1902.

NEW ZEALAND.

PUBLIC WORKS STATEMENT

BY THE HON. W. HALL-JONES, MINISTER FOR PUBLIC WORKS,
16TH SEPTEMBER, 1902.

MR. SPEAKER,—

I have much pleasure in laying before honourable members my seventh annual Public Works Statement.

The work of railway-construction has been carried on with considerable vigour. My colleague the Acting-Premier has already drawn attention in his Financial Statement to the fact of last year having been a record one as regards the proportion of the vote expended within the year. Only £813 remained unexpended at the close of the year, and I am not aware of any previous instance of the unexpended balance of the vote having been so small.

The railway-construction work in hand since my last Statement was delivered has amounted to over 200 miles, and during the same period 29½ miles have been completed and handed over to the Railway Department for ordinary traffic. In addition to this, 36½ miles is now being used for conveying settlers' produce and merchandise; and rails are also laid upon a further 26 miles, still leaving a considerable length of formation in hand.

In the early part of the year the number of men employed was greater than in any previous period since the inauguration of the co-operative system of working. The reason for this will be readily understood when it is borne in mind that for the year 1900–1 the total vote for railway-construction exceeded the amount for the previous year by £224,500. To enable full advantage to be taken of this increased authority from Parliament during the remaining months of 1900–1 and the early part of 1901–2, the number of men was largely increased. The number employed in July, 1901, was 3,337, as compared with 1,742 in July of the previous year. As the summer of 1901 advanced it became necessary to make considerable reductions in order to keep within the vote authorised for the year 1901–2.

For the purpose of enabling a comparison to be made between our rate of expenditure last year and that prevailing previously I have prepared the following table, which shows, as regards each several class of work, (*a*) the total expenditure to 31st December, 1890, (*b*) the similar expenditure between

1st January, 1891, and 31st March, 1902, (*c*) the gross total expenditure to 31st March, 1902, and (*d*) the expenditure for the late financial year:—

Class of Work.	Expenditure.			
	Total to 31st December, 1890.	1st January, 1891, to 31st March, 1902.	Total to 31st March, 1902.	Year ended 31st March, 1902.
	£	£	£	£
Railways, including additions to open lines	14,067,100	4,434,867	18,501,967	1,333,941
Roads	3,575,804	2,390,405	5,966,209	402,260
Public buildings	1,776,003	879,247	2,655,250	145,600
Immigration	2,144,386	3,473	2,147,859	140
Purchase of Native lands	1,191,137	792,094	1,983,231	18,262
Lighthouses, harbour-works, and harbour defences	880,095	97,677	977,772	12,159
Tourist and health resorts	...	11,260	11,260	11,260
Telegraph extension	600,849	337,038	937,887	31,729
Development of goldfields	561,101	140,576	701,677	15,325
Defence-works (general)	429,720	267,116	696,836	146,876
Departmental	349,789	127,298	477,087	17,770
Minor works and services	300,689	9,785	310,474	2,311
Cost and discount, raising loans, &c. ...	1,021,472	41,919	1,063,391	5,620
Totals	26,898,145	9,532,755	36,430,900	2,143,253

From this table it will be apparent that the present Government, while fully alive to the needs of the colony in the important matters of railway-extension and providing suitable and convenient buildings for the use of the several Departments and services of the State, has lent a particularly attentive ear to the requests of the back-block settlers for roads and bridges to open up the rural districts of the colony, the expenditure on works of the character referred to during the rather more than eleven years' term of office of the present Administration having exceeded the rate of expenditure previously prevailing by over 17 per cent., notwithstanding that the total expenditure on public works of all classes during the same period shows a decline of over 37 per cent.

WAYS AND MEANS AVAILABLE FOR PUBLIC WORKS PURPOSES.

At the 31st March, 1901, the ways and means of the Public Works Fund amounted to £1,032,515, and further sums were provided as under:—

	£
Of the loan of 1901 (£1,250,000) the amount received was ...	1,062,667
Transferred from revenue	500,000

There were also miscellaneous receipts to the amount of £2,129, thus making a gross total of £2,597,311. The expenditure last year amounted to £2,143,252, so that at the close of the year the balance remaining was £454,059; and it is proposed to provide additional funds as follows:—

	£
Balance of 1901 loan, less cost of raising, say	99,333
New loan, 1902	1,750,000
Further transfer from revenue	200,000

This will bring our total ways and means up to £2,503,392.

The estimates of expenditure for the current year total to £2,193,052 (in addition to £45,000 under the Government Loans to Local Bodies Account), thus leaving an unallocated balance of £310,340.

RAILWAYS UNDER CONSTRUCTION.

Before detailing the various works that have been in hand, a few words in reference to the amount that is being spent on railway-construction in New Zealand, as compared with some of the other colonies, may not be out of place. I believe a feeling exists in the minds of some persons that we have gone, or

are going, rather far in the matter of providing railway facilities for our settlers, or, at any rate, that our expenditure is out of proportion to the smallness of our population. The Government does not hold this view, and a study of the following table will probably tend to remove any misapprehensions on the subject :—

TABLE showing the POPULATION per Mile of Railway and the EXPENDITURE on Railways opened for Traffic per Head of the Population in the undermentioned British Colonies.

Colony.	Population.	Expenditure on Railways opened for Traffic.	Miles of Railway open.	Population per Mile of Railway.	Expenditure on Railways per Head of the Population.
		£			£ s. d.
Natal	59,596	8,528,989	609	98	143 2 3
Cape of Good Hope ...	458,000	22,946,078	2,003	229	50 2 0
South Australia	362,604	14,326,765	1,882	193	39 10 3
Queensland	507,057	19,739,495	2,801	181	38 18 7
Western Australia	187,660	7,098,239	1,355	138	37 16 6
Victoria	1,204,175	40,145,404	3,228	373	33 6 9
New South Wales	1,366,410	38,932,781	2,818	485	28 9 10
New Zealand	833,137	18,170,722	2,227	374	21 16 2
Tasmania	172,979	3,659,069	445	389	21 3 1

From the above it will be seen that, with the exception of Tasmania, New Zealand's expenditure on railway-construction per head of the population is the lowest in the Australasian or South African Colonies.

We must consider the necessities of our settlers, and provide facilities for conveying the product of their labour to market at the lowest possible cost. We cannot ignore the loss that has occurred in the past by the destruction of valuable timber owing to the absence of means of conveying that necessary article to the centres of population; and, instead of too hastily diminishing our expenditure, we ought to complete our main lines of communication and steadily proceed with the other works now in hand. It was this view of the case that induced the Government to propose larger appropriations for railway purposes during the last five or six years, and the same view actuates me in submitting my present proposals.

Our total expenditure on railway-works (not including additions to open lines) during the last twenty years has been as follows :—

	£		£		£		£
1882–83 ...	318,387	1887–88 ...	347,539	1892–93 ...	208,282	1897–98 ...	194,869
1883–84 ...	367,495	1888–89 ...	216,650	1893–94 ...	168,262	1898–99 ...	194,260
1884–85 ...	451,187	1889–90 ...	184,049	1894–95 ...	171,236	1899–1900 ...	199,580
1885–86 ...	335,789	1890–91 ...	167,093	1895–96 ...	158,618	1900–1 ...	392,691
1886–87 ...	321,629	1891–92 ...	120,729	1896–97 ...	142,514	1901–2 ...	560,712

I will now give a brief sketch of the several railway-construction works which have been in progress since my last Statement was made.

KAWAKAWA–GRAHAMTOWN.

Work has been in hand at both ends of this line—viz., at the north end between Kawakawa and a point eight miles southwards, and in the south between Opau Wharf and Grahamtown; while a survey party has also been at work locating the position of the unconstructed section in the middle. The formation and bridges on the first five miles at the northern end are finished, and the rails laid on four miles and a half—viz., to the point where the ballast-pit line runs off. This latter line, which is a mile and three-quarters long, has also been formed, and the laying of the rails upon it is now in progress. The formation of the balance of the eight-miles section of the main line is about three parts done. At the southern end earthworks have been started, but no great progress has been made, as there is no object in pushing the earthworks at this end until the contractors for the Whangarei Bridge have made some headway with their work. The contract for this bridge was let in May last to Messrs.

Fraser and Co., of Dunedin, for the sum of £6,788. The total length of the structure is 970 ft., including one 30 ft. draw span, and the date fixed for the completion of the work is the 17th April next. The total expenditure on the railway last year, exclusive of the value of permanent-way materials supplied, was £9,327, but allowing for the permanent-way materials it amounted to £16,825. For the current year a vote of £20,000 is proposed.

Helensville Northwards.

Work on the Komokoriki Section has been continued. The excavation of the tunnel has been completed and also the lining of same, and the formation-works are practically finished up to Ahuroa, 2 miles 53 chains beyond the tunnel. Platelaying has been resumed, and on completion the ballasting will be taken in hand.

A survey party has been engaged in locating the extension of the line beyond Ahuroa, and about ten miles have now been fixed, and trial lines run for two or three miles in addition. The question was raised by some local residents as to whether the route by the Hoteo Valley would really be the best for the construction of this railway, and with the view of setting this point at rest a careful examination was made of the Dome Valley and the western (or Green's Creek) routes, but both were found to be inferior to the original surveyed route by the Hoteo Valley, and the line has accordingly been located across the Kaipara Flats to that valley and on by that route towards Wellsford.

"The Railways Authorisation Act, 1901," sanctioned the construction of this railway as far as Wellsford. It is proposed to provide for the further extension to Maungaturoto in the current year's Authorisation Bill.

Owing to bad weather interfering with the progress of the survey, field-work had to be discontinued recently, but will shortly be resumed. The expenditure on this line during the year considerably exceeded the vote obtained for it last session, having amounted to £18,218, or allowing for the permanent-way materials issued to the line to £25,049. For the current year a vote of £20,000 is proposed.

Paeroa–Waihi.

Work on this line has been continued throughout the year, principally on the Karangahake Tunnel. Some very heavy ground has been met with, and progress has consequently been slow.

The rails are laid from the junction with the Thames line at Paeroa to Karangahake. A ballast-pit has been opened out, and a quantity of rock quarried ready for crushing in the stone-breaker which has been procured for the purpose. Beyond the tunnel the formation is about half done for another mile and a quarter. The contractors for the Ohinemuri Bridge, Messrs. J. and A. Anderson, have cast the cylinders in their foundry in Christchurch, and have started work in connection with the abutments and piers at the site of the bridge. As soon as this bridge is completed so as to connect the Karangahake Station yard with the main road on the opposite side of the river it will be possible to open this section of the line for traffic. The expenditure last year was £18,324, or £24,993 allowing for the value of the permanent-way materials used. For the current year a vote of £25,000 is asked for.

Gisborne–Karaka.

A considerable amount of work was done on this line during the year, and the section from Gisborne Wharf to Ormond, 10¾ miles in length, was handed over to the Railway Department and opened for traffic on the 26th June last. For two miles and a quarter beyond Ormond the formation is complete and the rails laid, and for nearly another half-mile the formation is about half done. This brings the line to the site of the Waipaoa Bridge, tenders for which are now being invited. This bridge will be 560 ft. in length, and its erection will probably occupy nearly a year and a half. Beyond the bridge-site survey-work has been undertaken, and the pegs are now in as far as Karaka, and

the plans for the extension have been prepared. This line is only authorised as far as the left bank of the Waipaoa River, and it will therefore be necessary to make provision in the Railways Authorisation Bill of the present session for the extension from that point to Karaka. The expenditure during last year was somewhat heavy, having amounted to £20,556 without permanent-way materials, or £27,381 inclusive of the latter. For the current year a vote of £20,000 is provided.

