G. Warner complained, was insufficient for the railway's present needs.<sup>107</sup> Further reorganisation was needed, and, as former Addington foreman Keith Brown recounts, a new workshops complex was built in 1875, on Carlyle Street. This smaller workshops complex was large enough to meet Canterbury's provincial needs; following Provincial abolition and the expansion of the South Island rail network, however, they quickly became inadequate. Larger workshops were needed, and urgently; the Public Works Department began construction of a new workshops complex at Addington in 1879, and the finished complex opened the following year.<sup>108</sup>

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<sup>105</sup> Petrie, p. 70.

<sup>106</sup> Pierre, p. 113.

<sup>107</sup> Pierre, p. 143.

<sup>108</sup> Keith G. Brown, *Addington Railway Workshops: Working with Wood* (Wellington: New Zealand Railway & Locomotive Society, 2009), pp. 7-8.

## Chapter 3

### A Grandness of Vision – Julius Vogel and the other Provincial Railways

The Canterbury Railways are the most well-known of Provincial rail-making efforts during the 1860s and 1870s. They were not the only attempt by Provincial railway-builders to create regional transport networks though. Nor were they to remain simply an isolated instance of problem-solving in a time of poor communicational links between centres of settlement and their outlying service communities. Their success would soon be emulated not only across three other provinces, but across New Zealand as the great Public Works scheme of Julius Vogel was unveiled. It is worth considering these external events within this context and time period as these rail-making efforts were directly concurrent with, and in some cases inspired by, the Canterbury Railways and their parent, the Public Works policy of William Moorhouse.

As the Provincial Governments began their great railway-building enterprises in the 1860s, the great intention for these lines was solely to serve a single purpose. Their purpose is best summed up by transport historian Matt Turner, who notes that “initially, a national rail network was the last thing on settlers’ minds. New Zealand was still under provincial government, and each cash-hungry province sought to export its own goods – wool, minerals, [and] agricultural produce – to Europe. And so the first railways would be no more than short runs in Canterbury, Southland and, later, Otago, laid in order to link the main centres with their respective seaports.”<sup>109</sup>

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<sup>109</sup> Matt Turner, *150 Years of Rail in New Zealand* (Auckland: Penguin Books, 2014), p. 10.

The earliest railways in New Zealand may have been uniform in their intended goals to connect provincial capitals with their nearest deep-water harbours, but were less so in their choice of track gauge. The first short line in New Zealand, a coal-mining tramway from Kaitangata in Otago to the Clutha River, was 3 ft. 2 in, the Dun Mountain Railway in Nelson was 3 ft. Auckland and Southland Provinces built their railways to the international standard gauge of 4 ft. 8½ in., a gauge which Thomas Crump claims originated from the Killingworth Moor coal mine in England's northeast.<sup>110</sup> The Canterbury Railways were built to the broad gauge of 5 ft. 3 in, known by Australian rail advocate Tim Fischer as "Irish broad" in recognition of its origins in Ireland, and the widest gauge to be used in New Zealand.<sup>111</sup> As Turner notes, the formative railways of New Zealand had "a scattershot quality".<sup>112</sup>

The reason for the multiplicity of gauges had its origins, at least, in Australia. As early as September 1848, the English settlers of New South Wales were looking to establish a railway, the route of which was subsequently fixed from Sydney to Parramatta in 1849.<sup>113</sup> The Sydney Railway Company's (SRC) first engineer, Francis Webb Shields, originally promoted the 'Irish gauge' of 5 ft. 3 in., in what could well be termed a burst of patriotic fervour for his former home country of Ireland. Unfortunately for Shields, his actions at times came under question from the directors of the financially-challenged SRC; when circumstances finally dictated salary cuts to all staff in October 1850, Shields viewed this as a

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<sup>110</sup> Thomas Crump, *A Brief History of the Age of Steam: The power that drove the Industrial Revolution* (London: Robinson, 2007), pp. 28, 30.

<sup>111</sup> Tim Fischer, *Trains Unlimited in the 21<sup>st</sup> Century* (Sydney: HarperCollins Publishers, 2011), pp. 48, 50.

<sup>112</sup> Turner, p.12.

<sup>113</sup> R. G. Preston, *125 Years of the Sydney to Parramatta Railway* (Burwood: New South Wales Rail Transport Museum, 1980), pp. 17-19.

final slight to his already-offended pride. He promptly resigned, leaving his assistant, Henry Mais, as Acting Engineer.<sup>114</sup>

By 1852, Mais had been replaced as Engineer by James Wallace, a Scottish engineer with a similar patriotic fervour to his predecessor.<sup>115</sup> At his insistence the SRC managed to obtain approval from the State Legislative Council to narrow the gauge from 5 ft. 3 in. to 4 ft. 8½ in., the gauge previously stipulated before Shields had brought his patriotic fervour to bear, in spite of pre-existing legislation and agreement having been reached with the neighbouring states of South Australia and Victoria to use the broader gauge.<sup>116</sup> The change came too suddenly for the southern states; the Melbourne & Hobson's Bay Railway Company had £10,000 worth of broad gauge stock already on order, and by doing so had already committed to using the broad gauge. Despite admonishment from Victorian Governor La Trobe and then-Australian Governor, Sir George Grey, the New South Wales Legislative Council carried its new legislation for the standard gauge.<sup>117</sup> The result of this was an awkward 'break of gauge' at Albury on the New South Wales-Victoria border, where passengers and goods alike had to transfer from the standard gauge of the New South Wales Government Railways to the broad gauge of the Victorian Railways, a time-consuming process which infuriated passengers. The situation was not remedied until a new

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<sup>114</sup> Sally O'Neil, "Mais, Henry Coathupe (1827-1916)", *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, <http://adb.anu.edu.au/biography/mais-henry-coathupe-4140/text6631>, published first in hardcopy 1974. Sighted 27/04/2017, 10:18pm. See also Preston, p. 23.

<sup>115</sup> David Burke, *30 Days on Australia's Railways: A Diary of September Journeys* (Kenthurst: Rosenberg Publishing Ltd., 2014), p. 37.

<sup>116</sup> Burke, p. 37.

<sup>117</sup> Preston, pp. 15, 23, 25-27.



single-track standard-gauge line was built from Albury to Melbourne and which opened for use in 1962.<sup>118</sup>

Although the great Australian gauge debate may not seem relevant in a New Zealand context, it would in fact be a determining factor in the gauge of the then-unrealised Canterbury Railways. As originally written and subsequently noted by W. A. Pierre, the Canterbury contracts of Smith & Knight and Holmes & Co. called for the broad gauge of 5 ft. 6 in., known by Fischer as Imperial broad gauge and used most notably in India among other countries.<sup>119</sup> When the time came to lay rails and purchase rolling stock, however, the final track gauge was the marginally narrower Irish broad gauge, 5 ft. 3 in. The sole factor in this decision was that Holmes & Co. had purchased a small tank locomotive, second-hand but unused, from the Melbourne & Essendon Railway in Victoria.<sup>120</sup> This engine would later become Canterbury Railways N<sup>o</sup> 1, which inaugurated public railway services in New Zealand on 1 December 1863.

The gauge debate, thus imported from Australia, proved to be a future headache for the New Zealand Government in the making. Specific pieces of legislation, such as the Railway Offences Act (1865) allowed the construction of railways such as the Canterbury Railways and Southland's ill-advised Oreti Railway, but failed to stipulate a particular gauge in the interests of standardisation.<sup>121</sup> This may well have been because of the prevailing mind-set of the period as recorded by W. A. Pierre. An 1867 Select Committee to the House of Representatives was told by no less than the Director of the Colonial Survey, whose name Pierre did not mention, that construction of a trunk railway was unnecessary in his opinion

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<sup>118</sup> Burke, pp. 56-7.

<sup>119</sup> Fischer, p. 50; Pierre, p. 84.

<sup>120</sup> Pierre, p. 84; Petrie, p. 65.

<sup>121</sup> Pierre, p. 84.

due to the currently-available sea transport opportunities. Even G. R. Stephenson saw the Christchurch to Lyttelton railway as merely “the key to the railway system of the entire province”.<sup>122</sup> With sea transport providentially placed, for the time being, to handle all such long-distance freight and passenger needs, the railway was simply a means of connecting Christchurch and the outlying regions with its harbour in an easier manner. It was, in Pierre’s own words, “an entirely provincial undertaking, provincially financed to fulfil purely provincial transport needs.”<sup>123</sup> National needs did not figure into the equation at this critical point in time and would not do so for another three years.

Although the 1867 Select Committee could make no headway on the subject of standardisation or trunk railways, the matter of a standard railway gauge would not go away in the immediate term. This would be assured by the great Public Works Policy of Julius Vogel, the dynamic Finance Minister who proposed his great scheme of infrastructure and immigration, for the betterment of New Zealand in 1870.<sup>124</sup> This policy was both breath-taking and ahead of its time politically, and elicited mixed responses from horror to mirth in both Parliament, and in the newspapers of the time. There were historical precedents for such grand public works schemes, however. The most well-known of these was that of the Moorhouse Government in Canterbury, and Vogel himself paid tribute to Moorhouse when he proposed the Public Works Policy, in turn receiving Moorhouse’s full support.<sup>125</sup>

This policy, as delivered to Parliament in June 1870, was for its time one of the most controversial, if not incredible, schemes to be put forward. That it was needed is put

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<sup>122</sup> Pierre, p. 46.

<sup>123</sup> Pierre, pp. 84-5.

<sup>124</sup> Raewyn Dalziel, *Julius Vogel: Business politician* (Auckland: Auckland University Press, 1986), pp. 104-05.

<sup>125</sup> Kemp, p. 157.

forward by Raewyn Dalziel in her biography of Vogel; “[Vogel assumed] that if the economy was to grow the process of ‘colonization’ had to be supported by the central government... The two main aspects of settlement were public works and immigration. The entire country needed more people, the North Island needed roads to open up land for development, [and] the South Island needed railways to transport its agricultural and pastoral products.”<sup>126</sup> Vogel himself, as quoted by rail historians David Leitch and Bob Stott, was more specific in the matter:

“We recognise that the great wants of the colony are – public works in the shape of roads and railways; and immigration. I do not pretend to decide which is the more important, because the two are, or ought to be, inseparably united... the Government shall be armed with power to conclude arrangements for the construction of certain railways within the different provinces, as desired by their respective Governments... I think that speaking generally, railways should, in each island, be designed and constructed as parts of a trunk line.”<sup>127</sup>

The railways as mentioned in Vogel’s statement of intent were based largely on American practice, and particularly the revenue railways of the western United States.<sup>128</sup> These railways were built to the means available and suiting the traffic offered with improvements being made as funding allowed and traffic demanded. This arrangement was one which Vogel believed ideal for New Zealand during this critical phase. The similarity that Vogel noted between New Zealand and the American West, however, has been the source of some debate. Neill Atkinson notes that colonial New Zealand was more akin to America than

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<sup>126</sup> Dalziel, p. 104.

<sup>127</sup> Bob Stott and David Leitch, *New Zealand Railways: The First 125 Years* (Auckland: Heinemann Reed, 1988), p. 5.

<sup>128</sup> Atkinson, pp. 28-9.

Britain with its lack of capital and labour but an abundance of relatively cheap land.<sup>129</sup>

Against that, André Brett argues for a case of distinction based on New Zealand's greater expenditure on public works, and railways, during the first thirty years of Vogel's visionary policy as opposed to that of America, and its national framework for rail-building as opposed to a state framework as used in Australia.<sup>130</sup>

This policy would eventually bring change to New Zealand, but Vogel himself remained wary of upsetting Provincial sensibilities, since colonization had traditionally been their function.

The Provincial governance system had been in steady decline since 1867 though, and talk of abolition had already been freely aired.<sup>131</sup> Instead, Vogel preferred for the time being to work alongside the Provincial governments, a move motivated by his past experience of provincial feeling. Vogel was not averse to working with the Provincial authorities at this time, and stated his intentions to do so when he outlined his policy. This cooperation came with a clear warning that although Vogel "did not want to jeopardize the colonization scheme by promoting political changes but he gave the provinces clear warning that if they obstructed the scheme and forced a choice between it and them he 'would infinitely prefer the total remodelling of those institutions to abandoning that stimulating aid which, as I believe, the condition of the colony absolutely demands.'" <sup>132</sup>

Vogel's own concerns were finally brought to reality in 1873, when his Forest Conservation Bill and land reservation schemes – the latter of which was directly linked to his Public Works Policy and its rail-making aims – drew the ire of Provincial interests. This disappointment led Vogel and his centralist allies to scheme "to sweep the pesky provinces

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<sup>129</sup> Atkinson, p. 29.

<sup>130</sup> Brett, p. 139.

<sup>131</sup> Dalziel, p. 79.

<sup>132</sup> Dalziel, p. 105.

out of the way”, a goal that was finally achieved in late 1876.<sup>133</sup> In his Financial Statement for that year, Vogel was blunt on the failure of the Provincial system and its petty squabbles:

“The provinces have broken down because of their coming into conflict with the Colonial Government on many points, and especially points of finance... Another cause of the failure of the provinces was that within themselves a rending rivalry was always creating distrust between the towns and country districts...”<sup>134</sup>

For the next four years, railways came under the umbrella of the Public Works Department, until a separate Railways Department was set up to manage them. This process of centralization as occurred between 1870 and 1876 demands further investigation and development. For Brett, the gradual expansion of railways under the central Government represented “the physical manifestation of the settler imagination of prior decades... it naturally generated affection for the institution developing them at the expense of the multiplicity of institutions that, by and large, had not. Railways thus deserve stronger emphasis in any discussion of the evolution of New Zealand centralization or the rise of national identity.”<sup>135</sup>

Whether the Government did any better in the period following the abolition of Provincial control is still open to debate. In their history of the New Zealand Railways up to 1988, Bob Stott and David Leitch acknowledge Vogel’s Public Works Policy as being a fundamental component of the New Zealand Railways and their origins. At the same time though, they acknowledge that there were fundamental flaws with the policy, such as the amount of political interference that it allowed:

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<sup>133</sup> Atkinson, pp. 32, 38.

<sup>134</sup> Leitch and Stott, p. 10.

<sup>135</sup> Brett, p. 140.

This policy was the foundation for a national system, but unfortunately political interference and patronage were to undermine Vogel's vision. Branch-lines, in particular, were later to be constructed for political reasons rather than for any prospect of profit or, in some extreme cases, even reasonable expectation of traffic. Financial constraints also played a part in hindering the realisation of Vogel's vision.<sup>136</sup>

The narrower gauge selected, 3 ft. 6 in, might well have been cheaper than the Irish broad or standard gauges used by various Provincial Governments at that time. Conversely, it was perhaps not the wisest choice at the time. The Select Committee of 1870, which established the single narrow gauge, selected it on the grounds that it was "fully adequate to carry the traffic with economy, capable of sufficient speed, large enough for comfort, and comparatively cheap."<sup>137</sup> While it might have seemed an acceptable compromise to Vogel and his supporters, the cheaper cost of the narrower gauge had its consequences. Transport historian Matthew Wright points out that the cheapness of the 3ft. 6in. gauge and its early construction "resulted in ongoing maintenance and reconstruction costs even before the first lines were complete. But Vogel's scheme did get the ball rolling, and there was no looking back."<sup>138</sup> Irrespective of this, the narrow gauge would become synonymous in later years with "underpowered locomotives, four-wheel wagons, light rail and, worst of all, restricted loading gauge that for many years hindered technological progress and commercial success."<sup>139</sup>

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<sup>136</sup> Leitch and Stott, p. 5.

<sup>137</sup> Pierre, p. 85.

<sup>138</sup> Matthew Wright, *Trains, Tunnels, Bridges: Icons of Our New Zealand Rail History* (Auckland: Whitcoulls Publishing, 2013), p. 25.

<sup>139</sup> Leitch and Stott, p. 5.

