THE VOGEL SCHEME of 1870

By T. A. McGavin

Photograph courtesy Alexander Turnbull Library

THE name of Julius Vogel will always be associated with New Zealand Railways, for it was the bold immigration and public works policy he proposed in 1870 that gave rise to development of the railways as a national system. He was Colonial Treasurer at the time, and only 35 years of age, when in his Budget speech on 28 June 1870 he propounded the scheme that certainly startled and excited the community, to say the least.

At that time, with a European population of little more than 250,000, New Zealand had only 46 miles of public railway open for traffic, all in the South Island. There were two sections, Lyttelton-Christchurch-Selwyn and Invercargill-Bluff, and some construction was in hand in Canterbury, Otago and Southland. Ambitious proposals were being aired from time to time in other places, but with little prospect of raising the money needed to put them into practice.

The inauguration of the first short railways in the South Island had constituted a revolutionary change in passenger and freight transport. Roads then were of an extremely rudimentary character, incredibly bad by the standards of the mid-20th century, and journeys of any length were generally therefore made by sea. To get from one part of New Zealand to another, it was in fact sometimes quicker to travel via Sydney!

Most European settlement therefore was scattered throughout the country at places close to ports. Relatively little was known of the interior, and little effective inland development could take place because of the prohibitively high cost of transport.

Far-sighted people could foresee that piecemeal railway construction by individual provincial authorities would ultimately lead to confusion and expensive adaptation of standards and methods when the various sections met, and that such a situation would not aid economic development of the colony as a whole. Their thoughts and ideas were crystallised in Vogel's dramatic immigration and public works scheme expounded in the House of Representatives in his financial statement on 28 June 1870. He asked members to recognise that the time had arrived when they must set themselves afresh to the task of actively promoting the settlement of the country. He said the two great wants of the Colony were public works, in the shape of roads and railways, and immigration.

With respect to railways, Mr Vogel said: "We propose that 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. By 'certain railways', I mean that the Legislature should indicate the direction of the railways for which it is proposed to allow the General Government to contract; and I think that, speaking generally, railways should, in each Island, be designed and constructed as parts of a trunk line. According to the nature of the present traffic should be the character of the respective railways. . . .

"In America, I am told, there are what are called 'revenue railways', that is to say, railways constructed in the manner precisely suited to the traffic, and out of the traffic returns those railways are, from time to time, improved in accordance with the traffic demands. The constructors are satisfied with a moderate speed, and, as an example of the system, they are satisfied to do without expensive stations — indeed, without what we should call stations. . . ."

It is clear that the kind of railways contemplated would be of light construction to minimise the capital cost and enable the largest possible mileage of lines to be laid down with the funds available. The proposed mode of paying for these railways was discussed at length, an expenditure of £1,000,000 a year for ten years being contemplated on public works as a whole. Settlers and colonists gasped at the magnitude of the scheme.

Mr Vogel "supposed" that some 1,500 or 1,600 miles of railway would require to be constructed, and that this could be effected at a cost of £7,500,000, together with two

SIR JULIUS VOGEL, K.C.M.G.

Born in London on 24 February 1835, Julius Vogel was educated at home until he was 15 years old. When his parents died, he went to work in his grandfather's office, but at the age of 17 he emigrated to Melbourne and opened a business. Here he developed interests in journalism and politics. News of the Otago gold rush of 1861 led him to New Zealand in the spring of that year. Shortly after his arrival he was associated with the establishment of the *Otago Daily Times*, and it was not long before his active mind was engaged in both local and national politics. By early 1867 he was head of the Otago Provincial Government. In the General Government, he was a member of the Opposition in the late 1860s until June 1869 when, after the defeat of Stafford's Government, Vogel was appointed Colonial Treasurer, Postmaster-General, and Commissioner of Customs in William Fox's Ministry. His interest in provincial politics now gradually lessened.