Stratford–Kawakawa.

The section of the above railway between Stratford and Toko, 6 miles 26 chains in length, the construction of which was only begun on the 1st April, 1901, was sufficiently advanced in June last to admit of goods traffic being carried over it. It has since been completed and handed over to the Railway Department for regular working, and was opened for public traffic on Coronation Day, the 9th ultimo.

Exploration of a number of alternative routes beyond the Township of Toko has resulted in the selection of a line following the Ohura Road to about 11 miles. Beyond this point there is still a little doubt as to the route to be adopted. As the construction of this railway is somewhat of a new departure, being a light line, but on the New Zealand standard gauge, it will be of interest to honourable members to know what its cost has been. The expenditure to 31st ultimo on the 6 miles 26 chains section to Toko has amounted to £23,929, but some liabilities for land claims and a few other unsettled matters have yet to be met, which will probably amount to about £5,000, making a total cost of, say, £29,000, equal to £4,594 per mile, exclusive of rolling-stock, or £5,500 per mile including rolling-stock. The average cost of the New Zealand railways at date, including rolling-stock, is £8,159 per mile. The difference in this case is due partly to the easy nature of the country traversed, but largely, however, to the method of construction adopted. It is proposed that the further section of the line now to be undertaken between Toko and the end of the Ororu Section, at 11 miles, shall be of the same character. For the current year a vote of £15,000 is proposed.

North Island Main Trunk.

Very considerable work has been done on this line, the expenditure during the year having been the largest since the initiation of the work. For the information of honourable members I give the figures showing the amount expended on the line each year since the construction of the work began:—

	£		£		£		£
1884–85 ...	2,441	1889–90 ...	23,594	1894–95 ...	34,624	1899–1900...	46,178
1885–86 ...	58,339	1890–91 ...	10,318	1895–96 ...	32,502	1900–1 ...	116,903
1886–87 ...	102,355	1891–92 ...	19,149	1896–97 ...	29,873	1901–2 ...	184,561
1887–88 ...	102,776	1892–93 ...	47,684	1897–98 ...	46,245		
1888–89 ...	42,577	1893–94 ...	40,496	1898–99 ...	53,150	Total ...	993,765

As mentioned in my last year's Statement, regular traffic is carried on by the Railway Department at the northern end of the line as far as the Poro-o-tarao Tunnel. From that point to Ongarue, a distance of rather more than fourteen miles, the line is complete and all station buildings provided. Goods traffic has been carried on over this length for some months, and the section is to be handed over to the Railway Department for regular working on the 13th of next month. Some heavy slips took place on this section in the early part of the year, which delayed the work considerably. The ground, however, seems now to be becoming more stable, and the slips are consequently less troublesome.

The rails are also laid for eight miles beyond Ongarue, and the earthworks are fully three-fourths completed for a further distance of five miles, and about half done on another section of two miles and a half, which brings the line to Taumarunui. The bridge-work on this section is, however, much behindhand, due to the delay of the contractors for the manufacture of the iron and steel work.

Formation-work is in hand up to the point where the railway will cross the Wanganui River, two miles and a quarter beyond Taumarunui, and a service road has been constructed for some distance on the south side of the river, so as to facilitate the construction of the railway.

At the southern end of the line the most notable event to record is the practical completion of the Makohine Viaduct, which I had the pleasure of formally opening on the 17th June last. I take this opportunity of complimenting the officers of the Department who designed and superintended the erection of the work on the result of their labours.

As this viaduct is a structure of unusual magnitude, it would probably be desirable to give some detailed information regarding it. A viaduct at this point could only have been avoided by a line following the Makohine and joining the present line near Mangaweka, but the country was so rough that this route was at once condemned. It could only have been much diminished in magnitude by adopting a line located along the steep slopes adjacent to the coach-road. The formation-works involved in this alternative were too costly and the ground was considered to be too treacherous to justify its adoption; besides, steeper grades and sharper curves than those allowed on the North Island Main Trunk Railway would have been necessary, and this would have reduced the carrying-capacity of the line. After very careful consideration the location of the railway across the gorge was decided upon, involving a viaduct 765 ft. long and 238 ft. from the bed of the stream to the rail-level. The height from the bottom of the foundations to the top of the hand-rail is 254 ft.

There are 7,430 cubic yards of concrete, about 1,252 tons of steel and iron, and 26,560 superficial feet of timber in the structure.

The viaduct is designed to carry locomotives weighing up to 85 tons, followed by heavy trains.

The Government decided that the Public Works Department should carry out the erection of the structure by its own staff in May, 1896. The order for the machinery was sent in November following, but unfortunately the great engineers' strike occurred shortly after it reached England, and the execution of the order was consequently greatly delayed, the last shipment not coming to hand until June, 1898. The machinery was all erected and the manufacture of the steelwork begun by September, 1898, and the erection of the piers was commenced in April, 1900, so that the erection of the structure has occupied about two years. The first train crossed the viaduct on the 6th June last.

The cost of the structure, including a due proportion of the cost of the plant and machinery, has been about £71,500, but, as the painting has been left over for a time, and a few small finishing works have yet to be done, the total cost will probably reach £72,000. This includes a large amount of work in the foundations and superstructure over and above what was provided for when tenders were invited.

Beyond the viaduct good progress has been made with the formation of the line and in connection with the other bridges and viaducts. The present position of the work at the southern end of the railway is as follows: The line to Mangaweka is practically finished, and will probably be handed over to the Railway Department for regular traffic during the present month. It has been in daily use for goods traffic since the 1st instant. Between Mangaweka Station and the site of the viaduct over the Mangaweka Stream the formation is complete, and the rails are being laid, and will reach the viaduct site by the end of the present month, when the transporting of the iron and steel work for the structure will be begun and the building-up proceeded with. The abutments, piers, and foundations are already built. Between Mangaweka and Taihape the formation is nearly complete, except three unfinished tunnels, which are actively in progress. Beyond Taihape the formation is well advanced for about five miles, and ground has been broken for another eleven miles, or as far as sixty miles from Marton Junction.

The total expenditure on the line last year was £155,979, or £184,561 allowing for the value of the permanent-way materials issued. This constitutes

a record, being the largest amount expended on the line in any one year since its inception. For the current year a vote of £250,000 is proposed.

BLENHEIM–WAIPARA.

The northern end of this railway, from Blenheim to Seddon, is practically finished, the section between Blenheim and Dumgree, 13 miles 21 chains, having already been inspected and passed as safe and fit for public traffic, while the remaining section between Dumgree and Seddon, 2 miles 18 chains, only awaits the completion of the wind-screen on the Awatere Bridge and the station buildings at Seddon. Both works will probably be finished within a few weeks, when the line will be handed over to the Railway Department for regular traffic.

At the southern end the work is proceeding satisfactorily. The earthworks on the first fifteen miles—namely, from Waipara to Skargill—are finished, and the rails are also laid, ten miles of ballasting completed, and a start made with the station buildings. The line will be sufficiently forward to admit of the ensuing season's wool-clip being carried over it, and will be ready to hand over to the Railway Department for regular working during the summer. A tender for the supply of the iron and steel work for the Hurunui Bridge has been accepted. The concrete piers and abutments will be carried out by the Department.

The total expenditure on the Blenheim–Waipara Railway last year, exclusive of the value of permanent-way materials issued to the line, was £48,382, or, inclusive of the latter, £65,823. For the current year an authorisation of £60,000 is proposed.

MIDLAND.

Operations in connection with the Midland Railway were in progress in four different places last year. At the Nelson end of the line, between Motupiko and Tadmor, earthworks have been in hand and about seven miles have been nearly completed, and a contract has recently been let for the bridge over the Motueka River. The bridge is to be completed by the 23rd November, 1903, and will be available for road as well as railway traffic.

Northwards from Reefton a survey has been in progress throughout the year, and is now nearly finished. A very good line has been obtained, the gradients and curves being well within the limits allowed. It will probably cost about £5,000 per mile on an average to construct.

As regards the extension towards Canterbury from Otira, I mentioned in my last Statement that the Government was in communication with railway authorities of the highest standing in America with the view of obtaining a report from an American or Canadian engineer of eminence and experience in the construction of mountain railways. Since that Statement was delivered Mr. Virgil Gay Bogue, of New York, has visited the colony, and has made a careful inspection of the ground, and also familiarised himself with the various plans and other information in the possession of the Government, and has furnished two reports on the matter, which are printed as appendices to this Statement. Briefly summarised, Mr. Bogue's opinion is adverse to the six-mile tunnel project. While admitting that the gradient and curves obtainable on that line are probably better than can be got on any other, and that that line is also the shortest and most direct available, Mr. Bogue nevertheless thinks that the price we should have to pay would be too great for the advantages gained. He has not at present definitely advised the adoption of any particular line; but the suggestions he makes are in the direction of employing a steeper gradient and materially reducing the length of the summit tunnel.

To enable Mr. Bogue to express an authoritative and final opinion on the subject, further surveys are now being made, which will take some little ti so that it will be impossible to lay his matured opinion before the House during the present session.

At the Canterbury end of the railway good progress has been made with the formation. The very heavy earthworks have been practically completed as far as Staircase Gully, or nine and three-quarter miles from Springfield, and a

good deal of work has been done beyond this point. Four out of the six tunnels on this section are finished, and the others are nearing completion. The manufacture of the ironwork for the Patterson's Creek viaduct has made considerable progress, and some of it has been delivered at the site, but no erection-work has yet been done. As soon as the viaduct is out of the contractors' hands the rails can be laid right through to Staircase Gully, and the erection of the viaduct at that point can then be gone on with. Plans for this viaduct are now nearly ready, and tenders for its construction will be invited shortly. The total expenditure on the Midland Railway last year amounted to £66,391, and this year a vote of £100,000 is proposed.

Ngahere–Blackball.

The construction of a branch line leaving the Midland Railway at Ngahere and running thence to the Blackball collieries was authorised last session. The most important work on the line is the large bridge over the Grey River, for which a tender has recently been accepted. This bridge will take at least eighteen months to erect, and the small amount of formation-work required can easily be carried out while the bridge is in course of erection. The Blackball Coal Company has entered into an agreement with the Crown by which the company undertakes to send traffic over this railway for a period of seven years sufficient to yield a gross freight between Blackball and Ngahere of not less than £1,500 per annum.

A vote of £2,000 was taken for this railway last year, but only £117 was expended. This year a vote of £4,000 is proposed, which will probably be sufficient to meet the charges that will come to book before the 31st March next.

Greymouth–Hokitika, Extension to Ross.

This line also was authorised in the Railways Authorisation Act of last session. The first and most important work to be undertaken upon it is the erection of a bridge over the Hokitika River, and a tender for its construction has recently been accepted. The contract time for the completion of the structure is the 12th April, 1904.

The survey of the line from the Hokitika Bridge site towards Ross was started in December last, and about ten miles of the permanent survey has now been finished. A trial line has been run over the whole distance. Formation-works have also recently been started between 25 and 27 miles, measuring from Greymouth, or between 1 and 3 miles below Hokitika. A vote of £2000 was taken for this line last year, but only £355 was expended. For the current year an appropriation of £10,000 is asked for.

Coal Creek.