The merits and failures of the Vogel scheme have long been argued, but it could be suggested that these civil engineering limitations helped to define the identity of the New Zealand Railways (NZR) in later years. Enthusiasts may cite the creation of the K-class locomotives of 1932, the largest and most powerful conventional steam locomotive in New Zealand, as one such achievement. Although the NZR network had changed markedly in the sixty-two years between Vogel's introduction of his Public Works Policy and the introduction of the K-class locomotives, the same civil engineering limitations remained. The K-class was not only a pinnacle of locomotive engineering for its time; it was the absolute limit of what NZR could do within the limits of its largely unchanged and restrictive Vogel-era infrastructure.<sup>140</sup> It would not be until 1955, with the arrival of the D<sup>A</sup>-class diesel-electrics, both considerably taller and wider than the Vogel-era loading gauge allowed, that NZR would take the first steps to either ease or remove these limitations.<sup>141</sup>

If the standard and broad gauges seem more attractive based on the infrastructure constraints thus noted, it should be noted that the greater width of the tracks themselves did not necessarily mean any great difference in net-load carriage between broad and narrow gauges. As noted before a Select Committee in 1870 by E. G. Wright, the last of Canterbury's great railway contractors, the original broad-gauge wagons were eight feet wide, and weighed no more than 3 tons 16 cwt (3,860kg) unloaded and carried a maximum load of 6¾ tons (6,858kg). By comparison, Pierre noted that the largest four-wheel wagon available in 1964, the all-steel high-sided L<sup>C</sup>-class, weighed 6.7 tons (6,800kg) unloaded and could carry a maximum load of 15 tons (16,000kg) with an axle loading of nearly eleven

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<sup>140</sup> A. N. Palmer, and W. W. Stewart, *Cavalcade of New Zealand Locomotives: An Historical Survey of the Railway Engine in New Zealand from 1863 to 1964* (Auckland: Reed, second ed., 1964), p. 115; see also Leitch and Stott, pp. 73-4.

<sup>141</sup> Palmer and Stewart, p. 155.

tons.<sup>142</sup> Despite being built to a narrower gauge, the L<sup>C</sup> wagons featured both a greater carrying capacity, and were wider by between half a foot to one foot, than both their Provincial predecessors on the broad and narrow gauges. Had many of the detractors who decried the narrow gauge as being incapable of carrying the same loads as a wider gauge lived long enough to see this, it would have silenced their objections.

While the Canterbury Railways may well have been the most successful and well-known of all provincial railway operations, it was not the only one. To best understand this, it is necessary to step back to the early 1860s when the first early railways were built in New Zealand. The existence of a short coal-mining tramway at Kaitangata in Otago has already been noted, as has that of the Dun Mountain Railway in Nelson. Both were much like the Canterbury Railways; both were built to transport particular commodities – coal from Kaitangata and chrome ore from Dun Mountain – to the nearest available port. Of the two lines, only Dun Mountain enjoyed any such longevity. Unfortunately, most of that longevity came in the form of its use as a horse-drawn street tramway between 1872 and its demise in 1901.<sup>143</sup> The actual ‘railway’ beyond Nelson lasted no more than ten years, a fact which Geoffrey Churchman attributes to the American Civil War and the subsequent lack of demand for chrome ore in the Lancashire cotton mills, at that time dependent on American cotton to supply their operations.<sup>144</sup>

While these two formative lines were merely tramways rather than railways – even though the Dun Mountain Railway was authorized as a railway under a Parliamentary Act of 1860

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<sup>142</sup> The same metric weights as quoted also apply to the similar L<sup>B</sup> class wagons; for more information, please refer to Gerald Petrie, *New Zealand Locomotive and Rolling Stock Handbook 2000* (Christchurch: Locomotive Press, 2000), p. 87.

<sup>143</sup> Graham Stewart, *The End of the Penny Section: When Trams Ruled the Streets of New Zealand*. (Wellington: Grantham House, second ed. 1993), pp. 4-6.

<sup>144</sup> Geoffrey Churchman and Tony Hurst, *The Railways of New Zealand: A journey through history* (Wellington: Transpress, second ed. 2001), pp. 173-74.



and was legally empowered to use locomotives over part of its line – it would not be long before proper locomotive-worked railways such as those in England were being eagerly proposed. Brett notes that “railway proposals became a fixture of the provincial world during the 1860s...”<sup>145</sup> Four such railway proposals emerged during the first half of the 1860s and came to fruition. Of these railways proposed and built, only one, the Canterbury Railways, was any real success. Southland had a pair of standard-gauge railways, both of vastly different character, and a third standard-gauge line existed in Auckland.

The first, and most well-known, of the Southland schemes was the infamous Oreti Railway. Its origins stemmed from the separation of the newly-formed Southland Province from its parent province of Otago in April 1861;<sup>146</sup> this separation happened just two months before gold was discovered at Gabriel’s Gully in Central Otago and started the Otago gold rush.<sup>147</sup>

Determined to redirect the goldfields trade from Port Chalmers in Otago to Bluff, the Southland Provincial Council planned its own railway as part of its assault. With a distinct lack of funding available, the Southland Provincial Council resolved to try the wooden-railed Davies’ Patent system advocated by Australian engineer J. R. Davies, with disastrous results. Unfortunately, the first stage of the railway from Invercargill to Makarewa became, in the words of railway enthusiast writers A. N. Palmer and W. W. Stewart, a “costly blunder... The whole unsound venture must have become a nightmare to those members of the Provincial Council who had given it their blessing, and indeed this so-called railway was one of the principal reasons for Southland’s impoverishment and eventual return to the Otago fold.”<sup>148</sup>

Within four years of opening, the hopes of the Southland Provincial Council for a cheap

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<sup>145</sup> Brett, p. 137.

<sup>146</sup> Brett, p. 137.

<sup>147</sup> Gavin McLean, *100 Historic Places in New Zealand* (Auckland: Hodder Moa Beckett, 2002), pp. 70-71.

<sup>148</sup> Palmer and Stewart, p. 15.

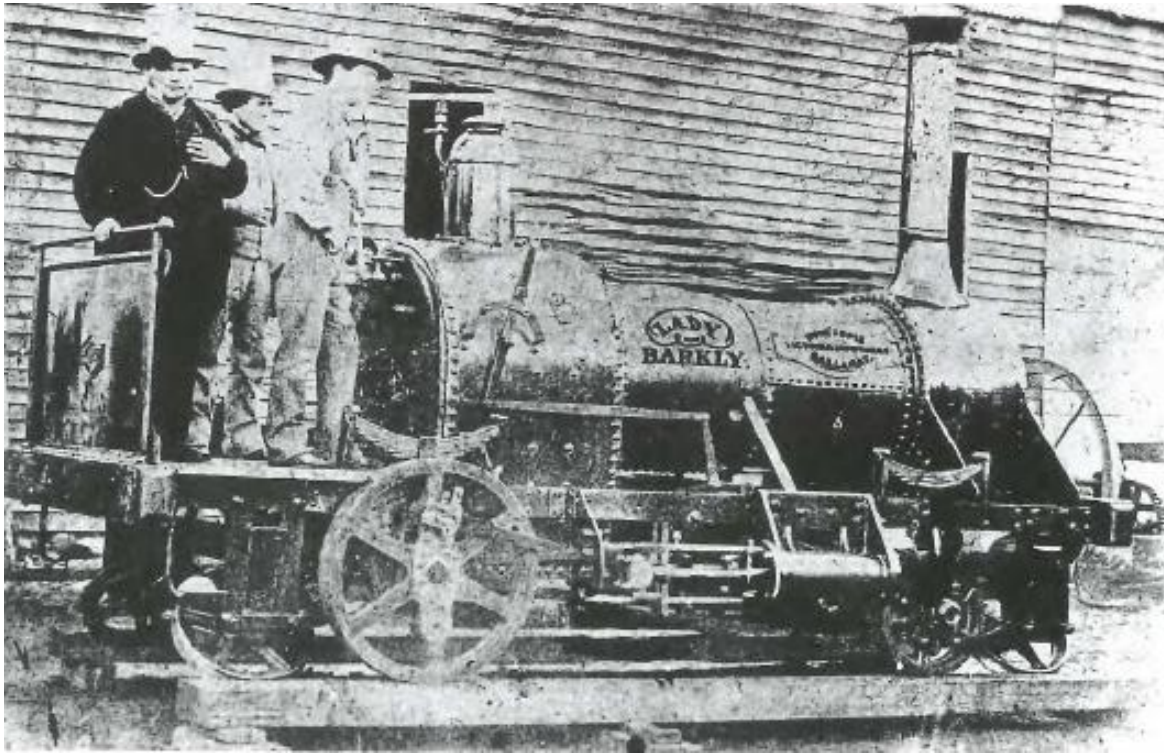


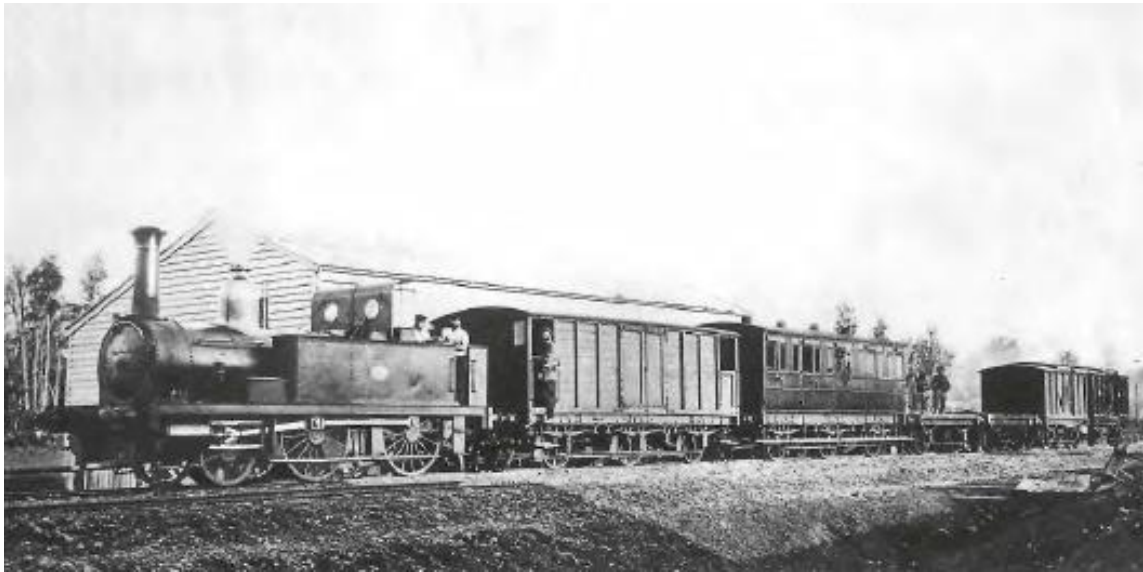
Figure 12. Oreti Railway locomotive Lady Barkly, believed to be after it was completed at Hunt & Opie's workshops in Ballarat, Australia, 1861. Photograph: Petrie, p. 150.

railway northwards had been dashed, and the railway closed before being rebuilt with steel rails as an extension of the southern line to Bluff in 1869. The railway's greatest fault were its engines – the Australian-built *Lady Barkly* and two more that followed later on – which were too heavy for the wooden rails which broke with monotonous regularity. As an experiment, the Oreti Railway was a complete and utter failure, and some question remains over whether the so-called Davies' Patent was an original idea. Palmer and Stewart, in their definitive treatise on the railway locomotive in New Zealand up to 1963, noted that similar patents under different names had existed for some eighteen years in England, America and France before Davies promoted his to the Southland Provincial Government.<sup>149</sup>

Southland's other contribution to provincial railway-building was the more successful but lesser-known railway between Bluff and Invercargill. Known under the grandiose title of the Bluff Harbour & Invercargill Railway, the purpose for its construction was the same as that

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<sup>149</sup> Palmer and Stewart, p. 15.



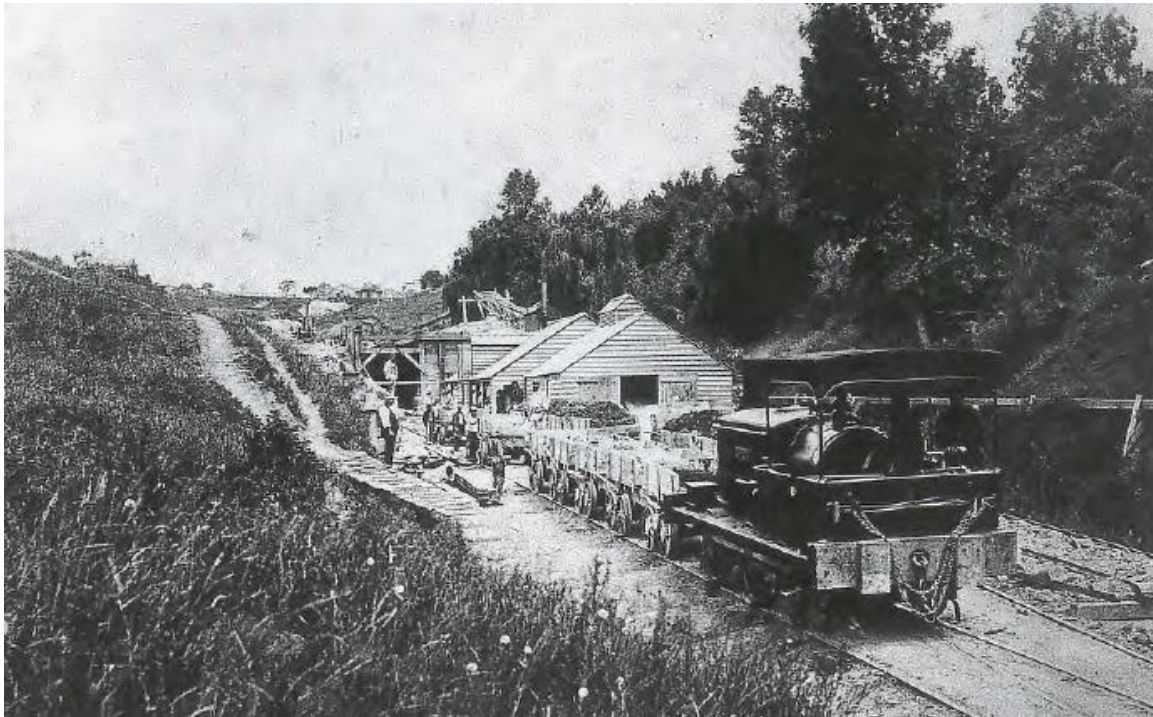
*Figure 13. Train of the standard gauge Bluff Harbour & Invercargill Railway. Believed to be at Winton Station, sometime between 1869-75. Photograph: Petrie, p. 153.*

for the Christchurch to Lyttelton railway in Canterbury: to connect the capital of the province with its nearest seaport. Unlike their Canterbury compatriots, however, the Southland Provincial Council and their contractors had to contend with vast tracts of swampland and a river estuary instead of the remains of a volcanic crater. Much like the Oreti Railway, the Bluff Harbour & Invercargill Railway had its share of notoriety, and at no time more so than in 1865 when a dispute between the Provincial Council and one of its main railway contractors saw most of the Provincial Council's property, and the railway equipment, sold in a legally questionable auction in order to recover payments owed for work on the railway to Bluff.<sup>150</sup> The matter was only resolved following intervention by the General Government, and, with payment now guaranteed, the railway from Invercargill to Bluff opened on 5 February 1867.<sup>151</sup> It was the most successful of Southland's provincial rail schemes once it had been completed, but is sadly one of the least-known schemes to have actually been built under the aegis of any Provincial authority.

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<sup>150</sup> Palmer and Stewart, p. 19.

<sup>151</sup> Petrie, pp. 152-56.



*Figure 14. Auckland & Drury Railway locomotive at the northern end of the Parnell Tunnel, sometime between July and September 1872. Photograph: Petrie, p. 13.*

Likewise, Auckland attempted its own, largely-unknown railway scheme around the same time by building a line between the city and the wharf at Onehunga under the title of the Auckland and Drury Railway. Ambitious in the extreme, the plan called for partial reclamation of Mechanics Bay and construction of a short tunnel between Parnell and Newmarket to carry the line south. Work started in 1864 on a positive note with construction of the formation and the arrival of the province's first locomotive. In an unfortunate turn, the Auckland Provincial Council ran out of funding in 1866 as the economy recessed. The work ground to an ignominious halt and left incomplete. Nothing was done until the British contractor, John Brogden & Sons, took over in 1872 and finished the work off, including the original single-track Parnell Tunnel, to the narrower gauge of 3 ft. 6 in.<sup>152</sup> Most of the standard-gauge railway equipment, including the two locomotives, was sold off to a coalmining railway at Kawakawa in the Bay of Islands and saw several years of useful

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<sup>152</sup> Turner, p. 194 makes reference to the original Parnell Tunnel and its later-day replacement.



*Figure 15. Dunedin & Port Chalmers Railway locomotive N<sup>o</sup> 2 Josephine on test at Wickliffe Terrace, Port Chalmers. Believed to have been taken c.1872. Photograph: Petrie, p. 121.*

work before being made redundant once again when the line was converted to the 3 ft. 6 in. narrow gauge in 1876.<sup>153</sup>

Although built slightly later towards the close of the Provincial period, it is worth mentioning the last of the pioneering railway schemes in New Zealand, the privately-owned and built Dunedin and Port Chalmers Railway (D&PCR). First proposed in 1870 and originally intended to be a standard-gauge line, the D&PCR instead became the first railway in New Zealand to be built to the 3 ft. 6 in. gauge. Its private life was brief, spanning just over three months between its official opening on 31 December 1872 and its sale to the General Government on 9 April 1873. It was then leased to the Otago Provincial Government, before reverting to the General Government when the Provincial system of government was abolished in 1876.<sup>154</sup>

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<sup>153</sup> Petrie, pp. 5, 10-11, 13-17.