The stagnant economic situation in the Colony was just right for Vogel's dramatic Financial Statement of 28 June 1870, when he proposed a vigorous programme of immigration and public works. At the end of the year he left for England and the United States on a loan-raising visit. Upon his return in 1871, he took his seat in Parliament as member for Auckland City East, where he was much more popular than in Otago.

Vogel became Prime Minister in April 1873, but he left New Zealand again in 1874 to raise another loan. He returned in February 1876 as Sir Julius, having received a K.C.M.G. while in England, but his long absence and other factors had reduced his popularity in the Colony. In September he resigned the Premiership to become Agent-General in London, a post that he relinquished in 1880, thereby severing his connection with the Colony altogether.

Three years later, however, during a visit to New Zealand, Vogel re-assessed the political situation, and in 1884 he was returned to Parliament as member for Christchurch North. He had become the symbol of an almost forgotten "boom" prosperity, and with Robert Stout as the nominal head of the Ministry, he assumed power again on 16 August 1884. His policies did not stave off financial difficulties, and in the end the Ministry resigned in 1887. Sir Julius, now 52, returned to London to devote himself to literature and business. He died at Hillersdon, East Molesey, England, on 12 March 1899. His widow did not pass away until 12 August 1933, in London.

A contributor to *An Encyclopedia of New Zealand* (1966) described Vogel's politics as, like his nature, imaginative and occasionally brilliant but reckless and speculative. He was said to be an excellent policymaker, but to need a strong leader to restrain him. His sense of timing was excellent, but he lacked the ability to control his followers, while he was neither determined nor strong enough to withstand unpopularity. This was evident from his tendency to leave the country whenever he became nationally unpopular. Nevertheless the writer concluded that Vogel was a talented man and a gifted politician, and it was a pity his abilities could not have been directed along far more profitable lines for the benefit of the Colony.

Railway construction in the 1870s involved copious quantities of manual labour. This illustration shows work in hand on the cliffs overlooking Blueskin Bay between Mihiwaka and Waitati when the railway northward from Dunedin was being built in 1877.

Photograph: N.Z. Railways Publicity

and a half million acres of land. In addition, about £1,000,000 would be required to carry out the other proposals he was making.

He had assumed that £5,000 a mile should be sufficient, or nearly so, to cover the average cost of cheap railways, including the cost of equipment and rolling stock. He looked upon the land as a margin for exceptionally heavy work.

The Government, headed by William Fox, was so confident that a good deal of the work comprised in these proposals could be effected by guarantees or subsidies, and by land payments, that they sought authority to directly borrow only £6,000,000 in the first instance to carry out their proposals, including immigration.

The result of these proposals was the passage of a series of Acts in September 1870. These were the Immigration and Public Works Act, the Railways Act, the Canterbury Gauge Act, and the Immigration and Public Works Loan Act. The latter provided for the raising of £4,000,000 on the London market, indicating that earlier ideas had now become somewhat modified.

Under the 1870 Railways Act, three railways were authorised to be constructed by contract with the Governor; three were to be constructed in Canterbury; and several more were authorised to be surveyed. Railways to be constructed were lines from Auckland to Tuakau, with a branch line to Onehunga, at not more than £4,000 per mile; from Blenheim to Picton, at not more than £3,500 per mile; Dunedin to Clutha, at not more than £5,000 per mile; Addington-Rangiora, 19 miles, not more than £92,000; Selwyn-Rakaia Bridge, 12 miles, not more than £48,000; and Timaru-Temuka, 12 miles, not more than £67,000.

It was laid down that railways built under the provisions of this Act were to have a width between the rails of 3ft 6in., but some exceptions were made for extensions of railways in Canterbury, where a gauge of 5ft 3in. was in use. The gauge of the railways in Southland was 4ft 8½in., and Auckland's projected line to Drury was to have been built to the same gauge. The decision to adopt a standard gauge of 3ft 6in. was based on the recommendations of a London firm of consulting engineers who outlined the advantages and quoted their experiences with railways of this gauge in Canada, Norway, and elsewhere.