This is the line which will connect the State colliery with the Port of Greymouth. Its construction was commenced several years ago by the Greymouth–Point Elizabeth Coal Company, from which company the Government acquired it in June last. Since acquiring the railway the Government has been advised by its officers to abandon the terminus proposed by the late company, on the ground that it is not central to the coalfield. A survey of the deviation to the site which is considered best for the coal-bins has lately been made. The work of completing the first three miles and a half of the railway commenced by the company has also been put in hand. The cost of completing this railway will be a charge on the State Coal-mines Account.

Otago Central.

A great deal of work was done on this railway last year, the total expenditure on the line having reached the very large sum of £103,273, which is the largest on record for this line. The Ida Valley section, 12 miles 24 chains in length, was completed and handed over to the Railway Department for regular working in December last. The heavy work in the Poolburn Gorge has made good progress. The formation of the first four miles is nearly finished, and the

next three miles and a quarter—viz., to the first crossing of the Manuherikia River—is more than half done, and for a further distance of eight miles a large amount of work has been executed. The driving of the first tunnel in the gorge has been completed, and work on the second is in hand and more than half done. Two of the piers for the Poolburn Viaduct are practically finished, and the steel superstructure is in course of delivery by the contractors, and the cylinders of the Manuherikia Bridge are being sunk.

As already stated, the total expenditure on the line last year was £103,273, or, exclusive of the value of the permanent-way materials, £93,779. This year a vote of £100,000 is proposed.

Heriot Extension.

The formation-works on the first two miles and a half of this railway are nearly finished.

After carefully considering the question of the route to be followed in the construction of this line, it has been decided to adhere to that already approved by Parliament—namely, by the Anquilla Stream to Edie Vale.

The vote for this line last year was £5,000, and £4,056 was expended. For the current year we ask for a vote of £6,000.

Catlin's River–Seaward Bush.

Further progress has been made with the formation of the extension of this line at the Catlin's end, the work being well advanced over the whole length.

At the Seaward Bush end further survey-work has been undertaken, which shows that the proposed route *viâ* Tokonui is three miles longer than the Waimahaka Valley route, and would be more costly to construct. The gradients and curves and the total height to rise and fall on the former route also compare unfavourably with the latter. Still further survey-work is necessary, however, before finally deciding on the precise route to be adopted, and it is proposed to place a survey party on the line again as soon as the winter is over.

The appropriation for this railway last year was £12,000, but only £8,001 was expended. This year a vote of £15,000 is proposed.

Riversdale–Switzers.

A contract for a combined road and railway bridge over the Mataura River was let to Mr. A. Shaw, of Dunedin, in May last, and the bridge is to be finished within twelve months of that date. The contract does not include the road approaches.

The vote for this railway last year was £1,000, but only £23 was expended. This year a vote of £3,000 has been provided.

Orepuki–Waiau.

Considerable progress has been made with the formation-works on this railway, the expenditure last year having exceeded the vote by £4,456. All the culverts are finished on the first four miles and a half, and the earthworks for the same distance are nearing completion, so that rail-laying can be taken in hand shortly. The expenditure on the line last year was £16,456. This year an appropriation of £15,000 is proposed.

Total Appropriations for Railways.

In addition to the sums already specifically mentioned, smaller appropriations, totalling to £4,000, are proposed for old land-claims and surveys of new lines, and £76,000 for permanent-way materials, thus bringing the total appropriations for railway-construction purposes up to £743,000.

ROADS, ETC.

Roads and other Works under the Control of the Minister of Lands.

The total amount authorised for the construction and maintenance of roads, bridges, and other works for the past year was £646,272, and the sum voted for expenditure £337,643. The net expenditure amounted to £335,347, with which sum 409 miles of engineering survey was made; 471 miles of dray-road, 206 miles of bridle-track, and 127 bridges, of a total length of 12,808 ft., were constructed; 785 miles of dray-road and 80 miles of bridle-road were improved; and 2,535 miles of dray-road and 1,047 miles of bridle-road were maintained. It will be seen from the above figures that the Department expended within £2,296 of the amount voted; but, as this small balance was more than covered by accounts in course of liquidation, the vote was practically exhausted, and if works had not been reduced in December and January last it would have been largely exceeded.

The total amount authorised and voted under the Government Loans to Local Bodies Account was £46,577, and the net expenditure was £31,978, for which 170 miles of engineering survey was made, and 42 miles of dray-road, 61 miles of bridle-road, and 5 bridges, of a length of 201 ft., were constructed. There were also 63 miles of dray-road and 203 miles of bridle-road improved or maintained. It will be seen that the balance unspent on this vote was £14,599; but the moneys under it cannot be expended until they have first been raised under the Government Loans to Local Bodies Act, and it is not possible to do this until the lands have been set apart for settlement and other formalities observed.

Taking these two accounts together, there was expended £62,611 more than in the previous year. The greatest expenditure was in the Auckland district, amounting to £97,920. Wellington district came next with £94,939; then Hawke's Bay, £39,357; Taranaki, £35,785; Southland, £27,196; Otago, £22,878; Marlborough, £17,474; Westland, £14,235; Nelson, £12,098; and Canterbury, £5,444.

The expenditure has mostly been upon a very large number of small scattered works, the items on the appropriations representing 2,257 different works.

The authorisations submitted for the current year (including £49,900 under Government Loans to Local Bodies Account) total to £598,612, on account of which votes are proposed as under:—

Roads, Departmental...	24,265
Roads, bridges, &c.	325,000
Tourist roads	10,000
Government Loans to Local Bodies Account	45,000
Making a total of	£404,265

Votes for £4,995 and £5,612 are also proposed for Improved Farm Settlements and Lands, Miscellaneous, under Class XXXII.

Roads on Goldfields, Mines Department.

The vote last year under this head amounted to £84,783, the expenditure being £47,573, with liabilities at the end of the year amounting to £37,864.

The sum proposed to be authorised for the current year is £120,719, on account of which a vote of £84,000 is asked for.

DEVELOPMENT OF GOLDFIELDS AND MINING.

As anticipated in the Statement of last year, the gold exported during the year 1901 exceeded that of the previous year, and was the highest for any corresponding period since 1873.

The value of gold entered for export during 1901 was £1,753,783, being an increase on the previous year of £314,181.

The quantity of gold entered for export during 1901 was 455,561 oz., valued at £1,753,783, and of silver 571,134 oz., valued at £65,258; as compared with 373,616 oz. of gold, valued at £1,439,602, and of silver 326,457 oz., valued at £38,879, for 1900; being an increase of 81,945 oz. of gold, valued at £314,181, and 244,677 oz. of silver, valued at £26,379.

The amount expended last financial year on works for the development of the goldfields was £15,325, while the liabilities amounted to £8,116. It is proposed to take a vote of £50,000 for the current year.

TELEGRAPH EXTENSION.

Under the head of telegraph extension the amount expended during the past year was £31,728.

The following are the most important lines constructed during the year: Auckland to Doubtless Bay; Whangarei to Limestone Island; Auckland to Mahoenui; Auckland to Rotorua; Rotorua to Waiotapu; Strathmore to Huiakama; Kaponga to Awatuna; Wanganui to Mangamahu; Waipawa to Elsthorpe; Rimu to Kokatahi; Kokatahi to Koiterangi; Yaldhurst to West Melton; Christchurch to Akaroa; and Riverton to Orepuki.

The vote asked for this year is £71,000, including £43,873 of liabilities on the 31st March last, to provide for additions to existing Exchanges, the completion of works now in hand, and also for sundry new works.

PUBLIC BUILDINGS.

The total expenditure on public buildings last year amounted to £193,452 —namely, £47,852 under the Consolidated Fund, and £145,600 under the Public Works Fund. The increased expenditure is due to two causes—first, the expansion of settlement; and, second, to the more permanent and better class of buildings now erected. Practically all our larger buildings are now erected in brick or stone, whereas in times past wooden buildings were generally provided. For the current year a total appropriation of £288,370 is proposed —namely, £47,900 under the Consolidated Fund, and £240,470 under the Public Works Fund.

GENERAL.

Under this head the expenditure amounted to nearly £17,000, the works being of a somewhat miscellaneous character, extending over the whole colony. For the current year a vote of £19,550 is asked for. This includes the payment of the award of the Compensation Court for the land taken for the proposed additions to the departmental buildings at Auckland, and also for making a commencement with the proposed enlargement of these buildings; also instalments on account of the partial reconstruction of the departmental buildings at Napier, the proposed new offices and laboratory for the Mines Department in Wellington, &c.

JUDICIAL.

Courthouses.—New Courthouses have been erected or are in hand at Waihi, Opunake, Wellington, Outram, Dunedin, and Gore; additions or extensive renovations have been effected at Napier and Hokitika; and minor additions or improvements at Ngaruawahia, Wairoa, Waipawa, Palmerston North, Kumara, and Invercargill. The completion of the new law-courts at Dunedin is worthy of special mention. This fine pile, of which illustrations appear at the end of this Statement, has cost altogether £21,600, including £1,300 for furniture and fittings. The principal works provided for in the vote for the current year are: New Courthouses at Hamilton, Levin, Wellington, Brightwater, Westport, and Orepuki; and additions, renovations, or improvements at Auckland, New Plymouth, Manaia, Hawera, Patea, Carterton, Christchurch, and Ashburton.

Gaols.—The total expenditure under this head last year amounted to £2,796. Operations were continued at the new gaol at Mount Eden, Auckland. The Gaolers' houses at Wellington and Westport were practically completed, and renovations and repairs were made at Wanganui and Wellington. In the present year's vote provision is made for the continuation of operations at Auckland,

for going on with the proposed new prison at Invercargill, and also for Gaolers' residences at Auckland and Dunedin, warders' cottages at Lyttelton, and repairs, renovations, or improvements at Napier, Wellington, Hokitika, and Dunedin.

Police-stations.—The principal works carried out under this heading were the erection of the new station-cells, &c., at Auckland. A number of smaller works have been in hand during the year, however, the principal items being as follows: New stations at Ongarue, Outram, Roxburgh, and Invercargill; new quarters at Waipawa and Timaru; and additions, renovations, or repairs at Aratapu, Clive, Waitara, Manaia, Hawera, Kimbolton, Wellington, Reefton, Cheviot, Christchurch, Southbridge, Glenavy, Waikouaiti, Ophir, and Lawrence.

Post and Telegraph.

New post-offices were erected at Aratapu, Hamilton, Onehunga, Kawhia, Tolago Bay, Gisborne, Weber, Toko, Inglewood, Opunake, Wanganui, Feilding, Eketahuna, Alfredton, Motueka, Denniston, Hanmer Springs, Sumner, Ashburton, Temuka, Mornington, Caversham, Naseby, and Gore. The terminal station for the new Pacific cable at Doubtless Bay was built; quarters for Postmasters or other officers were provided at Auckland, Tarawera, and Kaikoura; and additions, alterations, or repairs were made at the post-offices at Auckland, Newton, Rotorua, Foxton, Wellington, Blenheim, Renwicktown, Christchurch, Lyttelton, Springston, Timaru, South Dunedin, and Cromwell.

The principal items provided for in the vote for the present year are the purchase of the necessary land for the enlargement of the General Post Office, Wellington; proposed additions to the post-office at Christchurch, and acquisition of site of same; an extensive addition to and rearrangement of the post-office at Dunedin; and the completion of the Doubtless Bay cable-station. Provision is also made for sundry new post-offices which are necessary for efficiently carrying on the working of the Department.

Customhouses.

The expenditure under this head last year was principally in connection with the erection of the new Customhouse at Timaru, and the completion of the additions at Wanganui. This year the only item of special consequence for which provision is made is the new Customhouse and site at Wellington, for which an authorisation of £10,000 (on account) is provided.