<sup>154</sup> Petrie, p. 122.

While the significance of the Dunedin and Port Chalmers Railway has long since faded into history, along with that of its earlier Provincial predecessors, it remains to some extent at the forefront of the enthusiast conscience thanks to the survival of one of its steam locomotives, *Josephine*. Built in 1872, this venerable locomotive became the first in New Zealand to be officially preserved, by the Otago Early Settlers Museum in 1925.<sup>155</sup> It remains one of only a handful of Provincial steam locomotives to be preserved,<sup>156</sup> and one of only two preserved locomotives to be ordered before 1873.<sup>157</sup> This distinction and the determination of August 1872 as a point of division within the Provincial period is important; pre-1872, all railways were built either by private enterprise or Provincial Governments, whereas after August 1872, the General Government began to sponsor the construction of all further railways including the ordering of all materials, rolling stock, and locomotives up to the abolition of Provincial government in 1876 and beyond. During this four-year period and up to the early 1880s, private enterprise was largely muted and so does not play so large a part in the narrative of this period.

The first line to be built under direct Government sponsorship, the Dunedin and Clutha Railway, was started in 1871 but was not put into working order until 1872. As has been recounted by enthusiasts, this line is remembered largely not for its pioneering role as the first directly Government-sponsored railway, but for the introduction of the F-class tank locomotive to New Zealand.<sup>158</sup> A well-renowned type, the F-class later spanned 88 engines

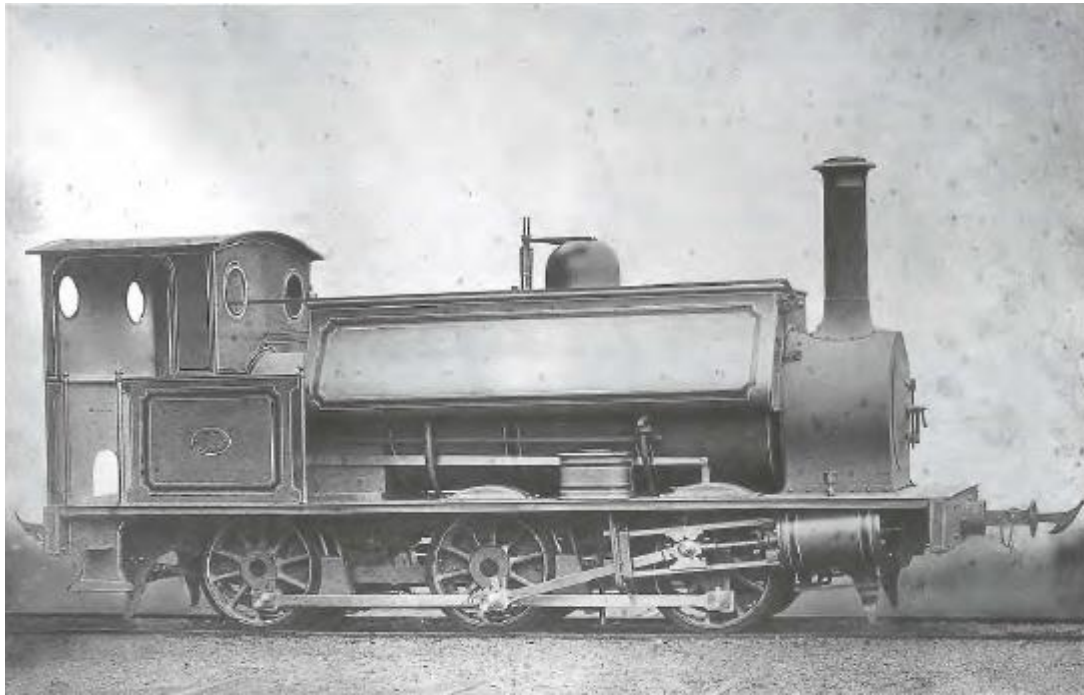
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<sup>155</sup> Dougherty, p. 158.

<sup>156</sup> The term 'Provincial' is here used to indicate locomotives ordered and built pre-November 1876.

<sup>157</sup> The other preserved pre-1873 locomotive is F 13 *Peveiril* at the Ferrymead Railway, Christchurch; for more information on both *Josephine* and *Peveiril*, please refer to Neill J. Cooper, *Preserved NZR Locomotives and Railcars* (Wellington: New Zealand Railway & Locomotive Society, 1982), pp. 10-13.

<sup>158</sup> For more information, please refer to T. A. McGavin, "Early History of the "F" Class Locomotives," in *Locomotive Selections from the New Zealand Railway Observer*, ed. Peter F. Dyer (Wellington: New Zealand Railway & Locomotive Society, 1974), pp. 25-51.



*Figure 16. Prototype F-class tank locomotive, as built by Neilson & Company, Glasgow, 1872. Photograph: Petrie, p. 163.*



*Figure 17. F-class locomotive N° 13 Peveril at Ferrymead Heritage Park, 26 April 2015. Second prototype locomotive, as modified by New Zealand Railways during its 92-year working career (1872-1964) and now owned by the Canterbury Railway Society. Photograph: A. A. Cross.*

delivered over a twenty-year period and which ran over almost every part of the national railway network from 1872 until the last two were officially retired in 1964. Although their

contribution to the New Zealand's railway history is correctly recognised by the railway enthusiast community, the near-mythological status the F-class locomotives have received is unfortunately typical of the narrow focus of the enthusiast community.

Within a short time of these two Otago railways having opened, Canterbury began building its first short narrow-gauge lines, though these were no more than branch lines or even tramways in the minds of the Provincial Council.<sup>159</sup> Their purpose was to open up areas of local resources – agricultural produce from the present-day Selwyn District around Southbridge, timber from the forests around Little River and Oxford, and coal from the Whitecliffs area, in what was then known as the Malvern Hills.<sup>160</sup> At least three such lines were built under the aegis of the Provincial Government in North Canterbury alone – the Rangiora-Oxford, Kaiapoi-Eyreton and Rolleston-Whitecliffs via Darfield branches – and a fourth from Timaru to Pleasant Point in South Canterbury.

The intention of these light tramways, as they were officially referred to, was to channel traffic from outlying areas to the main-line railways. A similar view was expressed during a Northern Railway meeting at the Kaikainui Hotel in Kaiapoi on 2 December 1867, and later reported by the *Lyttelton Times* of 11 December:

THE *LYTTELTON TIMES*, 11 DECEMBER 1867

Mr. Joseph Clark moved the next resolution, viz., "That it is necessary that steps should be taken to bring as much traffic as possible to the railway, and that this meeting is of opinion that the best way to effect this object will be by a system of inexpensive tramways." He pointed out the necessity of a system of tramways as

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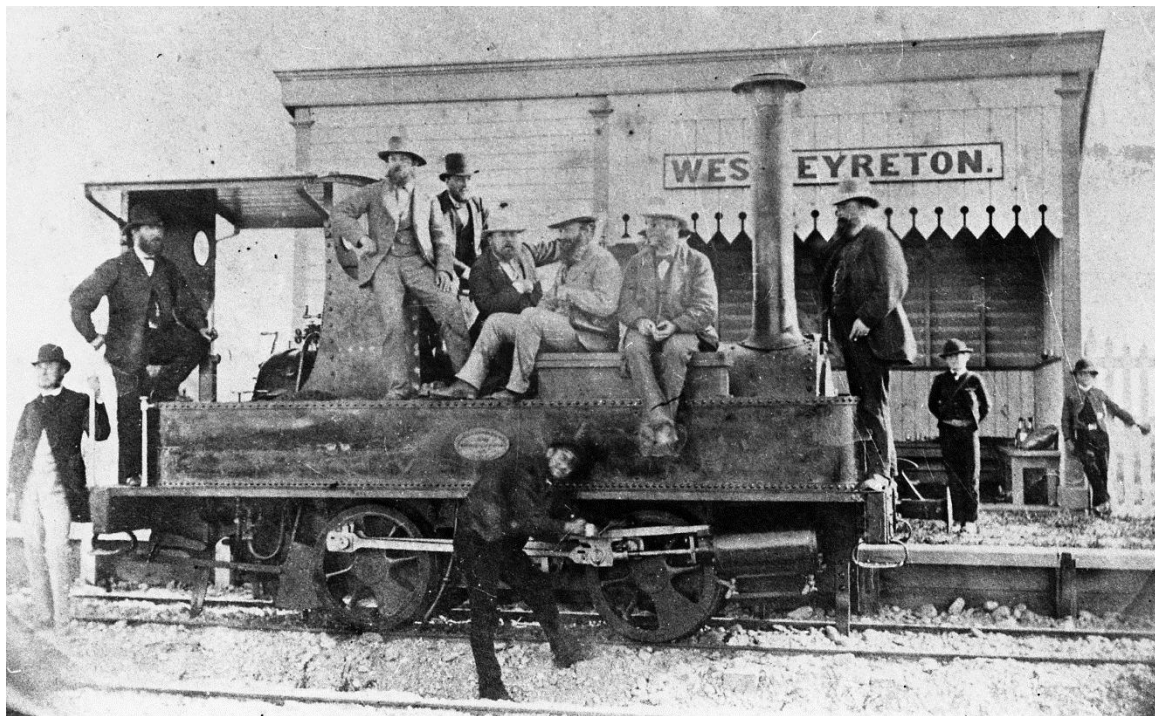
<sup>159</sup> Pierre, pp. 58-9.

<sup>160</sup> Bruce Maffey and Richard Maffey, *The White Cliffs Branch Railway 1875-1962 Canterbury, New Zealand*. (Christchurch: Foothills Publishing, 2014), p. 18.



feeders for the trunk line, and advocated cheapness of transit at the expense of speed.<sup>161</sup>

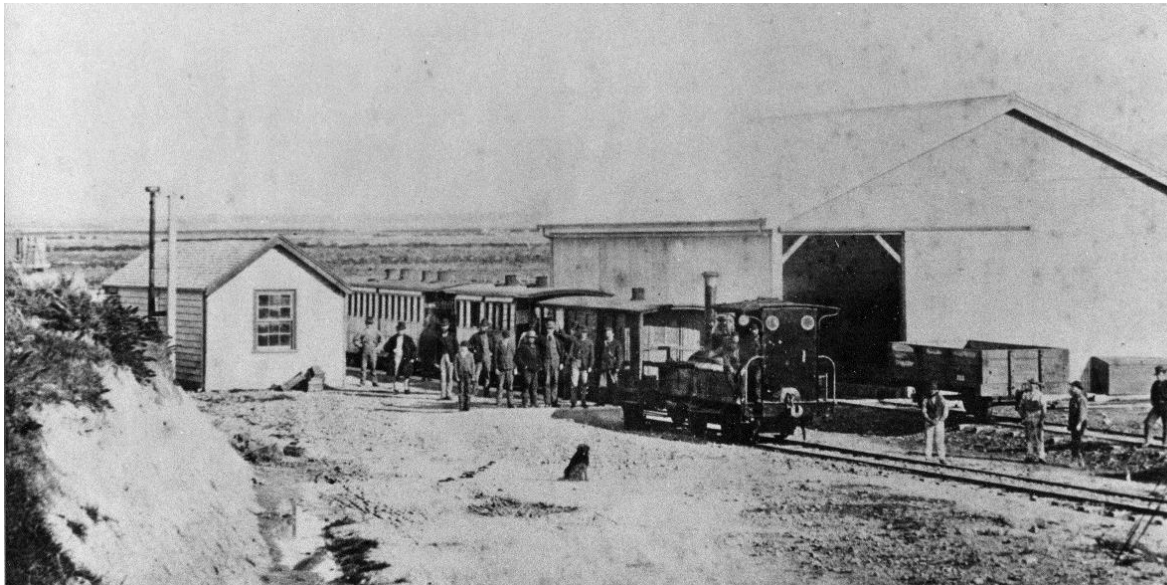
Clark's viewpoint was shared by the Provincial officials, who saw the soundness in such thinking and provided four such tramways in North Canterbury – though the terming of these lines as tramways is perhaps a misnomer in this case. The term instead as used here referred to a lightly-laid and cheaply-built railway, run by light locomotives. The cheapness of these lines came from the fact that the standards of construction were slightly lower than that of the well-engineered main lines, and thus provided a commensurate decrease in cost. On the other hand, however, tramways limited the maximum size and thus weight of what could operate on them, in turn necessitating rebuilding to heavier standards when larger locomotives and wagons began running on these lines. Officially, however, these lines were



*Figure 17. Light tramway locomotive, later New Zealand Railways first class A, at West Eyreton Station on an unknown special occasion c.1875-77. Photograph: E. J. McClare Collection, courtesy New Zealand Railway & Locomotive Society.*

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<sup>161</sup> NORTHERN RAILWAY., *Lyttelton Times*, Volume XXVIII, Issue 2176, 11 December 1867. URL: <http://paperspast.natlib.govt.nz/newspapers/LT18671211.2.10>. Sighted 16/04/17, 11:37pm.



*Figure 18. Light tramway locomotive, later New Zealand Railways first 'A' class, at Cust Station on the Oxford Branch Line. The photograph is believed to have been taken in October 1876. Photograph: E. J. McClare Collection, courtesy New Zealand Railway & Locomotive Society.*

railways rather than tramways, although W. A. Pierre refers to several of them as tramways in his work.<sup>162</sup>

Most of these lines as proposed and built were sound proposals, but there was however one anathema: the Eyreton branch line. The Oxford and Rangiora settlers had been agitating for a railway since 1863 to carry timber from the Harewood Forest; simultaneously, in 1871, the settlers in the area of Eyreton began to also agitate for a railway through their area towards Oxford. The result was a series of undemocratic events as Eyreton and Rangiora interests vocally attacked and derided each other in turn. Nonetheless, despite evidence that only the Rangiora to Oxford line would be able to pay its way from no less than the Engineer-in-Chief of the Public Works Department, John Carruthers, both lines were built with the Eyreton line a concession to a region where road-building and drainage had been unsuccessful.<sup>163</sup>

The matter of the Rangiora-Oxford and Kaiapoi-Eyreton branch lines has been closely examined previously; the subject is best summed up by former journalist, Robin Bromby:

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<sup>162</sup> Pierre, pp. 59-66.

<sup>163</sup> Pierre, p. 64.

“[t]o have built one branch line north of the Waimakariri River could possibly have been justified in the days before reliable road transport, but the decision to lay two lines was optimistic at best. The decision was by way of appeasing two communities in North Canterbury; those who wanted a railway by way of Cust and Oxford, and those seeking the railway further south. The government of the day resolved this by building both.”<sup>164</sup> It was not a wise decision and both lines soon lost the primary reason for their existence as the last of the bush was cut out. The Eyreton line, the shorter of the two, was never a great money-maker, and was cut back in stages until it was closed beyond the flour mill and wayside station at Wetheral in May 1954.<sup>165</sup> The Oxford line, the longer of the two in both length and longevity, followed nearly five years later, in April 1959.<sup>166</sup> In the last decades of their existence, both lines carried predominantly agricultural traffic though mostly in competition with the vastly-improved roads they paralleled.

The Southbridge line was primarily built for agricultural reasons, and in particular, carrying the produce of the Ellesmere District to Christchurch or to Lyttelton for export. As early as the late 1860s, the district was producing a quarter of Canterbury’s wheat yield; shortly before railway construction begun, Carruthers recommended to the Minister for Public Works that this district was “one of the richest and best-settled districts of Canterbury.”<sup>167</sup> Originally it was planned to have it branch from the Southern Railway at Selwyn; after much consideration, however, the junction was fixed at Hornby and the line served the Prebbleton and Lincoln districts too. From 1882, the first section of this line would be partially shared with another, the Little River branch, which left the Southbridge branch at

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<sup>164</sup> Robin Bromby, *Rails That Built a Nation: An Encyclopedia of New Zealand Railways*. (Wellington: Grantham House, 2003), p. 83.

<sup>165</sup> Bromby, p. 80.

<sup>166</sup> Bromby, pp. 83-84.

<sup>167</sup> Pierre, p. 59.