To give effect to the 1870 legislation, the Hon. William Gisborne was appointed the first Minister for Public Works, and an Immigration and Public Works Department was created. As staff was engaged, works were put in hand, including the construction of railways in Canterbury, but work on other railways was not started generally pending the outcome of negotiations in England to raise the initial loans. It was hoped that capitalists would offer to construct these railways on favourable terms. The only construction contracts let before July 1871 were for the first sections of the Dunedin and Clutha Railway.

In 1871, Vogel negotiated agreements in London with John Brogden and Sons, railway contractors, and in August 1872 six contracts were entered into with this firm for the construction of 159 miles of railway as follows:

	m.	ch.	£
Newmarket-Mercer	41	34	168,924
Napier-Paki Paki	18	13	51,667
Wellington-Hutt	8	00	29,016
Picton-Blenheim	17	10	76,534
Dunedin-Clutha	34	55	143,835
Invercargill-Mataura	39	56	88,832
	159	08	£558,808

Further contracts were let to this firm on 19 July 1873 for construction of another 42 miles of railway, bringing the total contracted for up to 201 miles. These additional contracts were for the following lines:

	m.	ch.	£
Waitara-New Plymouth	11	13	41,000
Waitaki-Moeraki (Oamaru to Moeraki portion)	26	08	135,550
Auckland-Newmarket & Onehunga Branch	1	47 2 53	58,049
	41	41	£234,599

Meanwhile the Railways Act 1871, passed on 16 November of that year, had provided for the construction of numerous lines, bringing the total number authorised up to 27 with an aggregate length of more than 750 miles. The railways now authorised to be built were listed in three schedules appended to the Act:

First Schedule (Main Railways)

	miles	£
Kaipara-Auckland	37	111,000
Auckland-Mercer	47	211,500
Napier-Ruataniwha	57	171,000
Wellington-Masterton	70	350,000
Manawatu-Wanganui	58	116,000
Waitara-Wanganui (first section only)	11	50,000
Nelson-Foxhill	20¼	76,950
Blenheim-Picton	20	80,000
Rangiora-North bank of North Kowai	15	75,000
Rakaia-Ashburton	20	65,000
Ashburton-Temuka	32	72,960
Moeraki-Waitaki	40½	162,000
Invercargill-Mataura	40¼	111,000
Winton-Kingston	70	192,500
Tokomairiro-Lawrence	20	100,000
	558	£1,944,910

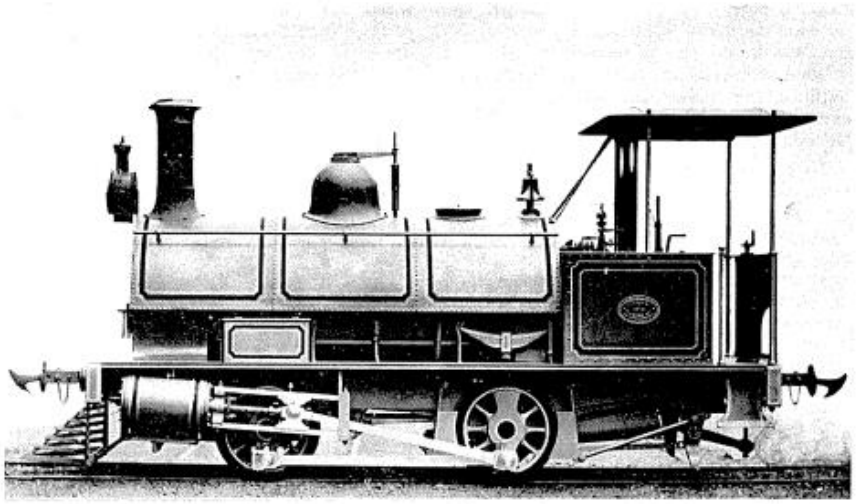
Second Schedule (Coal Field Railways)

	miles	£
Kawa Kawa to place of shipment	8	40,000
Brunner to Greymouth	7	26,250
Mount Rochfort to Westport	12	60,000
	27	£126,250

Third Schedule (Branch Railways)

	miles	
Rangiora-Oxford	21	£153,500
Kaiapoi-Eyretown (sic)	10	
Rolleston-Southbridge	19	
Waimate-Main Line	6	
Malvern-Rolleston	35½	
	91½	

It will be noted that the Dunedin-Clutha, Addington-Rangiora, Selwyn-Rakaia, and Timaru-Temuka lines, authorised by the 1870 Act, were not repeated in the 1871 Act, presumably because the authorisations required no amendment.