Lunatic Asylums.

The principal expenditure was again at Porirua. £2,120 was spent at Auckland, and £4,667 at Seacliff. Smaller amounts were expended at Wellington, Nelson, and Sunnyside.

For the current year provision is made for completing the additions to the Auckland Asylum, completion of works at Porirua, and additions at Nelson, Hokitika, Sunnyside, and Seacliff; and for the preliminary work in the erection of a new asylum upon a site yet to be selected.

Schools.

The amount voted for school-buildings last year was £91,000—viz., £25,000 under the Consolidated Fund and £66,000 under the Public Works Fund. The expenditure amounted to £63,400—viz., £24,793 under the former and £38,607 under the latter fund.

Native schools were erected last year, or are in course of erection, at Kerepehi, Whareponga, Parawera, Takahiwai, Whangara, Mangonui, Torere, Omaio, and Tangoio; the Mawhitiwhiti School has been removed to Pariroa, and additions, repairs, and painting have been effected at Te Ahuahu and Te Waetu. This year we ask for a total vote of £91,500—viz., £25,000 under the Consolidated Fund, and £66,500 under the Public Works Fund. Provision is made for a grant to the Victoria College; also for an industrial school at Levin, and additions, &c., at the industrial schools at Auckland, Te Oranga, and Burnham, and for the new school for deaf-mutes at Sumner.

LIGHTHOUSES, HARBOUR-WORKS, AND HARBOUR DEFENCES.

The expenditure on lighthouses last year was chiefly on the new lighthouse at Kahurangi Point. This year provision is made for a new lantern and tower at Cape Campbell, and for the continuation of works at Kahurangi.

The principal expenditure on harbour-works was at Wairoa and on the Napier Spit protection-works. New wharves are provided for at Manukau Sand-spit, Orua Bay, Waiwera, Mercury Bay, Opotiki, Mokau, Pakawau, Bruce Bay, and Okuru; for the Spit encroachment-protection works at Napier, the improvements to the Collingwood Harbour, and the reclamation-works at Sticking Point, Lyttelton. A new examining-room and office is to be erected at Onehunga and some dredging work done at the same place.

The vote last year for harbour defences was £25,000, but the expenditure only amounted to £6,678. This year the amount proposed is £15,000.

SUMMARY AND CONCLUSION.

In compiling this Statement and the estimates which accompany it every endeavour has been made to meet the necessary requirements of the colony. The total appropriations proposed for all purposes, exclusive of Government Loans to Local Bodies Account, amount to £2,193,052.

Every reasonable effort will be made to put in hand the new works authorised as soon as the votes are passed, and to have them pushed forward as rapidly as circumstances will permit.

I trust the foregoing information concerning the public works expenditure and the allocations for the present year will commend itself to honourable members. The progress and development of the colony is such that it is impossible to deal, within a limited period, with all the requirements which are placed before the Government, but the proposals now submitted will, I feel sure, be recognised as sufficient to meet the requirements for the current year.

PUBLIC WORKS STATEMENT, 1902.

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TABLES.

APPENDICES.

TABLE No. 1.

SUMMARY showing the TOTAL EXPENDITURE on PUBLIC WORKS and OTHER SERVICES out of PUBLIC WORKS FUND to 31st March, 1902, and the LIABILITIES on that Date.

Number of Table containing Details.	Works.	Total Net Expenditure to 31st March, 1901.	Expenditure during 12 Months ended 31st March, 1902.	Total Expenditure to 31st March, 1902.	Liabilities on Authorities, Contracts, &c., 31st March, 1902.	Total Expenditure and Liabilities.	Works.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
3	Railways	17,168,025 18 9	1,333,940 13 1	18,501,966 11 10	113,537 8 2	18,615,504 0 0	Railways.
4*	Roads	5,563,949 2 3†	402,260 4 4	5,966,209 6 7	100,224 16 3	6,066,434 2 10	Roads.
5 and 5A	Development of goldfields	636,353 7 8	15,325 6 11	651,678 14 7	8,116 5 7	659,795 0 2	Development of goldfields.
6	Telegraphs	906,158 6 1	31,728 16 2	937,887 2 3	43,873 0 0	981,760 2 3	Telegraphs.
7	Public buildings	2,509,649 17 10	145,599 11 8	2,655,249 9 6	27,812 6 11	2,683,061 16 5	Public buildings.
8	Lighthouses, harbour works, and harbour defences	965,613 1 11	12,158 17 0	977,771 18 11	902 9 1	978,674 8 0	Lighthouses, harbour works, and harbour defences.
...	Departmental	459,316 15 5	17,770 12 6‡	477,087 7 11	...	477,087 7 11	Departmental.
18 of 1878	Coal-exploration and mine-development	10,835 8 0	...	10,835 8 0	...	10,835 8 0	Coal-exploration and mine-development.
11 of 1877	Aiding works on Thames goldfields ...	50,000 0 0	...	50,000 0 0	...	50,000 0 0	Aiding works on Thames goldfields.
...	Immigration	2,147,718 16 4	139 14 2	2,147,858 10 6	...	2,147,858 10 6	Immigration.
...	Purchase of Native lands	1,964,969 9 0§	18,261 9 10	1,983,230 18 10	...	1,983,230 18 10	Purchase of Native lands.
...	Defence	549,960 3 11	146,875 13 1	696,835 17 0	17,832 13 2	714,668 10 2	Defence.
...	Charges and expenses of raising loans ...	1,057,770 16 1	5,619 18 0	1,063,390 14 1	...	1,063,390 14 1	Charges and expenses of raising loans.
...	Interest and sinking fund	218,500 0 0	...	218,500 0 0	...	218,500 0 0	Interest and sinking fund.
...	Rates on Native lands	64,226 4 2	570 9 4	64,796 13 6	370 19 8	65,167 13 2	Rates on Native lands.
...	Thermal springs	14,599 13 2	...	14,599 13 2	...	14,599 13 2	Thermal springs.
...	Tourist and health resorts	...	11,260 0 10	11,260 0 10	2,579 5 6	13,839 6 4	Tourist and health resorts.
...	Lands improvement	...	1,741 7 10‖	1,741 7 10	1,025 3 0	2,766 10 10	Lands improvement.
	Totals	34,287,647 0 7	2,143,252 14 9	36,430,899 15 4	316,274 7 4	36,747,174 2 8	Totals.

* Table 4 also contains details of expenditure and liabilities under Government Loans to Local Bodies Account. † Includes expenditure under Lands Improvement Account, £300,929 12s. 5d., and £30,000 transferred from Consolidated Fund, previously applied in reduction of "Roads" Expenditure. ‡ Includes £1,366 7s. 5d. charged to "Unauthorised." § Includes expenditure under Native Lands Purchase Account, £491,980 1s. 1d. ‖ Includes £64 0s. 9d. charged to "Unauthorised."

TABLE No. 2.

GENERAL SUMMARY.

Showing NET YEARLY EXPENDITURE out of PUBLIC WORKS FUND, 1880-81 to 1901-02.