Lincoln Junction.<sup>168</sup> This latter branch line was in fact one of those planned by Edward Dobson and his fellow Railway Commissioners in 1859, but later deferred.<sup>169</sup>

The last of the four Provincial narrow-gauge lines built to open up and develop the Canterbury Plains was the White Cliffs line. Its purpose was to tap the coal deposits of the Malvern Hills, only recently confirmed to exist by Julius Von Haast after ten years' worth of exploration. With a need for coal to fuel Christchurch and its industry, various schemes were put forward until a branch line was settled on in 1871. The line opened in 1875 amid hopes that it would serve a new Midlands region like that in England with its rich mineral wealth and extensive coalfields; instead, the poor-quality brown lignite coals did not guarantee sufficient traffic alone to keep open, and the line turned to agricultural traffic as its mainstay. Like the Southbridge Branch, the line to Whitecliffs – as it was often known after the turn of the century – entered a gradual decline as rural roads were improved. It was finally closed in March 1962; the Southbridge Branch followed a few months later along with the branch line to Little River.<sup>170</sup>

If there was one exception to this plan of opening up the Province through the construction of light railways, however, it was the Rolleston to Sheffield line. Opened in December 1874, it did not fulfil the purpose of tapping the agricultural or mineral wealth of the Canterbury Plains; instead, its purpose was to link the Cobb & Co. road coaches running over Arthur's Pass with Christchurch. As a secondary function, it was to tap into the coal mines around the foot of Porter's Pass, but the traffic from these mines by rail never reached the hoped-for levels.<sup>171</sup> In the wider context of rail history, the Sheffield Branch has merited little

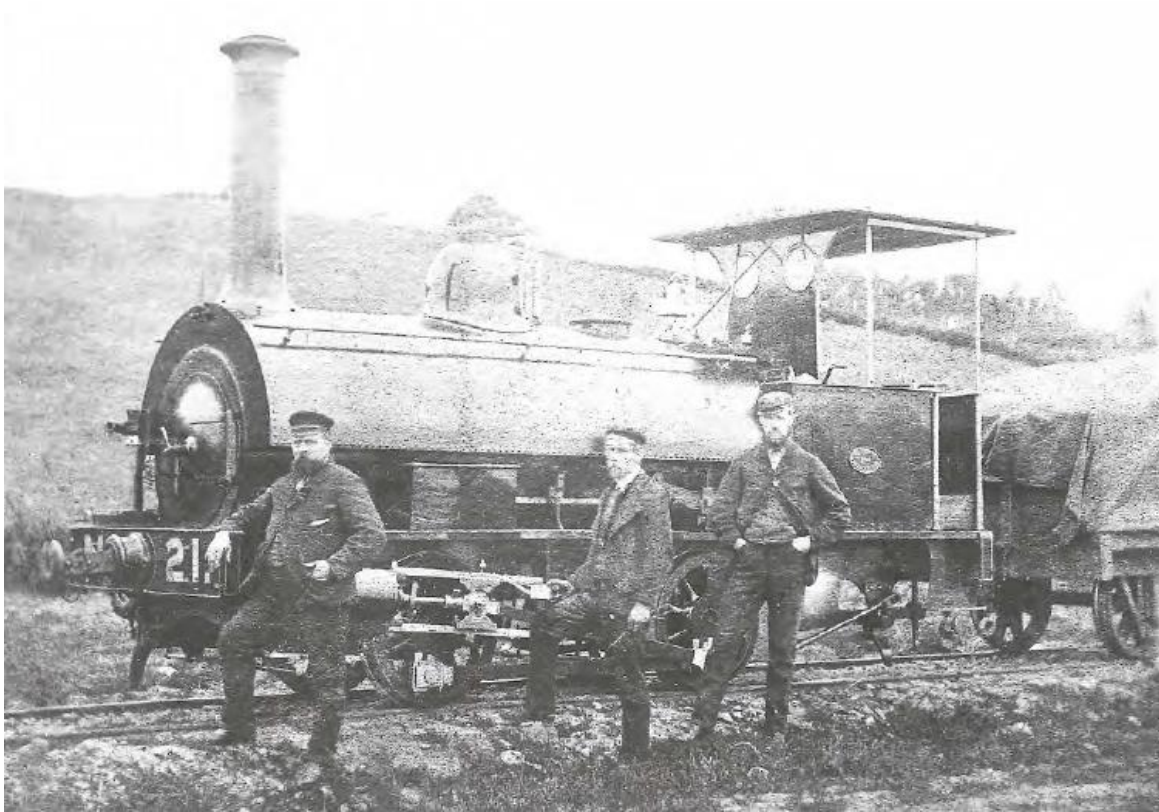
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<sup>168</sup> Bromby, pp. 81-2; Churchman and Hurst, 2001, p. 180.

<sup>169</sup> Dobson (Engineer) to Superintendent - report of Railways Commission - 18/03/1859, ANZ.

<sup>170</sup> Churchman and Hurst, pp. 180, 182.

<sup>171</sup> Pierre, pp. 61-62.



*Figure 18. C-class four-wheeled locomotive N<sup>o</sup> 21 at Pleasant Point, South Canterbury, c.1876-77. Photograph: Petrie, p. 108.*

discussion in the context of opening up Canterbury, with historians like Pierre only giving it scant mention if at all.<sup>172</sup> Part of this may relate to its subsequent development as part of the later-day Midland Line, which now connects Christchurch with Greymouth and the West Coast coalfields.<sup>173</sup>

Thanks to the work of W. A. Pierre, the role of the 'Canterbury' Railways in opening up North Canterbury is well-known. At the same time, comparatively little has been said about their role in opening up the neighbouring areas of South Canterbury, which most rail historians have apparently overlooked except in specialist histories. Little railway construction took place in South Canterbury until 1875, when two short lines were built from Timaru. One of these, to Temuka, would later become part of the Southern Railway.

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<sup>172</sup>Pierre, p. 62 briefly mentions this line.

<sup>173</sup> See Bromby, pp. 44-7; Churchman and Hurst, 2001, pp. 184-87.

The other was the Pleasant Point branch line, which opened in late 1875.<sup>174</sup> Much like its contemporaries to Southbridge and White Cliffs, the Pleasant Point line was built to open up and develop the South Canterbury hinterland, with the intentions of serving sheep stations in the MacKenzie Country. Later extended to Fairlie in 1884 under the auspices of the General Government, this line met a similar fate to its North Canterbury counterparts when it closed in March 1968.<sup>175</sup> Often overlooked as a product of the Canterbury Provincial Council, the Fairlie Branch, to use its later title, deserves to be recognised as the last and longest survivor of the Canterbury Provincial Council's narrow gauge branch lines. Unlike those lines built in North Canterbury, though, the Fairlie branch appears to have been conceived and built as a proper railway, instead of as a locomotive-worked tramway.

These narrow-gauge lines were among some of the last railways to be built under the aegis of the Canterbury Provincial Government, with the most of them being built from Central Government refunds made on the basis of Public Works schemes already carried out.<sup>176</sup> Their purpose can be summed up in the same way as that of the Canterbury Great Northern and Great Southern Railways built during the same time period, in that they were intended to open up the provincial interior and exploit its resources. In this role, they performed admirably through much of the late 19<sup>th</sup> century. Regrettably, neither the Provincial authorities of the day, or the settlers, planned ahead for the future both of those resources, or the railways built to serve them. Consequently, most of the resources were depleted within decades, and the lines were forced to subsist on whatever they could carry. Once local roads were improved, then the branch lines could not compete in terms of cost, or flexibility, and were closed down as uneconomic to operate.

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<sup>174</sup> Petrie, pp. 107-08.

<sup>175</sup> Bromby, pp. 80-81; Churchman and Hurst, 2001, p. 182.

<sup>176</sup> Pierre, p. 45.

This pattern of necrosis and closure is not unique to Canterbury; it was felt on a nationwide level through the 1950s and 1960s as the regional branch line disappeared from the New Zealand landscape. Unlike the rest of New Zealand though, Canterbury was what railway enthusiast writer Graham Hutchins refers to as “branch-line country.”<sup>177</sup> It derived more benefit from its branch lines than any other part of New Zealand, but, unlike any other part of New Zealand, it did not lose much when these lines were finally closed. They had outlived their usefulness and lost their relevance in the wake of the improved transport links that followed in their wake.<sup>178</sup>

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<sup>177</sup> Graham Hutchins, *The Beaten Track: By Tranz Scenic through New Zealand* (Wellington: Grantham House, 1999), p. 35.

<sup>178</sup> Rob Merrifield, ‘The Ohoka Punt’, in *Locomotive Selections from the New Zealand Railway Observer*, ed. Peter F. Dyer (Wellington: New Zealand Railway & Locomotive Society), p. 60.

## Chapter 4

### Canterbury – Full Steam Ahead 1870-76

As previously noted, the late 1860s were a particularly turbulent period for both the Canterbury Provincial Government and its railways. Financial hardship, unwelcome scrutiny and difficulties between the departing contractors and the Provincial Council had contrived to put the Canterbury Railways in an unenviable position. Not even the personal reputation and abilities of William Moorhouse could make any difference; by 1868, Moorhouse had fallen from favour with the Canterbury public and wisely resigned. His replacement, William Rolleston, inherited as a legacy nearly 30 miles of working railway and provisional planning for more.

Within two years of taking office, Rolleston and his executive were ready to resume railway construction again. The financial crisis was lifting; although it did not end officially until 1871, its effects were no longer as severe as before and consequently a new confidence was being felt. With the Franco-Prussian War freeing up financial capital that would otherwise have been invested in mainland Europe, New Zealand was now in a position to move forward once more. The greatest part of the moving forward would be on the part of the General Government, thanks to the visionary Public Works Policy of Colonial Treasurer, Julius Vogel, first proposed in 1870 and funded with financial capital from London.<sup>179</sup> With such financial optimism in the wake of the receding crisis, railway construction could now resume once more.<sup>180</sup>

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<sup>179</sup> Atkinson, pp. 28, 30.

<sup>180</sup> Pierre, p. 37.



Although Rolleston himself suffered some criticism over his lack of action at times, the resumption of railway construction was not one of them. Writing in 1966, William Gardner noted that public works and immigration made great strides under Rolleston, who for the most part was content to “administer soundly and fairly the policies of his predecessors.”<sup>181</sup> Unlike his predecessors though, Rolleston was a later arrival; he came out from Yorkshire in 1858, aged just 27, and from an agricultural career moved into politics in 1863. The caution for which he was noted was most famously displayed in 1865 when Samuel Bealey’s Provincial Executive moved in favour of a loan to extend the Canterbury Great Southern railway, an action which Rolleston disagreed with. He resigned on principle, and spent the next four years in national politics, before contesting the position of Canterbury’s Provincial Superintendent.

Rolleston’s public works expansion began by completing the last stretch of the Canterbury Great Southern Railway; originally conceived to reach the Rakaia River, construction was halted temporarily at Selwyn in 1867, as previously noted. Work resumed in 1870 after a minor dilemma over what route the railway would take. Canterbury’s wide, braided rivers presented considerable challenges to the early settlers, and there was some debate over whether the railway should run inland to cross the rivers where they were narrower – at the expense of steeper gradients – or take a more direct route with easier gradients, but with longer bridges and the danger of shifting river channels.<sup>182</sup> In the end, direct routes were chosen, not only for the line south to Rakaia, but onwards to Timaru and Oamaru, in the neighbouring Otago Province. While this may suggest for some Vogel-inspired foresight on the behalf of Canterbury and its Superintendent, there was nothing forward-thinking about

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<sup>181</sup> William Gardner, 'ROLLESTON, William', McIntock (ed.), *An Encyclopaedia of New Zealand*, vol. 3 (Wellington: R. E. Owen, 1966), pp. 112-14.

<sup>182</sup> Pierre, pp. 48-50.

how Rolleston and his Provincial Council handled their plans for railway expansion.

Rolleston was a champion of the provincial cause through and through, and was focused solely on Canterbury's provincial needs rather than on future national needs. If he was to have a railway south, it had to be a broad-gauge one.<sup>183</sup> His insistence on this led the General Government to pass special legislation, the Railway Act of 1872, allowing the broad gauge to expand south to Rakaia and north to Amberley on the Northern Railway, but no further and with all additional costs carried by the Provincial Council.<sup>184</sup>

Passing through largely easy terrain, the extended Southern Railway had one major engineering feature – the famous bridge over the Rakaia River. Originally Moorhouse had planned to terminate the railway on the river's northern bank; Bealey, on the other hand, had wanted to go south to Timaru and a set of bridge specifications were drawn up at this time. The original bridge as planned was to have been built of wrought-iron trusses resting on concrete-filled cast-iron piers and would carry both a single broad-gauge railway line and the Christchurch-Timaru road. Attributed to Melbourne-based engineer W. T. Doyne, the proposed bridge would have been 2,521ft from end to end (0.76km) – and also would require long embankments at either end of the bridge. This in turn would have narrowed the river channel, which, as later experience would prove, would not be advisable.

Canterbury's braided rivers are notorious for sudden and heavy flooding, and narrowing their channels had destructive consequences. Canterbury learned this the hard way when the iron-girder bridge over the Selwyn River was damaged beyond repair in November 1867; transport historian Les Dew suggests that the embankments on either end of the bridge may

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<sup>183</sup> Pierre, p. 44.

<sup>184</sup> Pierre, p. 86.

have contributed to its demise.<sup>185</sup> The replacement bridge, much to the dismay of local residents, was built of timber rather than iron.

Due in part to the destruction of the Selwyn bridge, the Provincial Public Works Department decided to 're-think' their plans for the Rakaia bridge, before turning to well-known local contractor, William White, to design a timber bridge. Self-taught, and with a sound knowledge of braided rivers and their behaviours, White had proven soundly that timber bridges could withstand the sort of floods that Canterbury regularly experienced. His original design as first proposed in 1869 called for ninety-six spans of 40ft (12.2m) each, for a total length of 3,838ft (1.2km). This was later amended in 1870 after W. B. Bray, former Railway Commissioner of 1859 and now practicing as a civil engineer, recommended shortening the spans to 20ft (6.1m). After seeking advice from the national Public Works Department, the Provincial Council gave their agreement to this amendment.<sup>186</sup>

White had the bridge finished within three years of the revised contract being issued, though its construction and early operation were not without their difficulties. For whatever reason, White failed to take the advice of PWD engineer, John Blackett, and attached transverse road decking straight to the bridge girders, instead of using longitudinal planking and timber joists. Within two years of the bridge opening in 1873, the asphalt road surface had been torn up, and the whole bridge had to be redecked to the satisfaction of the "Resident Engineer, Railways, Canterbury."<sup>187</sup> This official, who retired architect Geoffrey Thornton does not name in his treatise on New Zealand bridges pre-1939, would most likely

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<sup>185</sup> Dew, 1988, p. 26.

<sup>186</sup> Dew, 1988, pp. 26-7.

<sup>187</sup> Geoffrey Thornton, *Bridging the Gap: Early Bridges in New Zealand 1830-1939* (Auckland: Reed, 2001), pp. 21-2.

have been Railway Engineer, George Thornton.<sup>188</sup> Even though it was considerably longer than the original bridge proposed in 1864, White's bridge was not immune from flooding damage. Shortly before it opened in May 1873, a heavy flood washed out sections of the bridge at both ends. Thornton notes that as a consequence of this, the bridge was extended to a final length of 6,023ft (1.8km) with a total of 224 spans, of either 20 or 40 feet.<sup>189</sup>

With the bridge finished, the completed Southern Railway to Rakaia was opened on 29 May 1873. This was the final, southward extension of the broad-gauge Canterbury Railways; the line south for Ashburton and Timaru, already under construction as the last section of the broad-gauge line was completed, was built to the narrower 3ft. 6in. gauge as chosen in 1870. This line opened as far as Ashburton on 24 August 1874; nearly two years later, on 4 February 1876, the line was opened to Timaru – though, officially, the line had been finished since December 1875, and part of it, between Timaru and Temuka, had been open since October of that year.<sup>190</sup> It could be suggested from this delay between completion and the official opening that the line between Ashburton and Temuka was only temporarily finished so that a locomotive and several items of rolling-stock could be transferred south for the Pleasant Point branch railway. The line would only have been properly finished after this train arrived, and the Christmas holidays were over.