Photograph courtesy W. W. Stewart Collection

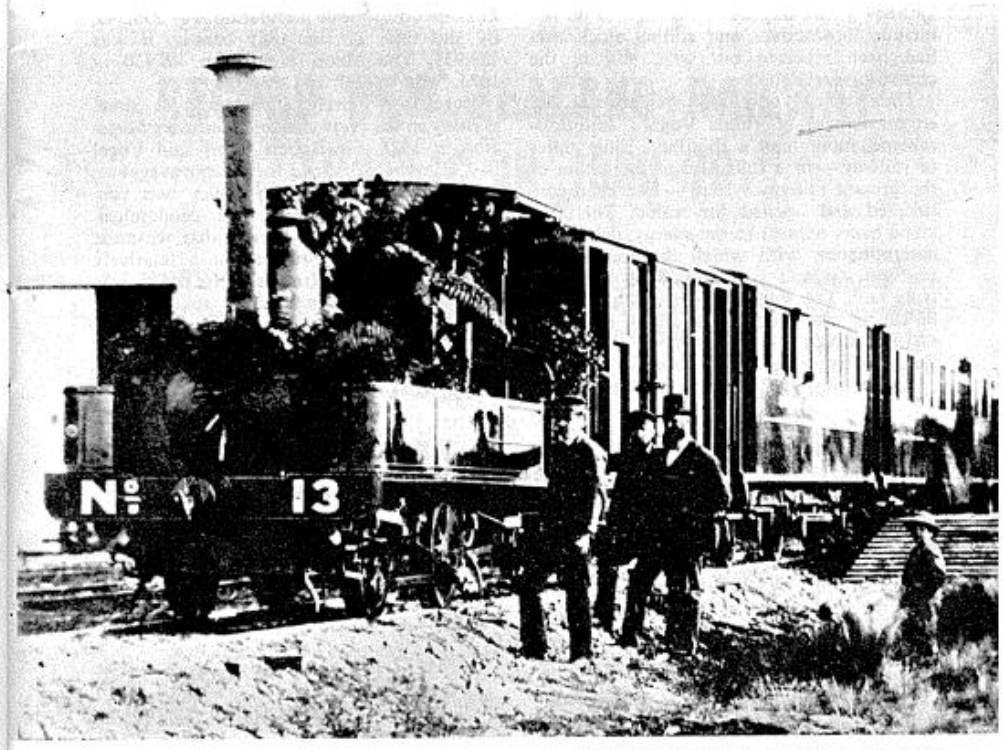
Typical of the locomotives acquired for railways built under the Vogel Scheme was this 15-ton 0-4-0 saddle tank, ten of which were built by Neilson and Co., Glasgow, in 1873.

The widespread character of the railway construction authorised within two or three years from 1870 is evident from the number and extent of lines listed in the Railways Act 1872, which authorised additional appropriations following revision of estimated costs. They penetrated inland from Auckland, Waitara, Wanganui, Foxton, Napier, Wellington, Picton, Nelson, Westport, Greymouth, Lyttelton, Timaru, Oamaru, Port Chalmers and Bluff. By June 1873, 32 miles of the authorised lines and the 8-mile Dunedin and Port Chalmers Railway (a privately constructed line purchased under a provision of the 1872 Act) were open for traffic.

Construction work was actively proceeding on another 405 miles, contracts were about to be let for a further 160 miles, and working surveys and plans were still to be prepared for the balance. The Public Works Department's Engineer-in-Chief, John Carruthers, said public works were being pushed on as fast as the labour market would then bear. The Colony was in so prosperous a state that employment could be found for all available working men even if no public works were going on.