Description of Services.	Total Net Expenditure to 31st March, 1880.	Expenditure. 1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1.	1901-2.	Total Net Expenditure to 31st March, 1902.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Immigration	1,891,719	31,134 *Cr. 1,433*	6,797 *Cr. 2,462*	3,999	107,041	57,148	11,675	12,454	15,598	8,791	867	1,823	817	242	343	101	Cr. 10	301	70	105	385	214	140	2,147,859
Public Works Departmental	144,623	13,773 *Cr. 525*	13,321 *Cr. 89*	12,871	13,465	30,157	29,632	25,835	25,090	21,458	12,294	10,264	7,796	7,790	8,406	8,680	14,300	14,892	9,689	10,090	12,572	12,933	*17,770	477,087
Railways	8,553,944	985,259 *Cr. 34,864*	454,333 *Cr. 21,809*	354,781	662,046	663,063	725,496	616,447	403,727	272,077	289,601 *Cr. 29*	180,021	154,417 *Cr. 681*	220,894	176,304	247,545	197,105	207,231 *Cr. 334*	351,600	374,192	417,937	717,723	1,333,941	18,501,967
Roads:—																								
Roads North of Auckland	41,241	43,773	17,022	7,929	17,566	34,574	33,163	30,738	3,138	264	267	..	..	..	..	..	..	..	..	..	..	..	..	
Main Roads	718,401	83,675	92,520	111,603	31,809	30,380	26,833	22,294	13,756	10,968	12,799	9,905	11,739	12,588	22,235	22,731	27,959	4,289	241,209	248,934	237,351	*267,374	354,687	
Miscellaneous Roads and Bridges					61,635	37,165	37,615	39,748	25,989	26,748	19,998	12,489	6,843	10,443	58,042	9,972	17,075	11,195						
Roads to open up Lands	44,255	52,152	35,936	81,634	84,631	49,314	61,794	57,157	61,488	21,954	28,160	24,265	27,993	21,989		..	..	..		..	..	..	..	
Grants-in-Aid	225,000	..	..	..	106,399	149,982	138,045	81,264	57,632	26,913	2,172	1,586	10,757	7,144	8,951	..	..	..	..	..	..	..	..	
Village Settlements	..	..	..	..	..	..	..	1,891	12,053	10,770	7,345	4,884	3,829	4,412	2,868	..	..	..	..	..	..	..	..	
Local Bodies	..	..	..	..	..	..	..	..	..	..	..	315	470	..	390	..	227	207	..	..	..	..	..	
Roads on Goldfields	..	..	..	9,439	26,602	15,631	31,622	32,625	25,053	7,015	13,290	12,687	9,795	19,490	20,387	17,577	21,513	32,578	49,569	46,550	48,039	48,417	47,573	
Miscellaneous	267,702	52,987 *Cr. 2,043*	237 *Cr. 109*	471	..	..	..	..	..	*Cr. 91*	*Cr. 1,270*	*Cr. 26,519*	*Cr. 64,954*	*Cr. 1,613*	*Cr. 1,030*	*Cr. 7,050*	*Cr. 573*	*Cr. 365*	*Cr. 365*	*Cr. 365*	*Cr. 347*	..	..	
Development of Thermal Springs and Natural Scenery		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16,023	..	..	..	..	..	
Roads to give access to North Island Trunk Railway		..	..	..	..	..	6,832	12,900	20,410	1,898	248	5,532	30,289	29,440	34,765	17,841	..	..	..	..	..	..	..	
Lands Improvement Account		..	..	..	..	..	..	..	..	..	..	..	..	..	..	89,207	108,168	103,555	..	..	..	..	..	
Total, Roads	1,296,599	230,544	145,606	211,076	328,642	317,043	335,904	278,617	219,519	106,439	83,009	45,164	36,761	103,893	146,638	150,278	174,369	167,482	290,413	295,119	285,043	315,791	402,260	5,966,209
Development of Goldfields	480,930	16,597 *Cr. 20*	13,272	6,824	16,596	8,029	9,032	7,665	1,016	55	284	821	2,257	3,811	5,272	5,865	9,345	10,508	33,117	17,355	21,815	15,907	15,326	701,679
Purchase of Native Lands	772,570	57,836 *Cr. 950*	40,573 *Cr. 2,661*	29,844	24,480	70,572	34,545	88,836	25,643	9,072	28,194	17,925	52,397	57,187 *Cr. 10,438*	4,320 *Cr. 2,428*	349 *Cr. 12*	..	Cr. 37	61,503	53,182 *Cr. 225*	32,025	28,688	18,261	
Native Lands Purchase Account		..	..	..	..	..	..	..	..	..	..	..	..	19,575	78,985	101,009	163,411	129,000	..	..	..	..	..	
Total, Land Purchases	772,570	56,886	37,912	29,844	24,480	70,572	34,545	88,836	25,643	9,072	28,194	17,925	52,397	66,324	80,877	101,346	163,411	128,963	61,503	52,957	32,025	28,688	18,261	1,983,231
Telegraph Extension	368,764	45,281 *Cr. 1,498*	7,517 *Cr. 32*	18,654	19,532	25,799	36,010	18,952	22,984	12,047	16,346	16,292	27,773	29,245	16,127	19,229	35,538	36,791	29,384	28,551	26,771	50,101	31,729	937,887
Public Buildings:—																								
General (including Miscellaneous)	154,733	..	..	..	34	..	..	947	12,742	14,588	7,256	2,880	454	1,588	621	2,523	3,724	8,178	14,797	8,764	3,957	5,594	12,513	
Parliamentary	..	..	..	5,331	8,416	183	..	8	24	..	..	..	..	..	209	6,822	..	9	466	20,636	9,883	3,039	4,424	
Judicial	78,499	55,402	16,259	16,743	22,652	12,227	11,106	15,875	8,273	8,228	11,246	9,892	8,901	2,779	5,262	11,487	27,341	14,806	12,727	11,109	19,682	29,630	28,728	
Post and Telegraph	78,944	9,336	1,752	9,939	22,616	8,955	4,880	2,772	2,227	82	1,376	709	1,009	6,843	3,154	3,542	6,194	7,504	5,888	5,168	13,483	20,954	40,361	
Customs	1,969	..	..	193	1,659	830	99	..	..	..	18	409	13	5	666	12	647	16	385	..	107	875	2,066	
Survey	..	..	..	20	34	..	461	..	..	..	..	..	..	..	..	28	..	..	..	..	..	..	..	
Quarantine Stations	..	..	971	996	848	313	123	274	..	..	..	..	..	..	3	306	..	..	..	..	..	2,607	423	
Lunatic Asylums	45,052	39,604	26,699 *Cr. 4*	31,652	58,047	24,992	4,007	13,694	23,107	10,242	15,717	8,930	16,914	11,887	18,957	13,633	10,935	16,404	14,130	17,667	17,712	18,872	16,743	
Hospitals and Charitable Institutions	14,304	2,219	140	64	256	3,792	3,299	4,421	4,156	673	Cr. 140	..	..	7,999	..	..	6,561	700	..	..	899	5,141	1,200	
School-buildings	278,519	99,173	82,535	88,134	49,814	66,069	62,884	51,607	40,000	779	..	..	7,500	..	15,000	15,000	20,000	22,143	23,864	43,403	49,256	33,681	38,606	
Agricultural	..	..	..	..	..	..	..	..	..	..	..	..	..	..	160	837	1,127	819	1,328	520	447	971	535	
Total, Public Buildings	652,020	205,734	128,352	153,072	164,376	117,361	86,859	89,598	90,529	34,592	35,473	22,820	34,791	31,101	44,032	54,190	76,529	70,579	73,585	107,267	115,426	121,364	145,599	2,655,249
Lighthouses, Harbour Works, and Harbour Defences:—																								
Lighthouses	85,203	2,636	2,397	4,724	6,730	7,383	300	3,272	2,866	2,504	1,551	..	..	6,642	2,612	..	234	6,067	2,180	3,727	3,333	1,017	2,060	
Harbour Works	113,314	21,876	18,812 *Cr. 2*	100,676	29,591	17,050	6,508	6,004	500	*Cr. 5,000*	589	189	..	..	..	650	3,861	866	568	1,777	365	1,540	3,421	
Harbour Defences	34,514	904	..	..	7,213	9,601	127,167	139,429	73,459	50,089	7,293	2,477	7,347	4,563	3,976	2,495	3,314	4,667	2,547	10,158	5,328	3,960	6,678	
Total, Lighthouses, &c.	233,031	25,416	21,207	105,400	43,534	34,034	133,975	148,705	76,825	47,593	9,433	2,666	7,347	11,205	6,588	3,145	7,409	11,600	5,295	15,662	9,026	6,517	12,159	977,772
Rates on Native Lands	..	..	..	..	..	..	..	25,199	8,446	10,304	5,874	8,250	2,038	615 *Cr. 8*	415	561	340	332	156	347	744	673	571	64,797
Contingent Defence	105,000	154,000	133,219	..	..	..	25,000	12,500	..	..	..	..	..	..	..	..	5,000	10,554	10,360	13,867	42,810	37,650	146,876	696,836
Tourist and Health Resorts	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11,260	11,260
Lands Improvement ‡	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,741	1,741
Charges and Expenses of raising Loans	558,086	193,357	13,575	517	29,877	13,521	47,258	922	59,448	104,911	3,084 *Cr. 3,084*	..	..	5,356	..	..	..	943 *Cr. 6*	5 *Cr. 5*	224	28,322	1,460	5,620	1,063,391
Interest and Sinking Funds	218,500	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	218,500
Coal Exploration and Mine Development	10,835	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10,835
Thermal Springs	..	..	..	..	..	..	..	7,814	2,999	936	..	2,587	264	..	..	..	..	..	..	..	..	..	..	14,600
Advance to Westport Harbour, repayable	..	..	..	..	..	..	..	..	14,336	*Cr. 14,336*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Ways and Means Credits	..	*41,333*	*27,168*	..	..	..	..	..	..	*19,427*	*4,383*	*26,519*	*65,635*	*12,059*	*3,458*	*7,062*	*573*	*705*	*370*	*590*	*347*			
Grand Total—Net Expenditure	15,286,621	1,919,641	950,719	897,038	1,409,589	1,336,727	1,475,386	1,333,484	966,160	613,939	481,346	308,633	325,977	480,468	485,002	590,940	683,336	659,836	865,172	915,736	992,876	1,309,021	2,143,253	36,430,960

N.B.—The figures in italics, prefixed by "*Cr.*," are either recoveries on account of services of previous years or receipts-in-aid applied in reduction of expenditure.

The totals from 1892-93 to 1896-97, inclusive, include expenditure under Native Lands Purchase Account, and from 1894-95 to 1896-97, inclusive, expenditure under Lands Improvement Account.

* Includes "Unauthorised," £1,366 7s. 5d.

† Includes "Unauthorised," £64 0s. 9d.

‡ For previous expenditure see Roads Class.

TABLE No. 3.

EXPENDITURE on RAILWAYS to 31st March, 1902, and LIABILITIES on that Date.