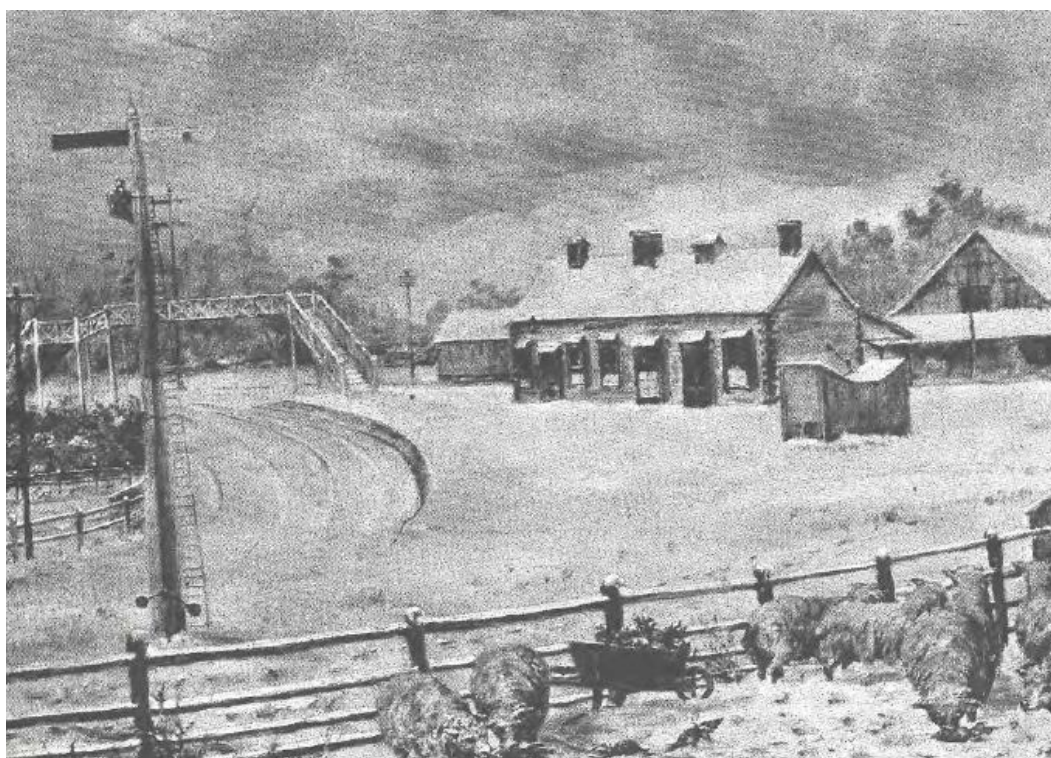
While the Southern line was being extended, Rolleston and his Provincial Council turned their attentions to the Northern line, which had been deferred pending a more prosperous future. When he called for its construction in 1868, Rolleston believed that by building it, the Northern line would generate enough traffic in addition to that of the existing railways that both the railways and harbour facilities at Lyttelton would be able to pay off some of

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<sup>188</sup> See Pierre, p. 27.

<sup>189</sup> Thornton, p. 22.

<sup>190</sup> Petrie, pp. 73, 85, 107-8.



*Figure 19. Addington Junction; detail from the George Turner painting Addington Mid-Winter 1879. Northern line curves around to left foreground behind signal. Photograph: Mahoney, p. 26.*

the loan interest they had accrued. While he was convinced of its merit, Rolleston found his Council was not. With financial hardship still fresh in recent memory, the Council sought to reduce expenditure and thus forced Rolleston, the man of caution, to remonstrate against their 'overzealous frugality'.<sup>191</sup> In the end, the Superintendent won that particular battle; the railway north would be built, and it would extend initially to Balcairn, on the south bank of the Kowai River.

The proposed route, as finally selected, left the Southern Railway at Addington and turned northwards towards the present-day suburb of Belfast from where it continued to the bank of the Waimakariri River, and thence on to Kaiapoi. From here, the choice became more difficult; would it take a more coastal route and skirt both Woodend and the Māori reserve at Tuahiwi, or would the line turn inland towards Rangiora before veering back towards the coast to avoid the foothills around Mount Grey? The people of Rangiora wanted the railway,

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<sup>191</sup> Pierre, pp. 44-5.

as will be seen shortly. Those in Kaiapoi, on the other hand, were distinctively unenthusiastic. In what André Brett refers to as a 'broader debate on the North Canterbury economy', Kaiapoi residents questioned whether the railway would threaten their port; would it perhaps be better for the railway to fan inland and serve the wider region, rather than linking Kaiapoi with Christchurch?<sup>192</sup> In the end, the railway came to Kaiapoi and refocused its economy; the Port of Kaiapoi, opened in 1852, lost its export business via Lyttelton when the railway arrived in 1872, and subsisted over the remainder of its existence until it finally closed in 1969, a victim of the railways and their new inter-island ferry services.<sup>193</sup>

From Kaiapoi northward, several different routes were surveyed, all of which skirted the Māori reserve at Tuahiwi, mostly on the landward side towards the town of Rangiora. While this necessary avoidance might have seemed generous, given the insatiable settler demand for land, it seems that not everyone agreed with this policy of placation. At least one unknown person was determined to see costs reduced on the Northern Railway, and one of his suggestions to Canterbury's Secretary of Public Works was not to deal with local sub-tribe Ngāi Tūāhuriri, among other landowners.<sup>194</sup> While their motives are unclear, perhaps the writer hoped to see the railway cut through the reserve and thus force Ngāi Tūāhuriri off the last remnant of their ancestral lands, making them available for colonial settlement. This policy would have been highly effective, and, as Neill Atkinson notes, it was used with great success in the North Island, where the North Island Main Trunk served as the engine of

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<sup>192</sup> Brett, pp. 133-34.

<sup>193</sup> Dew, 1991, pp. 85, 90-93.

<sup>194</sup> Inwards correspondence to Secretary of Public Works (original damaged) in Railway Reserve 370, Northern Railway, box CP265, ICPW 2047/1875, ANZ.

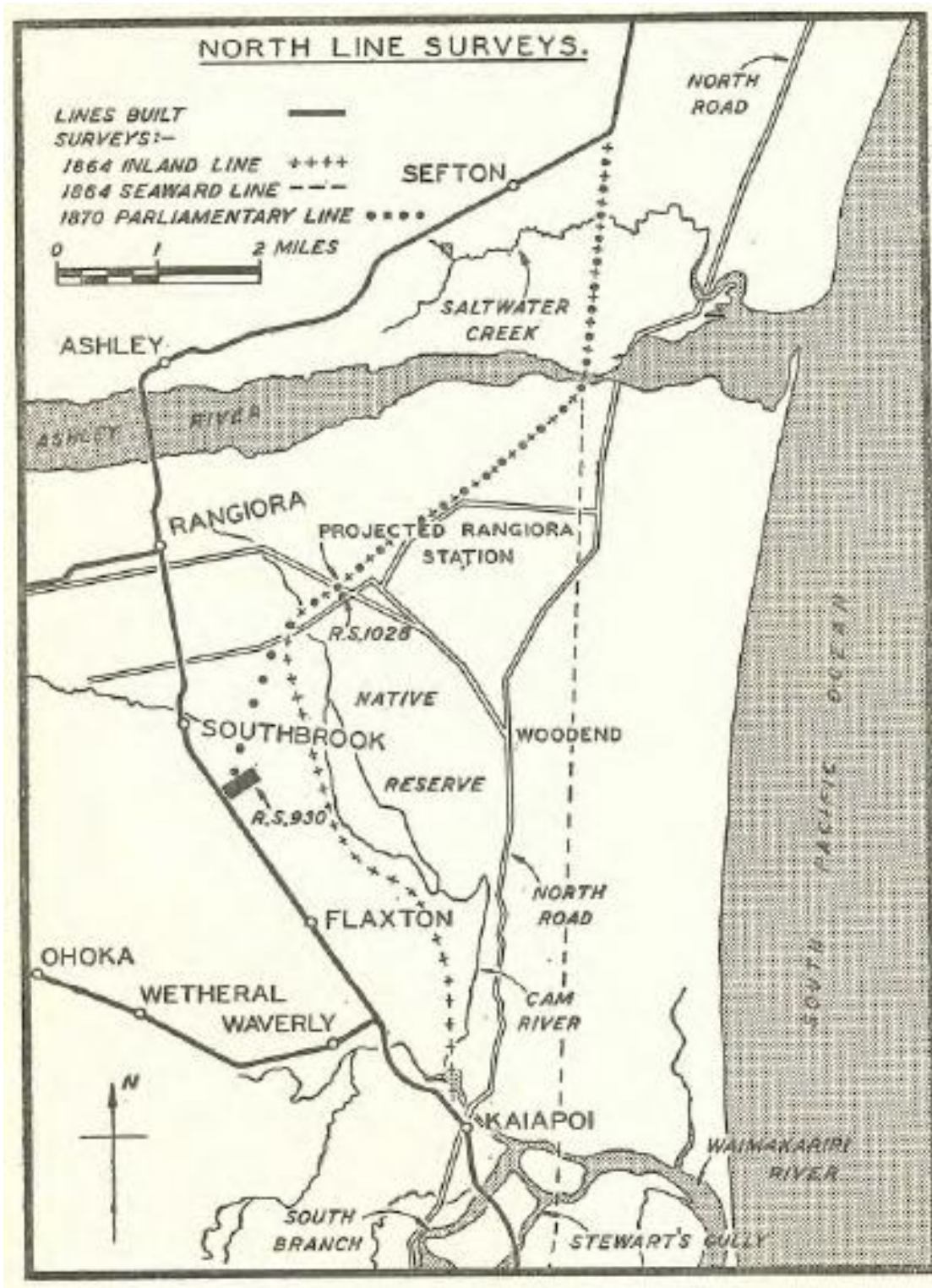


Figure 20. Drawing of the three alternative routes surveyed and considered for the Northern Railway, along with the final route as chosen and built. Rural Section 930 as shown on the drawing was to have been the site for the Rangiora Railway Station before the line was deviated through Rangiora. Also shows parts of the Oxford and Eyreton branch railways. Original Drawing: Pierre, p. 52.

dispossession to break open the Māori-controlled central North Island post-1908.<sup>195</sup>

It was at this critical point during deliberations that the Rangiora settlers began making their voices heard. When the original route was drawn up in 1864 they had sought to have the railway diverted through Rangiora; now, six years on, they were ready to resume their calls for a railway to run through their town. The debate over the railway route thus became central to Rangiora's future; historian D. N. Hawkins noted that of all the various 'towns' between the Waimakariri and Waipara Rivers, Rangiora had the most to lose if it was bypassed.<sup>196</sup> It was yet to be declared a town – the Provincial Council of the early 1860s merely regarded Rangiora as a 'concentration of private speculations and people... occupying rural land at township values' – and there was some concern that if the railway were to bypass it altogether, as was planned, it would never become a town but instead would fade away at the expense of other localities in the area.<sup>197</sup>

The matter was initially debated by Provincial politician J. Evans Brown in early 1870, but no progress was made until later that year, under the leadership of the indefatigable Westby Hawkshaw Percival. A colourful figure with a chequered past, Percival arrived in Canterbury with his family in 1855, and moved to Rangiora in June 1862; following several skirmishes with the law, he finally settled down in 1866. Despite his past failures, Percival was well-written and spoken, and finally gained some redemption for his past actions by spending his final years fighting to improve Rangiora and to have the Northern railway diverted through the town.<sup>198</sup>

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<sup>195</sup> Atkinson, p. 53.

<sup>196</sup> D. N. Hawkins, *Rangiora: The Passing Years and People in a Canterbury Country Town* (Rangiora: Rangiora Borough Council, 1983), p. 158.

<sup>197</sup> Hawkins, pp. 153-56.

<sup>198</sup> Hawkins, pp. 132-33.



The chief reasons for having the railway bypass Rangiora were technical more than anything else. The engineers were aware that to divert the line through the town, would require an increase in height of 50 feet, a longer bridge, and, due to both the gradients through Rangiora and around the foot of Mount Grey, more powerful locomotives. It would also be more expensive, by £15,000. Simply terminating the railway in Kaiapoi for the time being as a cost-cutting measure, as had been suggested by Kaiapoi merchants, was no option and Percival took aim at this suggestion in the *Lyttelton Times'* correspondence columns in 1867:

“However, as the past cannot be recalled, let us by all means have a railway if we can, and if not a railway then a tramway; but let it not be understood that the funds, falling short, a railway merely to Kaiapoi would satisfy, for rather than see only twelve miles of a railway we would much prefer a tramway the way, and in fact the majority of the North considering the convenience of the river to Kaiapoi, and the difficulties of that part of the island near Kaiapoi, believe in the line, whether for tram or rail, being taken wide of Kaiapoi.”<sup>199</sup>

The claim Percival made in his letter supports the inverse location narrative voiced by Kaiapoi residents later in 1870: why did they need a railway, when they had a river port? Terminating the railway at Kaiapoi would be detrimental to the interests of landowners to the north of the Ashley River, who had to deal with inconvenient and unsafe river fords. Sensible as Rangiora’s case might have been, it became increasingly unpopular elsewhere. Percival and his fellow champions, Hugh Boyd and Henry Blakett, received increasing amounts of criticism from what Hawkins refers to as ‘sections of the farming community who objected to the diversion of a main trunk line into every second hamlet just to satisfy

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<sup>199</sup> THE NORTHERN RAILWAY., *Lyttelton Times*, Volume XXVIII, Issue 2180, 16 December 1867. URL: <http://paperspast.natlib.govt.nz/newspapers/LT18671216.2.14.1>. Sighted 19/04/17, 3:12pm.

local self-interest.”<sup>200</sup> There was some justification for claims of self-interest disguised as public benefit, as FitzGerald’s *Press* suggested; that self-interest, as Rolleston himself claimed, was now delaying the inevitable construction of the Northern railway.

The debate continued on into 1871 with only minor changes. Percival and his allies, by now thoroughly unpopular, had to change tack and state they were not out to deliberately force the railway through Rangiora. They only wanted the station closer to the town; the only concession to this, though completely unrelated to their cause, was the agreement of the Provincial Council to build a ‘tramway’ to Oxford, which would run through Rangiora. But this was not enough for the Rangiora residents, who turned to the Colonial Government and in particular Resident Minister for the Middle Island,<sup>201</sup> and former Rangiora farmer, William Pember Reeves. In the end, Reeves was able to produce the desired results and the railway was diverted through Rangiora; ironically, part of the reason for this was based on grounds of engineering. The site of the proposed bridge across the Ashley River on the original route was known to be flood-prone, and expensive protection works would have been needed.<sup>202</sup>

With Holmes & Co. now long since departed, the Provincial Council turned to one man who would shortly monopolize railway construction in North Canterbury for a short period.

Edward George Wright, a former contractor’s engineer with considerable railway and civil engineering experience, got his first railway contract in 1870 starting with the Addington to Kaiapoi section of the Northern railway.<sup>203</sup> He later held the contract to build the line as far north as Amberley – the northern terminus of the broad gauge – and was also responsible

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<sup>200</sup> Hawkins, p. 160.

<sup>201</sup> Until 30 July 1907, the South Island was known officially as the Middle Island. Refer to THE WAITARA HARBOUR BILL., *Taranaki Herald*, Volume LIV, Issue 13487, 30 July 1907. URL: <http://paperspast.natlib.govt.nz/newspapers/TH19070730.2.22>. Sighted 19/04/17, 3:12pm.

<sup>202</sup> Hawkins, pp. 163-64; Pierre, p. 56.

<sup>203</sup> Pierre, p. 82.

for building the narrow-gauge line from Rakaia to Temuka via Ashburton, along with the branch lines to Eyreton, Oxford, Southbridge and White Cliffs. His experience was such that when several fallacious arguments were made by Bray and Railway Manager, John Marshman in favour of broad-gauge over narrow-gauge, he was able to comprehensively dismantle his opponents' cases which suggested, unreasonably, that the broad-gauge had greater carrying capacity over the narrow.<sup>204</sup>

Much like its southern counterpart, the construction of the Northern Railway appears to have been largely uneventful. The first section from Addington to Kaiapoi opened on 29 April 1872; that to Rangiora followed on 5 November of that year, an event which Reeves himself attended along with Rolleston, Moorhouse, Colonial Minister of Public Works and ex-Holmes & Co. engineer, Edward Richardson, and the crew of HMS *Dido*.<sup>205</sup> Although the celebrations were reputedly greater than those of Kaiapoi, the occasion was dampened by the death of Percival just minutes before the inaugural train arrived at Rangiora Station. The settlers appropriately toned down or cancelled outright some of the planned festivities in his memory; regrettably, Percival's part in getting the railway to Rangiora was all but officially overlooked, with Reeves claiming most of the credit during the champagne luncheon that followed.<sup>206</sup>

By now, the final destination of the railway had been shifted from the original terminus of Balcairn to the more northerly location of Amberley; in contrast to most of Canterbury's railway projects to date, the line cut across the foothills of Mount Grey, slowing work down as the necessary cuttings and embankments were formed. The railway finally reached Amberley in February 1876, its final terminus under Provincial days. This decision in turned

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<sup>204</sup> Petrie, pp. 77, 79, 81, 82, 84, 91-4, 107.

<sup>205</sup> Hawkins, p.