At the same time, July 1873, Julius Vogel, now Prime Minister, was sufficiently pleased with progress to be moved to say in his Financial Statement that he had no doubt the time would come when the rapid manner in which the Public Works Department was organised, and the revolution completed which gave the Colony the charge of the construction of the main lines of communication, would be regarded with astonishment and admiration. He continued: "We have now a Public Works Department, the arms of which extend from one end of the Colony to the other; and which has under its control and management a system of Public Works that will open up communication throughout the two Islands. . . ."

By July 1879, the Engineer-in-Charge of Public Works in the Middle Island, as the South Island was known, was able to report completion of the original public works scheme for that Island. The final link in the 392-mile railway between Lyttelton and Bluff had been opened in January 1879, and Kingston on Lake Wakatipu, 87 miles from Invercargill, had been reached in July 1878. By 30 June 1879, some 797 miles of railway had been completed in the Middle



Photograph courtesy W. W. Stewart Collection

Opening day of the 4-mile Waimate branch line in South Canterbury was 19 March 1877. The long-funnelled locomotive illustrated was one of a group of 14 light (11-ton) machines ordered specifically for Canterbury branch lines, and later classified "A". The rolling stock is typical of the Vogel period.

Island, including short sections at Nelson, Picton, Westport and Greymouth.

In the North Island, 339 miles of railway had been opened for traffic, the principal sections being the 94 miles from Auckland southward to Ohaupo, the 62 miles southward from Napier to Kopua, the 86 miles from Foxton to Wanganui, and the 45 miles from Wellington over the Rimutaka Mountains to Featherston. There were also short sections at Kawakawa, Helensville, and New Plymouth. All of these lines were being steadily extended as fast as limited finance and manpower permitted.

The total expenditure on railways out of Immigration and Public Works Loans to 30 June 1879 amounted to £7,638,000, of which £2,818,000 was spent on North Island railways and £4,820,000 in the Middle Island. This disparity reflected the distribution of population at that time.

From the comprehensive details of expenditure published in August 1879, we find that locomotives and rolling stock had cost £821,000, of which £159,000 was spent in New Zealand. The number of locomotives in service at 30 June 1879 was 152 (53 in the North Island, and 99 in the Middle or South Island). Middle Island rolling stock was not listed in the returns published in August that year, but North Island stock included 117 passenger cars, 38 brake vans,

and 854 goods wagons. These figures do not include locomotives and rolling stock that had been received but were still in the course of erection.

Thus, within only nine years from the announcement of Julius Vogel's ambitious scheme, more than a thousand route miles of railway — or a full third of the extent of the present railway system — had been constructed and opened for traffic. This fact alone bears witness to the energy, drive, and determination with which the foundations of New Zealand Railways were well and truly laid. The Vogel Scheme, as it came to be called, was undoubtedly one of the greatest incentives to development that New Zealand has ever experienced.

At the time of the census in 1871, New Zealand's European population was 256,393. By the time of the 1881 census, it was 489,933. The Maori population, 45,470 in 1874, was 44,097 in 1881.

Vogel was surely a man of his time. Writing in the *New Zealand Railways Magazine* in 1928, Sir Robert Stout said Vogel had often been blamed for his extravagance, but so far as his railway policy was concerned, he was careful and economical. Vogel had consistently urged that we must have long lines of railway at a relatively small expenditure of money. His policy was that we must first have cheap railways and then, as population increased and money became more plentiful, we could increase the equipment of our lines. This, in fact, is just what has happened.

By the 1880s, at least some main-line railways had become established in New Zealand, with a general aspect similar to that shown in the illustration below. This shows a summer excursion train from Christchurch arriving at Timaru, double-headed by a "K" class 2-4-2 and a "J" class 2-6-0. Our early railway builders were clearly not averse to complicated trackwork!

Photograph courtesy W. W. Stewart Collection