LINES OF RAILWAY.	Total Expenditure by General Government to 31st March, 1901.	EXPENDITURE DURING YEAR 1901–1902 (INCLUDING £5,641 11s. 6d. DISTRIBUTED FROM STOCK OF PERMANENT-WAY).						Total Expenditure by General Government to 31st March, 1902.	Liabilities.	Total Expenditure by General Government, and Liabilities, 31st March, 1902.	Valuation of Works constructed by Provinces.	Total Expenditure and Liabilities, 31st March, 1902.	LINES OF RAILWAY.
		New Works.			Works on Open Lines.	Land-claims and other Old Liabilities.	Surveys.	Rolling-stock.					
		Construction.	Permanent-way.	Total New Works.									
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Kaihu Valley	55,025 12 6	..	..	..	17 18 1	..	..	..	55,043 10 7	1 0 6	55,044 11 1	..	55,044 11 1	Kaihu Valley.
Kawakawa	87,322 17 2	6,949 9 4	7,498 10 6	14,447 19 10	..	..	..	..	101,770 17 0	308 7 5	102,079 4 5	..	102,079 4 5	Kawakawa.
Whangarei to Kamo Extension	144,361 1 1	2,377 7 9	..	2,377 7 9	658 19 0	..	..	..	147,397 7 10	261 4 11	147,658 12 9	..	147,658 12 9	Whangarei to Kamo Extension.
Helensville Northwards	106,318 3 5	18,218 6 3	6,830 16 0	25,049 2 3	..	..	..	..	131,367 5 8	1,227 19 6	132,595 5 2	..	132,595 5 2	Helensville Northwards.
Kaipara to Waikato	1,178,746 1 8	..	..	..	13,224 16 8	1,500 0 0	..	..	1,193,470 18 4	..	1,193,470 18 4	..	1,193,470 18 4	Kaipara to Waikato.
Cambridge Branch	51,110 9 9	..	..	..	..	..	..	..	51,110 9 9	..	51,110 9 9	..	51,110 9 9	Cambridge Branch.
Waikato to Thames—														Waikato to Thames—
Hamilton to Te Aroha	139,366 14 8	..	..	..	47 6 3	..	..	..	139,414 0 11	..	139,414 0 11	..	139,414 0 11	Hamilton to Te Aroha.
Te Aroha to Thames	184,150 17 9	..	..	..	47 6 3	..	..	..	184,198 4 0	..	184,198 4 0	..	184,198 4 0	Te Aroha to Thames.
Paeroa to Waihi	12,657 17 4	18,324 5 1	6,668 15 0	24,993 0 1	..	..	..	..	37,650 17 5	9,716 2 7	47,367 0 0	..	47,367 0 0	Paeroa to Waihi.
Thames Valley to Rotorua—														Thames Valley to Rotorua—
Morrinsville to Lichfield	161,552 5 2	..	..	..	..	..	..	..	161,552 5 2	..	161,552 5 2	..	161,552 5 2	Morrinsville to Lichfield.
Putaruru to Rotorua	192,722 9 10	..	..	..	7 10 0	31 10 5	..	..	192,761 10 3	..	192,761 10 3	..	192,761 10 3	Putaruru to Rotorua.
Marton to Te Awamutu—														Marton to Te Awamutu—
North End	395,719 13 5	76,412 8 7	19,755 12 9	96,168 1 4	..	..	..	..	491,887 14 9	18,794 14 8	510,682 9 5	..	510,682 9 5	North End.
South End	413,484 2 8	79,566 2 2	8,827 1 0	88,393 3 2	..	..	..	..	501,877 5 10	10,298 2 9	512,175 8 7	..	512,175 8 7	South End.
Gisborne to Ormond Tramway	4,975 1 7	..	..	..	..	..	..	..	4,975 1 7	..	4,975 1 7	..	4,975 1 7	Gisborne to Ormond Tramway.
Gisborne to Karaka	32,569 3 10	20,555 10 3	6,825 16 0	27,381 6 3	..	..	..	..	59,950 10 1	960 0 7	60,910 10 8	..	60,910 10 8	Gisborne to Karaka.
Wellington to Napier—														Wellington to Napier—
Napier to Woodville and Palmerston North	801,849 19 2	..	..	..	11,721 10 4	..	..	..	813,571 9 6	..	813,571 9 6	..	813,571 9 6	Napier to Woodville and Palmerston North.
Wellington to Woodville, including Te Aro Extension	1,167,440 0 5	604 2 3	..	604 2 3	33,240 12 8	61 2 4	..	..	1,201,345 17 8	41 4 1	1,201,387 1 9	..	1,201,387 1 9	Wellington to Woodville, including Te Aro Extension.
Wellington to Foxton	42,116 3 4	..	..	..	..	..	..	..	42,116 3 4	..	42,116 3 4	..	42,116 3 4	Wellington to Foxton.
Foxton to Waitara	1,342,642 8 8	..	..	..	40,994 12 7	..	..	..	1,383,637 1 3	..	1,383,637 1 3	..	1,383,637 1 3	Foxton to Waitara.
Stratford-Kawakawa	116 6 9	14,467 5 6	6,357 15 3	20,825 0 9	..	..	..	..	20,941 7 6	625 0 5	21,566 7 11	..	21,566 7 11	Stratford-Kawakawa.
Nelson to Roundell	163,088 7 6	..	..	..	1,058 2 7	..	..	..	164,146 10 1	..	164,146 10 1	..	164,146 10 1	Nelson to Roundell.
Midland Railway—														Midland Railway—
Reefton-Inangahua	29 9 0	1,265 0 9	..	1,265 0 9	..	..	..	..	1,294 9 9	110 0 7	1,404 10 4	..	1,404 10 4	Reefton-Inangahua.
Nelson End	16,526 4 8	5,721 11 3	..	5,721 11 3	..	..	..	..	22,247 15 11	274 3 7	22,521 19 6	..	22,521 19 6	Nelson End.
Otira End	90,486 5 4	5,427 12 9	..	5,427 12 9	1,053 6 4	..	..	..	96,967 4 5	128 3 9	97,095 8 2	..	97,095 8 2	Otira End.
Springfield End	71,578 8 8	53,976 9 7	..	53,976 9 7	..	..	..	..	125,554 18 3	11,610 17 6	137,165 15 9	..	137,165 15 9	Springfield End.
Greymouth to Nelson Creek	166,471 11 11	..	..	..	..	..	..	..	166,471 11 11	..	166,471 11 11	..	166,471 11 11	Greymouth to Nelson Creek.
Greymouth to Hokitika and Ross	188,306 17 5	355 5 9	..	355 5 9	2,567 14 0	..	..	..	191,229 17 2	37 19 6	191,267 16 8	..	191,267 16 8	Greymouth to Hokitika and Ross
Westport to Ngakawau	187,512 15 7	..	..	..	..	..	..	..	187,512 15 7	..	187,512 15 7	..	187,512 15 7	Westport to Ngakawau.
Ngahere-Blackball	..	116 12 11	..	116 12 11	..	..	..	..	116 12 11	147 0 2	263 13 1	..	263 13 1	Ngahere-Blackball.
Picton to Waipara—														Picton to Waipara—
Picton to Cheviot	302,995 8 10	16,474 18 3	2,615 19 0	19,090 17 3	144 18 0	..	..	..	322,231 4 1	720 8 1	322,951 12 2	..	322,951 12 2	Picton to Cheviot.
Waipara to Cheviot	14,931 13 9	31,906 16 4	14,825 12 0	46,732 8 4	..	..	..	..	61,664 2 1	4,549 13 5	66,213 15 6	..	66,213 15 6	Waipara to Cheviot.
Hurunui to Waitaki—														Hurunui to Waitaki—
Main Line	1,497,634 4 7	..	..	..	25,149 10 6	..	..	..	1,522,783 15 1	..	1,522,783 15 1	316,135 0 0	1,838,918 15 1	Main Line.
Oxford Branch	51,467 7 11	..	..	..	..	..	..	..	51,467 7 11	..	51,467 7 11	..	51,467 7 11	Oxford Branch.
Eyreton Branch	44,276 12 10	..	..	..	..	..	..	..	44,276 12 10	..	44,276 12 10	..	44,276 12 10	Eyreton Branch.
Lyttelton Branch	71,814 13 8	..	..	..	422 16 7	..	..	..	72,237 10 3	340,500 0 0	412,737 10 3	..	412,737 10 3	Lyttelton Branch.
Southbridge Branch	86,422 0 0	..	..	..	1,393 18 0	..	..	..	87,815 18 0	..	87,815 18 0	..	87,815 18 0	Southbridge Branch.
Springfield and Whitecliffs Branches	93,725 6 10	..	..	..	66 5 5	..	..	..	93,791 12 3	..	93,791 12 3	..	93,791 12 3	Springfield & Whitecliffs Branches.
Fairlie Creek Branch	66,872 12 5	..	..	..	..	..	..	..	66,872 12 5	75,124 0 0	141,996 12 5	..	141,996 12 5	Fairlie Creek Branch.
Waimate Branch	47,953 11 8	..	..	..	..	..	..	..	47,953 11 8	..	47,953 11 8	..	47,953 11 8	Waimate Branch.
Ashburton Forks Branch	*74,214 6 2	..	..	..	..	..	..	..	*74,214 6 2	..	74,214 6 2	..	74,214 6 2	Ashburton Forks Branch.
Upper Ashburton Branch	61,582 16 9	..	..	..	..	..	..	..	61,582 16 9	..	61,582 16 9	..	61,582 16 9	Upper Ashburton Branch.
Little River Branch	107,491 10 2	..	..	..	..	..	..	..	107,491 10 2	..	107,491 10 2	..	107,491 10 2	Little River Branch.
Canterbury Interior Main Line—														Canterbury Interior Main Line—
Oxford to Malvern	53,649 0 4	..	..	..	..	..	..	..	53,649 0 4	..	53,649 0 4	..	53,649 0 4	Oxford to Malvern.
Whitecliffs to Rakaia	542 6 2	..	..	..	..	..	..	..	542 6 2	..	542 6 2	..	542 6 2	Whitecliffs to Rakaia.
Temuka to Rangitata	5,152 2 8	..	..	..	..	..	..	..	5,152 2 8	..	5,152 2 8	..	5,152 2 8	Temuka to Rangitata.
Waitaki to Bluff—														Waitaki to Bluff—
Main Line, including Port Chalmers Branch	2,460,449 2 3	..	..	..	35,984 9 7	..	..	..	2,496,433 11 10	..	2,496,433 11 10	82,258 17 3	2,578,692 9 1	Main Line, including Port Chalmers Branch.
Duntroon Branch	95,826 8 7	..	..	..	..	..	..	..	95,826 8 7	..	95,826 8 7	37,500 0 0	133,326 8 7	Duntroon Branch.
Ngapara Branch	24,986 15 9	..	..	..	..	..	..	..	24,986 15 9	..	24,986 15 9	58,009 0 0	82,995 15 9	Ngapara Branch.
Fernhill Railway Purchase	1,277 8 10	..	..	..	..	..	..	..	1,277 8 10	..	1,277 8 10	..	1,277 8 10	Fernhill Railway Purchase.
Brighton Road Branch	6,473 14 9	..	..	..	..	..	..	..	6,473 14 9	..	6,473 14 9	12,829 0 0	19,302 14 9	Brighton Road Branch.
Outram Branch	11,951 7 6	..	..	..	..	..	..	..	11,951 7 6	..	11,951 7 6	29,691 0 0	41,642 7 6	Outram Branch.
Lawrence Branch	161,885 7 2	..	..	..	..	..	..	..	161,885 7 2	..	161,885 7 2	..	161,885 7 2	Lawrence Branch.
Livingstone Branch	82,127 17 7	..	..	..	..	..	..	..	82,127 17 7	..	82,127 17 7	..	82,127 17 7	Livingstone Branch.
Waihemo Branch	32,982 16 3	..	..	..	208 2 5	..	..	..	33,190 18 8	..	33,190 18 8	..	33,190 18 8	Waihemo Branch.
Catlin's River Branch	123,541 4 3	7,153 4 8	..	7,153 4 8	..	..	..	..	130,694 8 11	274 1 5	130,968 10 4	..	130,968 10 4	Catlin's River Branch.
Heriotburn Branch	91,599 17 5	4,055 15 11	..	4,055 15 11	..	..	..	..	95,655 13 4	82 7 9	95,738 1 1	..	95,738 1 1	Heriotburn Branch.
Waimea Plains Branch	109,674 13 4	..	..	..	136 10 9	..	..	..	109,811 4 1	..	109,811 4 1	..	109,811 4 1	Waimea Plains Branch.
Toitois Branch	52,307 4 8	..	..	..	..	..	..	..	52,307 4 8	..	52,307 4 8	..	52,307 4 8	Toitois Branch.
Riversdale to Switzer's	7,445 1 0	23 2 6	..	23 2 6	..	..	..	..	7,468 3 6	..	7,468 3 6	..	7,468 3 6	Riversdale to Switzer's.
Kelso to Gore	602 2 5	..	..	..	..	..	..	..	602 2 5	..	602 2 5	..	602 2 5	Kelso to Gore.
Seaward Bush to Catlin's	111,217 16 7	847 15 9	..	847 15 9	..	..	..	..	112,065 12 4	53 13 11	112,119 6 3	..	112,119 6 3	Seaward Bush to Catlin's.
Otago Central	883,635 8 0	93,778 11 3	9,494 7 6	103,272 18 9	209 15 4	5 0 0	..	..	987,123 2 1	5,869 17 8	992,992 19 9	..	992,992 19 9	Otago Central.
Invercargill to Kingston—														Invercargill to Kingston—
Main Line	260,361 15 10	..	..	..	20,479 1 4	..	..	..	280,840 17 2	..	280,840 17 2	91,937 5 2	372,778 2 4	Main Line.
Mararoa Branch	27,216 18 7	..	..	..	..	..	..	..	27,216 18 7	..	27,216 18 7	..	27,216 18 7	Mararoa Branch.
Makarewa to Orepuki and Waiau	223,188 8 4	16,456 8 10	..	16,456 8 10	145 10 5	..	..	..	239,790 7 7	875 18 5	240,666 6 0	60,297 0 0	300,963 6 0	Makarewa to Orepuki and Waiau.
Thornbury to Wairio	22,525 4 2	..	..	..	..	..	..	..	22,525 4 2	..	22,525 4 2	..	22,525 4 2	Thornbury to Wairio
Forest Hill	10,336 19 11	..	..	..	..	..	..	..	10,336 19 11	..	10,336 19 11	..	10,336 19 11	Forest Hill.
Expenses of Railway Commissions and other Expenditure not chargeable to Individual Lines														Expenses of Railway Commissions, &c., not chargeable to Individual Lines.
Surveys of New Lines—														Surveys of New Lines—
North Island	24,536 4 2	..	..	..	..	..	20 16 8	..	24,557 0 10	24 6 0	24,581 6 10	..	24,581 6 10	North Island.
Middle Island	38,355 18 11	..	..	..	..	..	..	..	38,355 18 11	..	38,355 18 11	..	38,355 18 11	Middle Island.
Permanent-way for Railway Department	25,000 0 0	..	..	..	..	..	..	..	25,000 0 0	..	25,000 0 0	..	25,000 0 0	Permanent-way for Railway Department.
Rolling-stock	2,235,647 7 4	..	..	..	..	..	..	584,248 13 5	2,819,896 0 9	40,168 7 6	2,860,064 8 3	..	2,860,064 8 3	Rolling-stock.
Stock, Mar. 31, 1901, Permanent-way, £63,899 10 2	63,899 10 2													
	†17,168,025 18 9													
Stock of Permanent-way decreased by 5,641 11 6	5,641 11 6													
£58,257 18 8		..	..	..	..	..	..	..	58,257 18 8	6,376 11 6	64,634 10 2	..	64,634 10 2	Stock of Permanent-way.
Total	17,162,384 7 3	475,034 3 8	89,700 5 0	564,734 8 8	188,980 13 1	1,597 12 9	20 16 8	584,248 13 5	†18,501,966 11 10	113,537 8 2	18,615,504 0 0	1,104,281 2 5	19,719,785 2 5	.. Total.

* Does not include amount expended out of Consolidated Fund, viz., £35 15s. 7d.