<sup>206</sup> Dew, 1988, p. 46; Hawkins, pp. 165-67.

sparked off a minor property speculation boom; in spite of warnings that Amberley was only a provisional terminus while a route north was finalised, the town flourished, and, when the railway was extended four years later, underwent an economic shift from being existing to service the railway, to serving the needs of local farmers.<sup>207</sup>

The Canterbury Railways had thus reached its zenith, albeit as the broad gauge retracted and gave way to the narrow gauge. They were, however, in no way clear of difficulty. A significant lack of secure covered goods storage led to a select committee on the subject in 1869 and again in 1871. Apart from highlighting the need for larger and more efficient storage facilities, the committee of 1871 also gives some indication of the dysfunctional nature of Canterbury's transport systems at the time and the lengths taken – or, in one case, not taken – to keep things running smoothly. Returning to the need for storage facilities, the issue was at its greatest during the grain season, during which the goods sheds designed and built during the 'lean' years of the 1865-70 financial crisis were completely inadequate.<sup>208</sup>

Compounded by a policy of free storage for a fortnight in the goods sheds, it was not uncommon for goods to build up quickly and force other consignees to seek private storage elsewhere. Not even relocation of the former Ferrymead goods shed to Christchurch and its reconstruction as a two-storey goods store after 1867 could alleviate this problem.<sup>209</sup>

Speaking before the committee, a Mr. Tippetts estimated that by introducing storage rates – such as those used on the Victorian Railways in Australia, which had volunteered its goods charges and storage information – the Provincial Government could recoup between £400 and £500 per annum. Local flour-miller, Mr. Wood of Addington, suggested that the existing

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<sup>207</sup> Leslie Dew, *The Great Northern: The Story of the Waiiau Branch Railway* (Christchurch: Weka Pass Railway, 2001), p. 142.

<sup>208</sup> Pierre, p. 40.

<sup>209</sup> Pierre, p. 10.

goods sheds were also to blame and needed to be enlarged; while this was a reasonable suggestion, there may have been a commercial motive to Wood's request. By his own admission, Wood had to pay an extra two shillings and sixpence per ton of flour if it had to be stored privately in Christchurch instead of in the railway goods sheds, beside the cost of transport.<sup>210</sup> The matter was not entirely solved three years later when the Secretary for Public Works complained of regular reports of theft: "It seems that the government is powerless to stop the pillage, and the government will seriously consider... whether they will not levy a rate upon the pay of all those in the inside goods department to make up the deficiencies the government has to pay for."<sup>211</sup> Again the goods sheds were not large enough; another select committee had been held on the subject in 1873 – the third so far.<sup>212</sup>

Another issue which finally came to a head during this time was that of the management. The General Manager of the time, John Marshman, was a competent administrator with an unfortunate streak of stubbornness and a conflicting personality. His actions between his appointment in July 1868 and his departure in 1873 often caused clashes with his staff including his Railway Engineer, George Thornton, to say nothing of the Provincial Council and his immediate masters within the Provincial Public Works Department.<sup>213</sup> Part of the issue stemmed from Marshman being responsible to the Superintendent alone.<sup>214</sup> Like Rolleston, Marshman was a determined provincialist, with a preference for the Canterbury broad gauge over the colonial narrow gauge. This was to be his undoing in part, as Pierre

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<sup>210</sup> Report on Management of Railways – Regarding Obtaining of Storage, in Special Subject Files on Canterbury Railways, box 353, CP353C, ANZ.

<sup>211</sup> Pierre, pp. 28-9.

<sup>212</sup> Pierre, p. 29.

<sup>213</sup> Pierre, p. 28.

<sup>214</sup> Pierre, p. 27.

notes: “He retained a purely provincial outlook in a situation where the horizon encircled the entire colony.”<sup>215</sup> This provincial outlook was inexcusable to Vogel, who proclaimed his disgust at the dysfunctionality of the railways’ management. The Provincial Council agreed with this assessment, and Marshman was finally made to resign, in December 1873. The Christchurch station-master, whom Pierre did not name, acted as Traffic Manager in the meantime until a replacement could be found. Eleven months later, John Lawson was appointed to the post after a stint with British railway contractors John Brogden & Sons in Wellington. The Railway Engineer’s position passed in February 1874 to James Godfrey Warner; ironically, Warner was another champion of the broad gauge, but by no means as obstructive as Marshman was.<sup>216</sup>

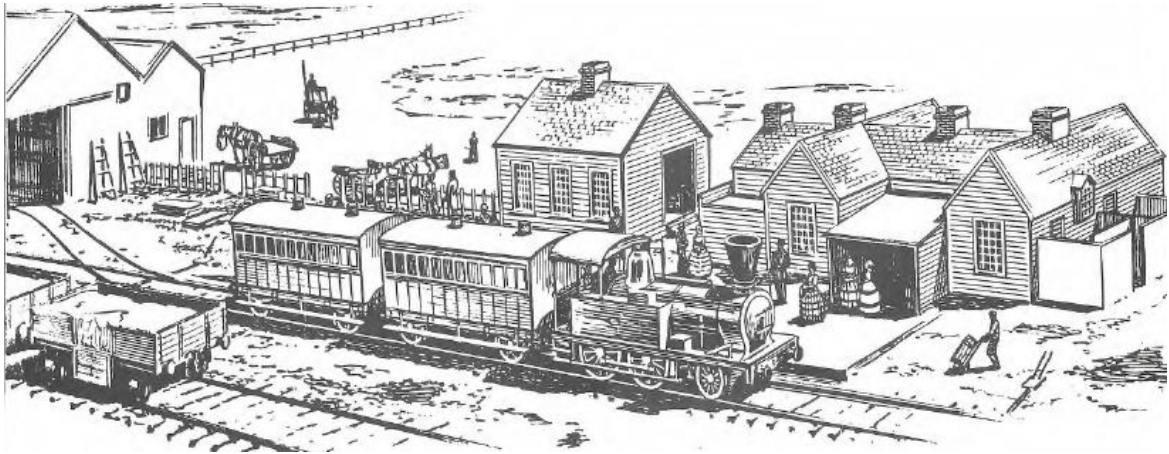
Lawson’s tenure with the Canterbury Railways was, by necessity, a short one. The Provincial system was in its final years, and the majority of his time was taken up by the conversion of the broad gauge lines to Vogel’s narrow gauge. By the time Lawson was appointed, work had already begun on converting the Southern line, the first stretch between Rakaia and Dunsandel having been opened to narrow-gauge traffic since September of that year. In between this work, however, came the need for a new Christchurch station – one more befitting a city like Christchurch than the original one which had served all three lines since 1863. The size of the original station complex is best shown by a lithograph as printed in J. D. Mahoney’s excellent treatise on the railway stations of New Zealand; it was a small complex, entirely suitable for the short length of railway it was built to serve in 1863.<sup>217</sup> But, by 1876 it was inadequate for the needs of an expanded railway network, and to settler

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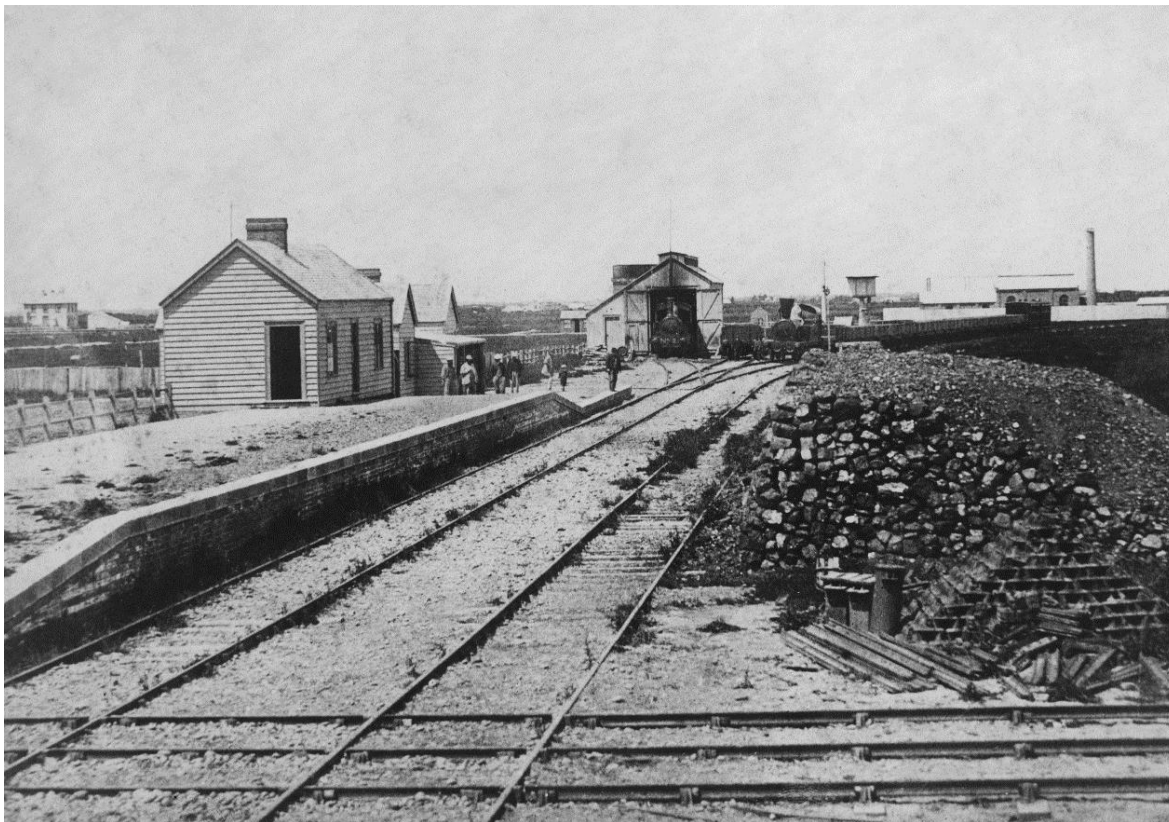
<sup>215</sup> Pierre, p. 30.

<sup>216</sup> Pierre, pp. 29, 127.

<sup>217</sup> J. D. Mahoney, *Down at the Station: A Study of the New Zealand Railway Station* (Palmerston North: Dunmore Press Ltd, 1985), p. 25.



*Figure 21. Engraving of the original Christchurch Railway Station complex as built, 1863-64. From left: goods shed and siding, what is believed to be the Refreshment Rooms, main station building and privies attached to eastern wall of station. Locomotive N<sup>o</sup> 1 'Pilgrim' with short train at platform, waiting to depart for Ferrymead Wharf. Photograph: Mahoney, p. 25.*



*Figure 22. Christchurch Railway Station, 1864. Locomotive N<sup>o</sup> 1 on train approaching from Ferrymead Wharf; engine N<sup>o</sup> 2 in locomotive shed at centre. The road in the left background is the present-day Moorhouse Avenue. Photograph: New Zealand Railways, publication E994, courtesy New Zealand Railway & Locomotive Society.*

eyes, it was entirely inappropriate for what was wanted. It was a colonial building in design and scale, and the early Cantabrian settlers wanted a railway station like those they would have known in England.

It is worth noting at this point that the Canterbury Railways, as built and operated, were seen as a model of English railway practice, transplanted to the Antipodes. The locomotives were typical of those used on English branch lines; the rolling stock could have been used on any English main line railway of that period. The chaired track and bullhead rails were then-current practice on English railways, though now being rapidly superseded by flat-bottomed 'I' rails. The only colonial feature in an otherwise wholly English railway were the stations, and only because money for stations like those in England was scarce.<sup>218</sup> For a province that prided itself on being a slice of transplanted England, the thoroughly colonial terminus in Christchurch would have been something of an embarrassment by 1876. Nonetheless, it had been at the heart of several important moments in the history of New Zealand, and none more so than the arrival of New Zealand's first Royal Train, bringing the recently-arrived Duke of Edinburgh, Prince Albert, from Lyttelton in 1869.<sup>219</sup>

The question of a new station had been around for some time, at least since 1872 when FitzGerald's *Press* complained that the station was too far from the city itself, and wryly suggested running a line into Cathedral Square – if Christchurch could not have its Anglican cathedral, a reasonable railway station would perhaps suffice. Later that year, another proposal was made by three Christchurch residents – William Wilson, T. M. Hassal and a Mr. de Bourbel – who proposed building a 'central' station on a site bounded by Cashel, Lichfield, Barbadoes and Madras Streets, and connected to the existing railway lines by a section of double track running down to the site of the present-day Waltham Road overbridge. Their terms, although seemingly reasonable, did not appeal to the Provincial Council, and projected traffic returns suggested the promoters may have been over-

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<sup>218</sup> Pierre, p. 43.

<sup>219</sup> Pierre, p. 43, only refers to the Duke by his title.



optimistic in their appraisal. An alternative, as suggested by Railway Engineer Thornton, proposed a line that would have run from Colombo Street to Durham Street and thence up to the Provincial Council yard on Worcester Street, the site of which Pierre noted as being occupied by Captain R. F. Scott's statue. This scheme too did not find favour – what Christchurch needed was trams, still eight years distant and which would connect Cathedral Square with both the Railway Station on Moorhouse Avenue, and Papanui Station on the Northern railway.<sup>220</sup>

The new Christchurch station, as finally planned, was further along Moorhouse Avenue to the west of its predecessor, located in the area of what is now Washington Way. The Provincial Council voted £10,000 for its construction; the final cost, as tendered by a Mr. James Tait on 23 September 1876, was £7,072.<sup>221</sup> As specified from the original tender documents, the buildings themselves were to be built of 'local stone' and 'bricks of uniform colour', with concrete foundations and native timbers used for the interiors. Rather than an architect, the Provincial Council's employed the services of Railway Engineer Warner to design the station; his final design, as built, comprised a neo-Gothic main building and two platforms with four carriage sidings between them. Although reckoned historically as Christchurch's second station, it was not – as Mahoney notes, there was a temporary narrow-gauge station from early March 1876, west of the old broad-gauge station and which handled all of the narrow-gauge traffic until the new station opened, on 21 December 1877. It was considered by some, though by whom Mahoney does not state, to be "the most perfect in New Zealand... and one of which Christchurch may be proud."<sup>222</sup>

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<sup>220</sup> Pierre, pp. 56-8.

<sup>221</sup> File on new Christchurch Railway Station, box CP291, ICPW 110/1877, ANZ.

<sup>222</sup> Mahoney, pp. 108-10.



*Figure 23. Front elevation of second Christchurch Railway Station along Moorhouse Avenue, 1877. Photograph: Pierre, p. 6.*



*Figure 24. Platforms 1 and 2 at the Christchurch Railway Station, 1878. Additional carriage sidings and passing tracks between platform lines, with at least three 'C'-class six-wheel narrow gauge carriages present. Photograph: Pierre, p. 100.*

The new Christchurch Railway Station was a more fitting terminus than the old broad-gauge station with its colonial cottage-like appearance, and no doubt would have been regarded

by the Canterbury citizenry as a fine continuation of Christchurch's Gothic architectural tradition. This tradition was one of importance to Cantabrians of the time, and particularly because of its origins in England. Professor of History at the University of Canterbury, Katie Pickles refers to it as 'Neo-Gothic' when referencing how it first came to New Zealand:

While the first European pioneers were trying hard to create God's own country – a South Pacific Garden paradise of enlightened minds – many of the shrines they built revived a Gothic architectural style. Neo-Gothic architecture, characterised by pointed arches, rib vaults, flying buttresses and large windows with elaborate ornamental stonework, was popular in Britain at the time Christchurch was colonised. The style was dramatic, drawing the eye sharply and clearly to the heavens, and proclaiming Christian civilisation and improvement.<sup>223</sup>

Pickles may be right about the ecclesiastical use of Gothic Revival architecture, but it was not limited solely to that field in Christchurch, or, for that matter, the rest of New Zealand. Architectural historian John Stacpoole notes that by the 1860s, New Zealand and its ideas on architecture had changed significantly. Gothic Revival had gained a colonial acceptance, not only for churches but for public buildings and even private homes.<sup>224</sup> It was not a universal acceptance, but it found its greatest acceptance in Christchurch. The 1860s, of course, was also the point at which the 'Battle of the Styles', to use the term of renowned British architect, Sir Banister Fletcher, was at its highest pitch.<sup>225</sup> Between 1830 and 1900, the Classic and Gothic styles of architecture vied for contemporary acceptance in England, and, by Stacpoole's inference, it was neo-Gothic, or Gothic Revival as Stacpoole terms it, in

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<sup>223</sup> Pickles, p. 99.

<sup>224</sup> John Stacpoole, *Colonial Architecture in New Zealand* (Wellington: Reed, 1976), p. 51

<sup>225</sup> Sir Banister Fletcher, *A History of Architecture on the Comparative Method* (London: The Athlone Press, 17<sup>th</sup> ed. 1961, reprinted 1963), p. 986.

favour in the 1860s. The European settler populace of New Zealand would have been well aware of this architectural debate, and brought it with them when they migrated to New Zealand. There is no fixed date on which Gothic Revival petered out in New Zealand, but it would seem likely that it did so at the same time as England. It would not be wrong either to suggest that Warner's Christchurch Railway Station of 1870 was possibly among some of the last Gothic Revival buildings to be built in New Zealand.