† Includes amount expended on purchase of district railways, £477,487 7s. 11d.

TABLE No. 4.

STATEMENT showing the NET EXPENDITURE on ROADS, BRIDGES, &c., out of the Public Works Fund, and Government Loans to Local Bodies, Lands Improvement, and Native Land Purchase Accounts to 31st March, 1902.

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.			
		AUCKLAND—			
100	1	Ahipara–Herekino	Mongonui	Bay of Islands	72 5 0
	2	Awanui–Taipa–Maunganui Parish	"	"	332 13 3
	5	Fairburn's Road	"	"	314 14 1
	6	Hohoura–Parengarenga	"	"	100 0 0
	7	Kaitaia–Awanui–West Coast	"	"	225 0 0
	8	Mangatoetoe	"	"	25 0 0
	10	Maungataniwha	"	"	8 13 6
	11	Mangonui Road Breastwork	"	"	200 0 0
	12	Oruru–Hikurangi	"	"	17 4 9
	14	Peria–Victoria Valley	"	"	100 3 6
	16	Takahue–Herekino	"	"	223 19 0
	17	Takahue Village–Victoria Valley	"	"	55 10 0
	18	Victoria Valley–Main Road	"	"	963 10 2
	19	Victoria Valley River Bridge at Hobson's Farm	"	"	100 0 0
	20	West Coast–Waiharara	"	"	100 0 0
	21	Kaeo–Waimate	Whangaroa	"	105 3 0
	22	Kaeo–Waimate (road through Woodville and Matauri)	"	"	150 0 0
	23	Matawherohia–Kaeo	"	"	77 0 0
	24	Mangonui Parish–Kaeo Parish (main road)	"	"	511 16 1
	25	Otoroa	"	"	100 0 0
	26	Pupuke–Kaeo	"	"	470 19 8
	27	Totara Foreshore Road	"	"	200 0 0
	30	Hukerenui–Kaeo Parish (main road)	Bay of Islands	"	340 11 3
	32	Kaikohe–Maungakahia–Dargaville	Bay of Islands, Hobson, and Hokianga	"	43 15 4
	33	Kaikohe–Ngapipito–Kawakawa	Bay of Islands	"	139 13 0
	34	Kaikohe–Taheke	Bay of Islands and Hokianga	"	102 2 4
	35	Lambert's Hill–Montagu's	Bay of Islands	"	50 0 0
	36	Main North Road Junction–Christy's Bridge	"	"	100 0 0
	37	Ngapipito	"	"	202 8 6
	40	Ohaewai–Waitangi	"	"	100 0 0
	42	Okaihau–Waihou	"	"	200 0 0
	44	Old Great North Road, Section 112, Parish of Ruapekapeka	"	"	50 0 0
	45	Opua–Waimate	"	"	19 7 0
	46	Paiaka–Hukerenui	"	"	150 0 0
	47	Pakaraka–Waitangi	"	"	100 0 0
	50	Ruapekapeka–Kawakawa	"	"	200 0 0
	51	Russell to Whangaruru	"	"	100 0 0
	53	Tirohanga–Kawakawa	"	"	40 0 0
	54	Towai–Ramarama (Wyat's Junction)	"	"	27 0 0
	56	Utakura Road (deviation) (main road)	"	"	184 0 6
	58	Waimate–Hukerenui	"	"	213 2 7
	59	Waiotu–Hukerenui (Galbraith's)	"	"	100 0 0
	60	Waipapa–Kaipiro Stream	"	"	86 15 5
	61	Waitangi Bridge	"	"	110 6 6
	62	Waitangi–Kaikohe	"	"	100 0 0
	64	Whangae Settlement roads	"	"	100 0 0
	67	Awatuna Improved-farm Settlement	Hokianga	"	44 0 8
	68	Broadwood–Herekino	"	"	203 4 0
	69	Herd's Point–Takahue	"	"	126 6 6
	70	Herekino	"	"	74 1 3
	71	Herekino–Whangape	"	"	210 10 0
	73	Kaikohu–Rawene	Hokianga and Bay of Islands	"	83 1 1
	74	Katui Improved-farm Settlement	Hokianga	"	9 14 4
	75	Kohukohu–Motukaraka	"	"	161 5 0
	76	Kohukohu–Motukaraka (road through Rimu Valley)	"	"	160 12 0
	77	Kohukohu–Rakautapu	"	"	52 7 2
	78	Mangamuka–Oruru–Mangonui	Hokianga and Mongonui	"	108 0 9
	79	Mangamuku–Victoria Valley	Hokianga	"	75 0 9
	80	Manganuiowae	"	"	16 11 3
	81	Manganuiowae–Whangape	"	"	216 18 0
	82	Marlborough Association	"	"	247 11 0
	84	Motukaraka Village Settlement–Kohukohu–Rakautapu	"	"	1 16 5
	85	Okaihau–Horeke (main road)	"	"	307 17 0
	86	Okaihau–Victoria Valley	Hokianga, Mongonui, and Bay of Islands	"	94 19 9
	88	Omapere Survey District, Blocks IX. and X.	Hokianga	"	69 10 0
	89	Omapere–Waimamaku	"	"	68 10 5
	90	Omanaia–Hokianga Heads (main road)	"	"	35 18 3

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
		AUCKLAND—*continued.*			£ s. d.
100	92	Pakia–Waimamaku–Kawerua	Hokianga ..	Bay of Islands ..	152 1 7
	93	Punakitere Settlement Bridge over Otaua River ..	" ..	" ..	154 18 1
	94	Punakitere Settlement roads	" ..	" ..	5 15 0
	95	Rangatira (Opanaki - Hokianga) Improved-farm Settlement	" ..	" ..	200 0 0
	96	Rawene	" ..	" ..	100 0 0
	97	Rawene–Seawall	" ..	" ..	50 0 0
	98	Rawene–Waima	" ..	" ..	150 0 0
	99	Taheke Bridge	" ..	" ..	47 11 0
	100	Te Awaroa North	" ..	" ..	11 9 6
	101	Waihou–Mangamuka–Oruru	" ..	" ..	73 8 6
	102	Waihou–Umawhero	" ..	" ..	48 8 5
	103	Wai-iti Creek Bridge	" ..	" ..	50 0 0
	104	Waima–Taheke	" ..	" ..	33 14 3
	105	Waimamaku	" ..	" ..	288 2 1
	106	Waimamaku–Pakanae	" ..	" ..	205 9 3
	107	Waimamaku–Punakitere	" ..	" ..	388 7 5
	108	Waimamaku River Bridge	" ..	" ..	170 2 8
	109	Waimamaku Settlement (roads to head of) ..	" ..	" ..	198 2 8
	110	Waimamaku Settlement	" ..	" ..	336 12 1
	111	Wai-o-te-Marama	" ..	" ..	100 0 0
	112	Waipoua Survey District (part Block VII.) ..	" ..	" ..	43 18 10
	113	Wairere Creek Bridge (Horeke Settlement) ..	" ..	" ..	10 9 0
	115	Wekaweka Settlement, Waimamaku	" ..	" ..	97 2 6
	117	Bald Hill Deviation	Whangarei ..	Marsden ..	60 9 0
	118	Caves-McLaughlin's	" ..	" ..	100 0 0
	119	Cove Deviation	" ..	" ..	48 19 2
	120	East Branch	" ..	" ..	25 0 0
	123	Helena Bay–Railway-station	" ..	" ..	36 0 0
	124	Hikurangi–Jordan	" ..	" ..	117 12 0
	125	Hikurangi Swamp (Great North Road) ..	" ..	" ..	36 0 0
	127	Hukerenui, Block XIII., Section 7–Parua, Block I.	" ..	" ..	100 0 0
	128	Hukerenui–Waipu Gorge (main road)	" ..	" ..	1,317 15 5
	133	Kaimamaku–Railway-station	" ..	" ..	18 0 0
	134	Kiripaka–Coal-mines	" ..	" ..	70 0 0
	135	Main Road–Ngunguru	" ..	" ..	100 0 0
	136	Mangakahia Bridge–Dargaville	Hobson & Whangarei	" ..	478 10 0
	137	Mangakahia Bridge–Mangakahia Church ..	Whangarei ..	" ..	397 6 7
	138	Mangakahia No. 2–Blocks XI., XII., Mangakahia ..	" ..	" ..	87 19 5
	140	Mangapai–Manganui by Tokatoka	" ..	" ..	36 0 0
	143	Marsden Point–Waipu	" ..	" ..	25 0 0
	147	Maungakaramea	" ..	" ..	36 0 0
	148	Maungakaramea–Tangihua	" ..	" ..	29 12 6
	149	Maungatapere–Tangiteroria	" ..	" ..	54 5 3
	150	Maunu Main Road	" ..	" ..	36 0 0
	151	Maunu–Maungatapere–Mangakahia	" ..	" ..	144 0 0
	153	Ngunguru Ferry	" ..	" ..	11 0 0
	155	Opuawhanga No. 1	" ..	" ..	20 3 1
	156	Opuawhanga–Whananaki	" ..	" ..	36 0 0
	157	Otakairangi Parish–Jordan	" ..	" ..	36 0 0
	158	Otonga Main Road–Railway-station	" ..	" ..	36 0 0
	159	Otonga–Whananaki	" ..	" ..	47 10 0
	160	Pa–Hukerenui Railway-station	" ..	" ..	100 0 0
	161	Parua–Patua (Whangarei Heads-coast) ..	" ..	" ..	164 15 0
	162	Parua–Ruatangata–Mangakahia	" ..	" ..	108 0 0
	163	Poroti–Wairua Bridge	" ..	" ..	270 14 0
	165	Ruatangata–Railway-station	" ..	" ..	25 0 0
	167	Tangiteroria–Mangakahia	" ..	" ..	100 0 0
	168	Tokatoka–Mangapai	Whangarei & Hobson	" ..	83 3 0
	170	Waikiekie	Whangarei ..	" ..	100 0 0
	171	Waiotama Bridge (Maungatapere–Tangiteroria) ..	" ..	" ..	55 2 0
	172	Waipu Gorge–Topini (main road)	Whangarei and Otamatea	" ..	628 12 6
	173	Waipu–Mareretu	Whangarei ..	" ..	256 19 10
	174	Waipu River improvement (£59, £1 for £1) ..	" ..	" ..	162 0 9
	176	Wairua Bridge to head of navigation	" ..	" ..	100 0 0
	177	Wairoa Bridge, Tangiteroria (main road) ..	" ..	" ..	400 0 0
	178	Whangarei Heads	" ..	" ..	36 0 0
	179	Whangarei Heads Wharf	" ..	" ..	25 0 0
	181	Whangarei Heads–Main Road (£1 for £1) ..	" ..	" ..	21 12 0
	183	Arapohue	Hobson ..	" ..	172 15 0
	184	Arapohue–Kohekohe	" ..	" ..	100 0 0
	185	Arapohue–Warekohi	" ..	" ..	100 0 0
	186	Aratapu - Mititai ferry-service, Wairoa River (subsidy)	" ..	" ..	325 0 0
	188	Awakino Swamp Road (£1 for £1)	" ..	Bay of Islands ..	50 0 0
	190	Kerepakene–Mangakahia	" ..	Marsden and Bay of Islands	150 0 0
	192	Mangakahia River	" ..	Marsden ..	9 0 0
	193	Mangatu Special Settlement, *viâ* Mongonui Bluff–West Coast	" ..	Bay of Islands ..	264 16 10
	194	Marlborough Settlement–Whangarei	" ..	" ..	316 4 10