One feature which contemporary historians have overlooked, however, is one small part of Warner's original design which was never translated into reality. In a letter to the Canterbury Secretary for Public Works in September 1876, Warner recommended building a 'train shed' over the tracks between the platforms, an iron-and-glass protective canopy to keep the weather off the carriages and passengers alike. His recommendation went on to suggest that it could be made in England for £1,700 including its assembly at Christchurch; the reply from the Secretary was whether it could be made locally instead, either in Dunedin or Christchurch.<sup>226</sup> The motives for this are lost but the most likely seems to be financial. Whatever the reason, the train shed was not built and simple platform verandahs were provided instead. Very few stations in New Zealand had the colonially-extravagant luxury of a train shed, other than the Invercargill station of the Oreti Railway. Closely following English influence – and with a suggested resemblance to the wooden-roofed train sheds designed by Isambard Kingdom Brunel for the Great Western Railway in England – Invercargill was a polar opposite to Christchurch, as Mahoney notes:

“Staffan (in *New Zealand Architect's Journal* 1965) said it was ‘a surprisingly different and specialised building based closely on prevailing British practice.

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<sup>226</sup> File on new Christchurch Railway Station, ANZ.

Unlike Madras Street (Christchurch), Invercargill did set a precedent for future railway architecture but it was not followed...<sup>227</sup>

Historically, this could be seen as something of an irony for the Canterbury Railways – while they had to make do with a mean station despite its apparent financial prosperity in 1863, the cash-strapped Southlanders could afford an extravagantly English station as a bizarre compliment to their wooden railway and unorthodox-looking equipment. The course of



*Figure 25. Model of the 1864 Invercargill Station, as built by the Oreti Railway. Model of steam locomotive N<sup>o</sup> 2 protruding from decorative end of train shed at right. Photograph: Mahoney, p.*



*Figure 26. Invercargill Station; opening day of the Oreti Railway, 18 October 1864. Locomotive N<sup>o</sup> 2 at far right, heading official first train. Although poor quality, this image is the only known photograph of any locomotive at work on the Oreti Railway. Photograph: Petrie, p. 157.*

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<sup>227</sup> Mahoney, pp. 27-8.

railway architecture, though, did not favour simply cloning English railway practice, as was later the case with the engineering aspect. Vogel's Public Works Policy was concerned with building railways as cheaply as possible, so as to be able to build more of them with considerably less financial capital. Station design was pared back in favour of building – or buying – trains and laying tracks to run them on, and only very rarely did station design in the period between 1870 and 1899 approach anything like that of Christchurch. It is worth noting that Christchurch did set something of a precedent for future stations though. It had proper raised station platforms and weatherproof verandahs to protect the passengers, both features of contemporary English practice, and which would later become a feature of many New Zealand railway stations in years to come.<sup>228</sup>

While the Provincial Government gave its attention to the new station at Christchurch, the broad gauge was already in retraction as it made way for the narrow gauge. There might have been several notable exponents of the broad gauge in Canterbury, but their arguments no longer added up and particularly where finance was concerned. Writing in the 1875 Public Works statement on railways for the House of Representatives, Colonial Public Works Engineer-in-Chief John Carruthers highlighted just how expensive the broad-gauge Canterbury Railways were in comparison to the narrow-gauge Dunedin & Port Chalmers Railway (D&PCR).<sup>229</sup> Although better appointed and engineered than the D&PCR, the Canterbury Railways were also considerably more expensive to operate and the carriage costs as quoted by Carruthers bear this out. Most were double that of the D&PCR, and only one figure – the cost of a second-class ticket, at two pence per mile – was the same on both. Reducing the carriage rates to those of the D&PCR would be detrimental to the health of

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<sup>228</sup> Mahoney, pp. 35-6.

<sup>229</sup> Public Works Statement, *Appendix to the Journals of the House of Representatives* (AJHR), 1875, E-3A, pp. 33-4.

the Canterbury Railways, and Carruthers estimated a loss of £15,486 per annum, with a working loss of £312 besides interest if such a rates reduction was to take place. With double the costs of the narrow gauge, Carruthers could not see the broad gauge as a viable option for New Zealand as a whole. By the time Carruthers made his report, however, the broad gauge was in its final years. The report, if anything, only served to vindicate Vogel's decision in favour of the narrow gauge and firmly rebut the arguments of the few remaining provincial broad-gauge advocates for the final time.

# Conclusion

## From Provincial to National Control – 1876

When New Zealand's first railway opened between Christchurch and Ferrymead in December 1863, few of those present would have been able to conceive what the following thirteen years would bring. Most, in fact, seemed more willing to incredulously consign the visionary foresight of former Superintendent, William Moorhouse, to the realms of fantasy. Nearly thirteen years later, however, the fantasy would become reality when the railways to Timaru and Amberley opened for traffic in February 1876. It was the great fulfilment of Moorhouse's prophecy from the banquet in the goods shed at Christchurch Station in 1863, where he had expressed his belief that one day it would be possible to "breakfast at Christchurch and dine at Timaru; in fact they would journey to the extreme limit of the province transact business and return to town in a day."<sup>230</sup> What Moorhouse may not have seen, however, was the effect that Canterbury's first foray into railway-building would have on New Zealand as a whole. As previously noted, Julius Vogel – by now, Premier of New Zealand and recipient of two honours – had been inspired by Moorhouse's vision, and had begun to replicate that on a nation-wide scale.<sup>231</sup>

What neither Moorhouse nor Vogel would have seen, however, was the radical changes that would be brought to the political landscape of New Zealand thanks to the railways. Their expansion, according to Neil Atkinson, made centralization "irresistible."<sup>232</sup> Likewise, André Brett agrees that railways helped to facilitate centralization, an argument which he

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<sup>230</sup> THE FIRST RAILWAY IN NEW ZEALAND, *Lyttelton Times*, Volume XX, Issue 1165, 3 December 1863.

<sup>231</sup> Dalziel, pp. 202-03, 213; Kemp, p. 157.

<sup>232</sup> Atkinson, p. 38.



notes “is not new,” but suggests that the way in which they did so and obtained a “nation-building purpose...needs to be examined in greater detail.”<sup>233</sup> Both Atkinson and Brett, however, are only focused on railways as one factor within the wider context of Provincial abolition. For Raewyn Dalziel and history student Laurence Denny, however, the factors behind abolition were both political and geographical. The Provincial governments were in financial and political decline as the General Government began to take over key areas of its traditional powers.<sup>234</sup> The Provincial system was a legacy of the earliest days of settlement when communication was difficult and central administration impossible; by the 1870s, there was a need for change, as Denny states:

“With regard to Abolition itself, it is generally recognised now that the Act was bound to come sooner or later...When population and wealth increased, when artificial means of communication were overcoming the effects of distance, when interprovincial jealousies were threatening to become unwieldy and menacing, then it was time to abolish the Provinces.”<sup>235</sup>

The abolition of the Provincial governments was never going to be easy, but Vogel and his allies finally managed to achieve it, on 1 November 1876.<sup>236</sup> This key legislation both expanded the powers of the General Government, abolished the old Provincial system, and resulted in the formation of a county and borough council system to replace it.<sup>237</sup> With the demise of the provinces, came the demise of the individual railways they had created. All were taken over by the Government and vested in the control of the Public Works

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<sup>233</sup> Brett, p. 141.

<sup>234</sup> Dalziel, p. 176.

<sup>235</sup> Laurence Radford Ryan Denny, ‘William Rolleston: A Maker of Canterbury and a New Zealand Statesman’, MA thesis (History), University of Canterbury, 1921, pp. 74-5.

<sup>236</sup> Leitch and Stott, p. 10; Petrie, p. 96.

<sup>237</sup> K. R. Cassels, *The Sanson Tramway* (Wellington: New Zealand Railway & Locomotive Society, 1962), p. 3.

Department (PWD), along with the few lines which had been paid for by the Government, and built by private contractors. It would not be until 1880 that the railways would be separated into their own Government department – the New Zealand Railways Department, alternatively known as the New Zealand Railways (NZR).<sup>238</sup> Officially, the Railways Department had existed since 1877, when its operating lines were separated from those under construction by the PWD, but it was under the control of a Commissioner in each island. It would not be until 12 October 1880 that the railways of the North and South Islands would be united under Joseph Maxwell, the first General Manager of the NZR. At that time, New Zealand had a total of 1,770km (1,099m) of railways; of that, at least 395km (245m) came from the Canterbury Railways when the Provinces were abolished four years earlier.<sup>239</sup>

What is not widely noted by enthusiasts though is that the PWD did not simply take over the Provincial railways. More recent histories such as Neill Atkinson's *Trainland*, Gerald Petrie's *In the Beginning*, or Geoffrey Churchman and Tony Hurst's *Railways of New Zealand* only note that the provinces were abolished, while ignoring the process of how it was achieved.<sup>240</sup> Nor does William Pierre's definitive history of the Canterbury Railways discuss the topic in any length. This leaves the actual process somewhat open to interpretation, but there was no takeover as might have been suggested. Instead, the Government paid for the railways, as part of its plans to create a trunk railway network. That this was the end goal is clear from a letter between William Rolleston and then-Colonial Minister for Public Works, Edward Richardson, written on 5 August 1874. The General Government at that time was preparing to purchase the Bluff Harbour and Invercargill Railway; Rolleston, understanding

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<sup>238</sup> Churchman and Hurst, p. 19; Leitch and Stott, p. 15.

<sup>239</sup> Leitch and Stott, p. 20; Pierre, p. 54.

<sup>240</sup> Atkinson, p. 38; Churchman and Hurst, p. 18; Petrie, p. 96.

that the Government would need to buy the Canterbury Railways as part of any trunk network, was ready to negotiate terms once his Provincial Executive had approved them.<sup>241</sup>

That he was willing to do so stands in marked contrast to the established historical picture of Rolleston the determined provincialist, who would eventually go on to fight a losing battle against Provincial abolition, and even beyond its inevitable conclusion in 1875.

Abolition became something of a fixation for Rolleston, as Laurence Denny notes; it dominated his political outlook even during the transitional period of 1875-76, and thus cruelly exposed him to criticism from opponents who understood both the necessity, and inevitability, of Provincial abolition.<sup>242</sup>

At the time Rolleston penned his letter to Richardson, however, Provincial abolition was still only in the distant future. It is unclear why Rolleston was willing at this time to cooperate with the General Government; the Canterbury Railways were a source of Provincial pride and Rolleston even claimed during the opening of the Christchurch to Akaroa Road in 1872 that Canterbury possessed more miles of railway than any other part of New Zealand.<sup>243</sup>

That willingness of cooperation was not acted upon immediately though, as the next correspondence on the subject took place over eight months later, on 15 April 1875, when Richardson wrote back to Rolleston on the proposed method. He also enclosed a copy of the proposed valuation, to be carried out by three valuers – one chosen by Richardson as Minister for Public Works, one by Rolleston as Superintendent of Canterbury, and the third by the first two valuers. In the event that there was any disagreement on the financial worth, Richardson had the power to take the value of any two valuers, and ratify it as the

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<sup>241</sup> Honourable E. Richardson to Superintendent - valuation of Canterbury railways. Filed with 909.1, 3068 of 2/08/1874 (Superintendent) - 15/04/1875, box CP157, ICPS 909/1875, ANZ.

<sup>242</sup> Denny, p. 74.

<sup>243</sup> Denny, pp. 43-4.

purchase amount for the railway and any assets included with it. This latter point is worth noting, as the valuers would have ultimate power to decide whether or not any of the Canterbury Railways' equipment would be included in the purchase, depending on factors such as use, fair pricing by the Provincial Council, or the ability of the PWD to purchase any sort of equivalent in New Zealand. Land values would not factor in, except where that land had been purchased expressly for use by the railways.<sup>244</sup>

There is no clear date from Richardson's letter as to when the valuation was to take place, but there is every reason to believe that it would have taken place sometime between mid-1875 and November 1876, when the Provinces were abolished. The Government also carried out a similar valuation exercise with the Otago Provincial Council over the railways it owned or leased, a fact attested to both by Bob Stott and David Leitch in their history of the New Zealand Railways up to 1988, and also by the official Appendices to the Journal of the House of Representatives. Both agree that the Otago Provincial Council received £372,522.2s.5d. for their railways, but then disagree on the price paid for the Canterbury Railways. Stott and Leitch claim the Government paid the sum of £715,969.9s.8d; Richardson's successor as Minister for Public Works, John Davies Ormond, claimed in his 1877 Public Works Statement that the price as paid was £731,759.<sup>245</sup> Irrespective of which sum is correct, the Canterbury Provincial Council received a significant payment from the Government for their railways, and related assets. The only thing the Government would have been unable to put a price on was the valuable experience that had resulted from Canterbury's railways. As William Pierre put it in 1963:

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<sup>244</sup> Honourable E. Richardson to Superintendent - valuation of Canterbury railways – 15/04/1875.

<sup>245</sup> Leitch and Stott, p. 10.

“[T]hey (the Canterbury Railways) had provided “laboratory” conditions for ascertaining how, and how not, to operate a railway. Here was a small-scale system, in an almost virgin environment, compact and isolated with a great potential awaiting development; here relatively few disturbing influences might obtrude themselves; here it might be clearly perceived where vision was blurred and where sight was clear.”<sup>246</sup>

Not all of that experience was heeded though. Certainly Vogel and his allies understood the need to make the railways cheaper if they were to build any number of them in such a short timeframe. They were also prepared to dispense with certain facets of contemporary English railway operation in the knowledge that such facets were either too expensive, or outright impractical, under colonial conditions. At least one lesson not learned though was the interference of political patronage; what had happened at Rangiora in 1871-72, and with the Eyreton branch line of 1875, would later be recreated on a nationwide scale as settlers clamored for railways in areas that were not always capable of supporting them. Consequently, these branch lines were among the first to be culled; the NZR closed a few such lines in the 1930s, but it was until the 1950s that the wholesale closure of branch lines would begin.<sup>247</sup> Another lesson not learned from Canterbury’s experience was the need for improved safety systems such as automatic train brakes, fixed signals and single-track occupancy. In the end, the cost-conscious NZR management would have to learn the hard way, when two trains collided at Rakaia on 31 March 1899 and highlighted just how far behind the railways were, both technologically and in terms of safety mechanisms.

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<sup>246</sup> Pierre, p. 172.

<sup>247</sup> Churchman and Hurst, pp. 29, 35.

If there was one thing that the Government got right from Canterbury's experience, it was the need for a single, universal track gauge. By not stipulating a national gauge in the 1860s when rail first began to feature on Provincial agendas, the Government created an almost intolerable situation with multiple track gauges and the potential for multiple headaches.<sup>248</sup> The Railway Act of 1870 may have solved one problem when it stipulated the narrow gauge of 3 ft. 6 in, but then created another when the new national standard came into contact with preexisting Provincial standard and broad gauge lines. This in turn put pressure on the Provincial Governments to fall in line and convert to the narrow gauge in the sake of conformity. Whereas both Otago and Auckland had fairly short lengths of 4 ft. 8½ in. standard gauge railways, which could – and were – converted fairly easily, Canterbury had a much harder task thanks to the expansive nature of its 5 ft. 3 in. broad gauge lines.<sup>249</sup> As late as February 1876, Canterbury still had over 53m (86km) of broad gauge railways, as well as over 191m (308km) of narrow gauge.<sup>250</sup> The narrow gauge mileage might well have been larger by then, if the advice of a Provincial Select Committee on railway gauges had been heeded in 1871; the only reason it was not was that the Provincial Council felt it would seriously delay construction of the railways to Rakaia and Rangiora. This in itself might seem reasonable, since the Provincial Council did not have any narrow gauge rolling stock to hand, and the time-lag between placing orders for equipment in England and its subsequent arrival in New Zealand. What was not considered at the time, though, was the longer-term implications of using a wider gauge. All the Provincial Council managed to do was to

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<sup>248</sup> Pierre, p. 85.

<sup>249</sup> Petrie, pp. 14-15, 168-69.

<sup>250</sup> Pierre, p. 54.

temporarily isolate Canterbury from the rest of the South Island, and thus incurred the need to provide for future gauge conversion of its Northern and Southern lines.<sup>251</sup>

The gauge conversion process began in 1874, when the Rakaia-Dunsandel portion of the Southern line was re-laid to the 3 ft. 6 in. narrow gauge as an extension of the narrow gauge line south to Ashburton. By February 1876, it had reached Rolleston, but Christchurch was not reached until that March, and Lyttelton the following month.<sup>252</sup> The conversion method as chosen involved laying a narrow gauge line inside the broad gauge tracks, and then removing the broad gauge rails to lay the next section of narrow gauge. This was far more practical than laying a third rail to give narrow gauge throughout the Canterbury network, as would be done by the Great Western Railway in England when they began a similar process.<sup>253</sup> Laying a narrow gauge line inside the broad gauge one was considerably more practical; not only could the existing broad gauge sleepers be reused, there would be no need to provide any such packing to match the height of a new narrow gauge rail to that of the larger, preexisting broad gauge rails north of Rolleston. To further help the process, the Provincial Council borrowed eleven miles of narrow gauge rails and their associated fittings from the General Government, allowing an equivalent number of broad gauge rails to be used in the conversion of the line between Addington and Lyttelton. That latter change had to be made quickly, since the transshipping process caused more confusion and delay within Christchurch itself than anywhere else in Canterbury.<sup>254</sup> With less need for broad gauge locomotives, Canterbury Railways chose to retire its old N<sup>o</sup> 1, the original broad gauge locomotive of 1863 once known as *Pilgrim*, and left the Northern line to be run by eight of

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<sup>251</sup> Pierre, p. 86.

<sup>252</sup> Dew, 1988, pp. 27-28; Pierre, p. 54; Petrie, pp. 86, 91.

<sup>253</sup> Colin Garratt, *The Golden Age of Steam: A celebration of the locomotive from 1830 to 1950* (London: Anness Publishing Ltd, 1999), pp. 12-13.

<sup>254</sup> Pierre, pp. 88-91.

the remaining nine locomotives.<sup>255</sup> The ninth broad gauge locomotive was the Lyttelton shunter, which apart from a trial run to Rangiora on 10 March 1874, remained at Lyttelton permanently.<sup>256</sup>

The Northern line, on the other hand, was not converted straight away. Perhaps Rolleston was to blame for this; Pierre quotes him as having said that it was “understood on all sides that the northern line [was] to remain on the broad gauge...”<sup>257</sup> There was no such understanding. Thanks to Vogel, the General Government had plans for a national network of 3 ft. 6 in. railways, and the presence of a single, isolated 5 ft. 3 in. line in Canterbury did not fit in with that. Eventually, the gauge conversion did take place, but more than a year after Provincial abolition. Workmen were brought in from as far afield as Dunedin to assist with the conversion of the Northern line, which took place on 20 December 1877. That the work was carried out in one day, albeit with some minor finishing the next day between trains, indicates just how much preparatory work was put in before the actual changeover.<sup>258</sup> By now, the Canterbury Railways had become the Christchurch to Moeraki Section of what would later become the New Zealand Railways, thanks to the completion of the line between Timaru and Oamaru in November 1876. At that time, the furthest point south reachable by rail was the coastal town of Moeraki, at least until 7 September 1878 when the railway between Christchurch and Dunedin was opened for traffic.<sup>259</sup>

With the former Canterbury Railways now converted to narrow gauge, the question remained of what to do with the former broad gauge locomotive stock. According to Gerald Petrie, the broad gauge equipment was held at Lyttelton, but this seems unlikely given the

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<sup>255</sup> Pierre, p. 91; Petrie, p. 100.

<sup>256</sup> Petrie, pp. 74-6.

<sup>257</sup> Pierre, p. 91.

<sup>258</sup> Dew, 1988, p. 47; Petrie, p. 99.

<sup>259</sup> Churchman and Hurst, p. 179.



size and location of the railway yards there at the time. Contemporary photographs of the Lyttelton yard suggest that it would have been impossible to stable 313 broad gauge carriages and wagons, and ten locomotives. Of those, nine were in working order; the tenth was the former N<sup>o</sup> 1, stripped of its boiler which had been installed in the boiler house at the Carlyle Street Workshops.<sup>260</sup> Instead, it is more likely that only some of the rolling stock was stored at Lyttelton; the rest would have been either stored on the former Ferrymead branch line, or in the yards at Christchurch. That the latter location was used is attested to in an 1877 photograph of a narrow gauge J-class locomotive by the Christchurch engine sheds, which also shows at least two boarded-up broad gauge carriages in the background.<sup>261</sup> The locomotives would probably have been held at Christchurch too, where they could be kept under cover to prevent any deterioration pending sale.

As noted earlier, the Australian states of Victoria and South Australia also used the 5 ft. 3 in. broad gauge, and so both were approached by the New Zealand Government to see if they would be interested in purchasing the redundant broad gauge stock. There was no interest from the Victorian State Government; their counterparts in South Australia, however, were more than interested and eventually brought the locomotives and rolling stock for £14,500.<sup>262</sup> At that time, the South Australian Railways (SAR) needed more rolling stock to keep up with demand, and had been advised the former Canterbury equipment would be suitable for their use. Consequently, the South Australian Government dispatched its Engineer-in-chief, Henry Mais, to New Zealand in early 1878 inspect the rolling stock and negotiate sale terms.<sup>263</sup> With his background in railways, Mais was an ideal person to

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<sup>260</sup> Pierre, pp. 98-9, 138; Petrie, p. 100.

<sup>261</sup> See Pierre, p. 129 and Petrie, p. 90.

<sup>262</sup> Pierre, p. 128.

<sup>263</sup> Ian Church, *The Wreck of the Hyderabad* (Palmerston North: Dunmore Press, 1978), pp. 38-9.

examine what the New Zealand Government was offering. He had considerable background in railway engineering both in England and Australia, most notably with the Sydney Railway Company as their Acting Engineer between 1850 and 1852.<sup>264</sup> On his trip to New Zealand, Mais was assisted by a Mr. Grayson, described only as the foreman of the Adelaide Railway Workshops, and who was responsible for inspecting the locomotives.<sup>265</sup>

Everything being in order, Mais acted to purchase the locomotives, stock and spare parts, while the South Australian Government chartered the SS *Hyderabad* to carry its new purchases to Adelaide. In the end, the *Hyderabad* was unable to carry all of the equipment; the remainder, comprising three locomotives and an unspecified number of wagons and carriages, were carried aboard the SS *Bulwark*.<sup>266</sup> Unluckily for the South Australians, the *Hyderabad* never made it to South Australia, instead being blown by a storm onto Waitarete Beach, between Otaki and Foxton on the south-western coast of New Zealand's North Island just two days after it left Lyttelton. While Pierre noted that the hull of the *Hyderabad* was abandoned as unsalvageable, the locomotives and rolling stock aboard were safely recovered and delivered on to Adelaide where they were put into working order.<sup>267</sup> The same luck did not quite extend to the former Otago Provincial Council, however. They had sold their former standard gauge stock from the Bluff Harbour and Invercargill Railway to the New South Wales Government in November 1874, only to lose it when the vessel carrying it to Sydney, the *Cezarewitch*, sank off the Fiordland coast on 25 June 1876. The

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<sup>264</sup> O'Neill, "Mais, Henry Coathupe (1827-1916)", *Australian Dictionary of Biography*.

<sup>265</sup> Church, p. 39.

<sup>266</sup> Church, p. 40; Pierre, p. 128; Petrie, pp. 69-71, 73-4, 76.

<sup>267</sup> Pierre, p. 128.

delay between sale and attempted delivery was due, as Gerald Petrie states, to the need to replace the standard gauge equipment with new narrow gauge stock.<sup>268</sup>

With the departure of the last broad gauge stock, came the end of the broad gauge Canterbury Railways. The former Ferrymead branch line was finally closed in December 1877, and the tracks were removed not long after.<sup>269</sup> Most of the old features associated with the Canterbury Railways slowly disappeared over the next ninety years; by the time W. A. Pierre wrote his treatise on the first railway in New Zealand, the only remaining traces of note to him were short sections of double-headed rail, mostly in remote rural sidings, and occasional points-levers with the initials 'C. R.' cast on the handle.<sup>270</sup> There were of course other remaining relics, but Pierre instead displayed the limited focus of a railway enthusiast, and only referenced the remains which interested him – namely, the railway lines themselves. Further afield, the former broad gauge stock gave good service to the SAR; the last two locomotives were not withdrawn until 1929.<sup>271</sup> Of the rolling stock, unfortunately little is known of its demise. The Lyttelton Tunnel continued as part of New Zealand's national rail network, though with little official recognition of its importance. Government historian Gavin McLean claimed in 2002 that there was no monument to recall the significance of the tunnel, whose Lyttelton end had ignominiously ended up supporting the entrance to the later, Lyttelton Road Tunnel.<sup>272</sup> McLean's assessment was not entirely correct; both the Institution of Professional Engineers New Zealand (IPENZ) and Heritage New Zealand have recognized the tunnel's significance to our transport heritage in their own way. As part of their "Engineering to 1990" sesquicentennial project IPENZ placed a

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<sup>268</sup> Petrie, p. 171.

<sup>269</sup> Dew, 1988, p. 13.

<sup>270</sup> Pierre, p. 110.

<sup>271</sup> Pierre, p. 128; Petrie, p. 100.

<sup>272</sup> McLean, p. 79.

plaque near the tunnel to commemorate its achievements;<sup>273</sup> four years later, in 1994, Heritage New Zealand, as the Historic Places Trust, granted it the highest possible heritage rating of Category 1, under the name “Moorhouse Railway Tunnel”.<sup>274</sup> McLean, however, ignores both and asserts that the tunnel has no heritage recognition or protection.

The still-active Lyttelton Railway Tunnel is not the only location or feature of the Canterbury Railways to have been recognized historically though. On 1 December 1950, a commemorative plaque was placed close to the site of the old Ferrymead Railway Station on Bridle Path Road by the Canterbury Pilgrims and Early Settlers Association. By that time, there was very little left of the site, which would be revisited thirteen years later in 1963 by the Canterbury Branch of the New Zealand Railway & Locomotive Society during the New Zealand Railways Centenary. The only tangible remnants of New Zealand’s first railway were the piles of the old Railway Wharf, part of the railway track bed, and the old Ferrymead Hotel which was now a private residence.<sup>275</sup> That this still existed, and was potentially available, resulted two years later in the creation of a preserved Ferrymead Railway. Today, Ferrymead is home to the Ferrymead Heritage Park, a working museum township which hosts a number of societies and organizations dedicated to the preservation of transport heritage or early life in Canterbury.<sup>276</sup>

For those who labored on the embryonic Ferrymead Railway in 1965, the story of William Sefton Moorhouse and his great push for railways in Provincial Canterbury would have been at mind. There were, of course some similarities between the two, such as the method of

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<sup>273</sup> “Lyttelton Railway Tunnel”, Institution of Professional Engineers New Zealand (IPENZ). URL: <http://www.ipenz.org.nz/heritage/itemdetail.cfm?itemid=121>, sighted 27/04/2017, 11:30pm.

<sup>274</sup> “Moorhouse Railway Tunnel”, Heritage New Zealand Pouhere Taonga.

<sup>275</sup> Alistair Lightfoot, “Preservation in the South”, in *Steel Roads of New Zealand*, ed. Gordon Troup (Wellington: Reed, 1973), p. 235; Dew, 1988, p. 10.

<sup>276</sup> Dew, 1988, p. 10; Dew, 1993, pp. 85-6; Lightfoot, pp. 246-7.

construction and lack of everything from buildings to tools and tracks, all of which needed to be built from scratch or brought in from elsewhere.<sup>277</sup> But whereas the Ferrymead Railway of 1965 was drawn as a working museum, the Ferrymead Railway of 1863 was more than just a working railway. It was the start of more than 150 years of railways in New Zealand, and an economic stimulus to a province which had until then been grappling with transport difficulties. As previously noted, Canterbury had been unable to attract any large numbers of migrants due to the physical – and mental – barrier of the Port Hills. The opening of the Lyttelton Railway Tunnel, and the expansion of the Provincial railway network, would change all of that. Thanks to Moorhouse and his public works plans, and with the earlier assistance of James FitzGerald, Canterbury was opened up to settlement, including the vast plains between Christchurch and Ashburton, which quickly entered agricultural use and thus provided financial revenue for future expansion. The original vision of ‘port to plains’ quickly gave way to a much wider vision of a trans-provincial network, and which would ultimately inspire Julius Vogel to propose a trans-national railway network which New Zealand still enjoys today.

Besides this, the Canterbury Railways provided other benefits. One largely overlooked contribution was that of sports, and in particular rugby. There were already existing rivalries between local and country rugby clubs, as is the case today, but until the coming of the railway, matches were usually held between local teams who could travel to the grounds and home again within the day. As the railway revolutionized transport, however, it became possible for teams from further away to play each other and return home on the same day. Writing on rugby in Provincial Canterbury between 1854 and 1890, Geoffrey Vincent records that the Christchurch to Lyttelton Railway featured prominently in these early matches; first

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<sup>277</sup> Lightfoot, p. 235.

in May 1867, when the Lyttelton Football Club asked to walk through the unfinished railway tunnel to play their Christchurch counterparts in the Heathcote Valley, and again in August 1875 when an extra carriage was attached to the Lyttelton train for the benefit of a visiting Auckland side.<sup>278</sup> With the further expansion under Provincial and General Governments, the railway would also in turn shape interprovincial rivalries, as well as redefining traditional provincial boundaries. For the former, the opening of the Christchurch-Dunedin railway in 1878 facilitated an annual rugby match between Canterbury and Otago from 1880 onwards, while the latter led to the division of Canterbury into North and South regions along the Rangitata River.<sup>279</sup> The tradition of railways and rugby would continue across New Zealand for at least the next 80 years, with teams and supporters alike travelling by train to matches, but not always on their best behaviour as has been well noted by Neill Atkinson's social history of rail in New Zealand.<sup>280</sup>

Like any other state-owned transport operator in New Zealand, the Canterbury Railways were at times polarizing. Sometimes a cause for civic pride, at other times a 'political football' or source of criticism, their services were none the less appreciated by those who found them convenient.<sup>281</sup> Their origins as a national foundation have been recognized both politically – by James Macandrew, former Superintendent of Otago and later Colonial Minister for Public Works, in 1878 – and historically, by the railway enthusiast fraternity.<sup>282</sup> That national foundation would be progressively built upon until 15 December 1945, when

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<sup>278</sup> Geoffrey T. Vincent, "'To Uphold the Honour of the Province': Football in Canterbury c.1854-c.1890", in *Tackling Rugby Myths: Rugby and New Zealand Society 1854-2004*, ed. Greg Ryan (Dunedin: University of Otago Press, 2005), pp. 17, 19.

<sup>279</sup> Vincent, p. 20.

<sup>280</sup> Atkinson, pp. 90-1, 156-59.

<sup>281</sup> Pierre, Chap. 12 is appropriately titled 'Political Football', and deals with the controversies created by the Canterbury Railways.

<sup>282</sup> Pierre, p. 171.

the Minister of Works and Railways, the Right Honorable Robert Semple, would perform the opening ceremony of the Addington to Picton railway, the Main North Line, at Kaikoura Station.<sup>283</sup> This was the final link in the transnational network desired by Julius Vogel; from Okaihau in Northland to Bluff in Southland, New Zealand now had, and still has, a main trunk railway network.<sup>284</sup>

The final word perhaps belongs rightly to Neill Atkinson, who makes a salient observation on New Zealand's relationship with rail transport:

“The old NZR was of course far from perfect; it was, after all, a rough mirror of the society that produced it. Ultimately, ‘Trainland’ was not a creation of steel, coal and timber, buildings, tunnels and viaducts – although naturally those elements were hugely important. Rather, it was made up of people, the thousands of ordinary New Zealanders who ran the railways, journeyed on them, used them, abused them, and made them their own.”<sup>285</sup>

Atkinson may be writing about the old New Zealand Railways, but his comments are just as appropriate to the Canterbury Railways as they are the NZR. Thoroughly English in character, even to the point of occasional absurdness and impracticality, the Canterbury Railways were a reflection of those early Cantabrians who built them, used them, and sometimes abused them for their distinct shortcomings. But inevitably, the railways must be remembered for what they were, a provider of transport that not only changed the future of Canterbury, but acted as an engine of prosperity and development. And above all else, it

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<sup>283</sup> Geoffrey Churchman and Tony Hurst, *South Island Main Trunk* (Wellington: IPL Books, 1992), pp. 77-8.

<sup>284</sup> See Churchman and Hurst, 2001, pp. 92-3 for reference to the Okaihau Branch, and pp. 211-12 for reference to the Bluff Branch.

<sup>285</sup> Atkinson, p. 224.

cannot be forgotten that the Canterbury Railways were the foundation of our modern-day national railway network. Long overlooked, it is time that they receive the historical due not only from the railway enthusiast fraternity, but from the wider historical community as well.



*Figure 27. Excursion train arriving at Timaru, 1880. The leading locomotive is an American-built K-class, assisted by a British-built J-class. Photograph: Pierre, p. 101.*



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ICPW Inwards Correspondence to the Secretary of Public Works

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