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		AUCKLAND—*continued.*			
100	195	Maunganui Bluff–Katui-Kai-iwi (main road) ..	Hokianga & Hobson	Bay of Islands ..	51 3 3
	196	Maungaru Settlement	Hobson ..	" ..	67 19 7
	197	Okahu	" ..	Marsden ..	100 0 0
	198	Okahu River Bridge	" ..	" ..	200 0 0
	199	Opanaki–Hokianga (main road)	Hokianga & Hobson	Bay of Islands ..	588 14 4
	200	Tangiteroria Bridge (£1 for £1)	Hobson ..	Marsden ..	300 0 0
	201	Tangowahine–Avoca	" ..	Bay of Islands ..	100 0 0
	202	Tangihua	" ..	Marsden ..	46 18 2
	203	Te Kopuru–Tikinui	" ..	" ..	102 18 0
	204	Tikinui Wharf	" ..	" ..	100 0 0
	205	Wairoa River (snagging)	" ..	Marsden and Bay of Islands	100 0 0
	206	Burch's land (road through)	Otamatea	Marsden ..	67 4 0
	207	Hardie's Road–Paparoa	" ..	" ..	100 0 0
	208	Hoteo Bridge	Rodney ..	Waitemata ..	15 6 6
	209	Hukatere	Otamatea ..	Marsden ..	97 10 2
	211	Kaiwaka–Maungaturoto (main road)	" ..	Waitemata ..	7 5 3
	214	Mareretu	" ..	Marsden ..	193 16 6
	216	Matakohe–Mongonui	" ..	" ..	243 3 0
	218	Matakohe	" ..	" ..	100 0 0
	221	Maungaturoto–Mareretu	" ..	" ..	100 0 0
	222	Maungaturoto–Waikiekie	" ..	" ..	81 11 7
	223	Maungaturoto–Whakapirau	" ..	Waitemata ..	95 18 6
	224	Maungaturoto Wharf and Road	" ..	" ..	90 12 1
	227	Omaru Parish	" ..	Marsden ..	56 6 1
	228	Pahi–Paparoa	" ..	Marsden ..	229 17 5
	229	Paparoa–Maungaturoto	" ..	" ..	163 12 3
	230	Paparoa Homestead Bridge (Wairoa Road) ..	" ..	" ..	100 0 0
	231	Paparoa–Matakohe	" ..	" ..	100 0 0
	232	Paparoa Valley	" ..	" ..	99 8 9
	235	Puhoi Bridge	" ..	Waitemata ..	13 7 8
	236	Raupo Wharf	" ..	Marsden ..	22 9 4
	237	Raupo Settlement–Tokatoka Post-office Road ..	" ..	" ..	181 14 9
	240	Tokatoka Swamp (£60, £1 for £1)	" ..	" ..	2,754 15 4
	241	Tokatoka Swamp–Main Road	" ..	" ..	99 19 5
	242	Topini–Waiwera (main road)	Rodney ..	Waitemata ..	467 16 3
	243	Village Road–Paparoa	Otamatea ..	Marsden ..	69 2 6
	245	Ahuroa	Rodney ..	Waitemata ..	150 0 0
	246	Ahuroa–Komokoriki	" ..	" ..	35 0 0
	247	Dacre's Claim–Little Omaha	" ..	" ..	50 0 0
	248	Harataunga–Blind Bay	" ..	" ..	50 0 0
	249	Hellensville–Port Albert	Rodney & Waitemata	" ..	247 12 8
	250	Hoteo Valley–Te Arai	Rodney ..	" ..	50 0 0
	251	Hoteo Valley–Whangaripo	" ..	" ..	2 15 10
	252	Hoteo Valley	" ..	" ..	50 0 0
	253	Hoteo–Whiowhio	" ..	" ..	30 1 6
	254	Hoteo Parish, Section 90 and 74A (road between) ..	" ..	" ..	75 3 6
	255	Kaipara (east of) to Crown tenants in Blocks XI. and XII.	" ..	" ..	292 5 0
	256	Kaipara Flat–Tauhoa	" ..	" ..	58 3 6
	257	Kaukapakapa–Warkworth	" ..	" ..	56 5 7
	258	Kaukapakapa–Port Albert	Rodney & Waitemata	" ..	59 6 8
	259	Little Omaha–Pakiri Valley	Rodney ..	" ..	150 0 0
	260	Makarau Railway-station and West Coast, through Clinkard's (deviation)	" ..	" ..	113 1 2
	261	Makarau Railway-station–West Coast Road ..	" ..	" ..	257 15 2
	262	Makarau Bridge–West Coast	" ..	" ..	120 9 9
	263	Makarau Bridge	" ..	" ..	42 18 8
	264	Makarau Railway-station–Kaukapakapa ..	Waitemata ..	" ..	78 19 9
	265	Matakana–Omaha	Rodney ..	" ..	150 0 0
	266	Matakana–Whangaripo	" ..	" ..	75 0 0
	267	Matakana Wharf, Mahurangi Heads	" ..	" ..	100 0 0
	268	Matakana Ranges	" ..	" ..	32 19 3
	269	Matakana Ranges–Te Arai	" ..	" ..	169 2 9
	271	Morrison's Post-office, Kaipara Flats (road to) ..	" ..	" ..	100 0 0
	272	North Albert Land–Mangawai	" ..	" ..	50 0 0
	273	Pakiri–Omaha (Warkworth–Pakiri)	" ..	" ..	49 12 8
	274	Port Albert–Wellsford Junction	" ..	" ..	150 0 0
	275	Port Albert Junction–Warehine (West Coast Road)	" ..	" ..	50 0 0
	277	Puhoi Parish, Section 47 to Sections 108, 109, 112, and 113, Section 6 to Section 80	" ..	" ..	200 0 0
	279	Puhoi–Komokoriki	" ..	" ..	100 0 0
	280	Puhoi District–Takekeroa Railway-station ..	" ..	" ..	199 9 4
	282	Puhoi–Warkworth	" ..	" ..	368 16 1
	284	Tauhoa, Blocks X. and XI.	" ..	" ..	3 0 0
	285	Te Arai–Mangawai	" ..	" ..	9 3 6
	286	Te Pahi–Hoteo Bridge	" ..	" ..	50 0 0
	287	Waiwera (Upper)–Puhoi	" ..	" ..	100 0 0
	288	Waiwera (Upper)	" ..	" ..	36 0 0
	292	Warkworth–Hotel River (Te Pahi Road) ..	" ..	" ..	100 0 0
	294	West Coast Road, Tauhoa Riding	" ..	" ..	100 0 0
	295	Whangaripo Valley Road–Wayby	" ..	" ..	150 0 0

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
		AUCKLAND—*continued.*			£ s. d.
100	296	Whangaripo–Pakiri Valley	Rodney	Waitemata	100 0 0
	297	Whangaripo Valley	"	"	62 14 10
	298	Whangaripo Range Road	"	"	123 0 0
	300	Whiowhio Valley	"	"	161 10 5
	301	Birkenhead–Albany	Waitemata	Eden	200 0 0
	303	Breakneck Hill–Kauri Forest	"	Waitemata	200 0 0
	304	Dairy Flat–Lucas Creek	"	"	50 0 0
	305	Great Barrier Island roads	"	"	292 9 0
	306	Great North Road, Whau Bridge to Waikumete Cemetery (main road)	Waitemata	"	200 0 0
	307	Helensville Bridge (£1 for £1)	"	"	150 0 0
	308	Helensville–Parkhurst Road (swing-bridge)	"	"	100 0 0
	310	Kelly's Bridge–Waikumete Railway-station	"	"	200 0 0
	311	Lucas Creek, Birkenhead	"	"	150 0 0
	312	Museum Endowment Block–Woodhill Creamery	"	"	120 0 0
	313	New Lynn–Huia	"	Eden	200 0 0
	314	Rewiti Main Road–Waimauku	"	Waitemata	100 0 0
	316	Swanson–West Coast	"	"	200 0 0
	317	Titirangi Main Road	"	Eden	48 1 3
	318	Wade Village–Orewa	"	Waitemata	248 7 8
	319	Wade–Dairy Flat	"	"	100 0 0
	321	Waiwera (Upper)–Parakakau	"	"	150 0 0
	322	Waiwera Springs	"	"	56 4 7
	323	Waiwera–North Shore (main road)	"	"	522 10 9
	324	Wainui–Kaukapakapa Railway-station	"	"	50 0 0
	325	Waimauku River Bridge (approach to station)	"	"	50 0 0
	326	Waikumete–Huia	"	"	100 0 0
	327	Waikumete–West Coast Road	"	"	300 0 0
	328	Whangaparoa Wharf	"	"	75 0 0
	329	Woodhill Creamery and Station Road	"	"	50 0 0
	330	Woodhill–Parkhurst	"	"	225 0 0
	331	Asylum, Western Springs	Eden	Eden	100 0 0
	332	Auckland–Onehunga	"	Manukau	50 0 0
	333	Kingsland–Asylum	"	Eden	70 7 0
	335	Oakley Creek Bridge and approaches (£2 for £1)	"	"	400 0 0
	336	Oakley Creek Culvert	"	"	150 0 0
	337	Orakei Road–Bastion Battery	"	Manukau	150 0 0
	343	Aka Aka Swamp (£1 for £1) (eastern drain)	Manukau	Franklin	63 10 0
	344	Ararimu (main road)	"	"	77 14 3
	345	Awhitu Road Wharf	"	"	44 1 3
	346	Bombay–Paparata	"	Waikato	150 0 0
	347	Clevedon–Orere	"	Franklin	75 18 9
	349	East Tamaki–Great South Road	"	Manukau	100 0 0
	350	Howick Culvert (near wharf)	"	"	98 8 7
	353	Hunua	"	Franklin	240 2 7
	354	Hunua–Ararimu	"	"	197 7 9
	355	Hunua–Main Road	"	"	285 3 11
	356	Hunua–Railway-station	"	"	239 15 9
	358	Mangawheau Bridge	"	"	101 8 0
	359	Manurewa–Bombay	"	"	167 8 7
	360	Mataitai–Clevedon	"	"	74 2 3
	363	Miranda Wharf	"	Waikato	7 0 0
	364	Ness Valley (main road)	"	Franklin	111 15 6
	365	Opaheke Highway District	"	"	96 12 1
	366	Otahuhu Bridge (£1 for £1) (main road)	"	"	195 2 10
	367	Otahuhu–Mercer (Great South Road)	"	Franklin and Waikato	241 12 5
	370	Otau	"	Franklin	203 6 0
	371	Otau Block–Ness Valley	"	"	36 2 1
	372	Otau–Hunua	"	"	160 0 0
	373	Panmure Wharf (repairs)	Eden	Manukau	59 8 1
	374	Paparoa–East Tamaki	Manukau	"	100 0 0
	375	Paparoa–Howick	"	"	22 10 0
	376	Paparoa–Turanga	"	"	41 10 11
	377	Papatoetoe–Manurewa	"	Franklin	177 11 7
	378	Pokeno Bridges	"	Waikato	46 15 0
	380	Pollok Settlement (main road)	"	Franklin	100 1 5
	381	Pollok–Wharf	"	"	93 15 7
	382	Turanga and Mungomungoroa Creek Bridges	"	"	179 3 7
	383	Turanga Creek Bridge approaches	"	"	12 10 0
	385	Wairoa River–Otau	"	"	101 18 6
	387	Waiuku–Awhitu	"	"	25 0 0
	388	Waiuku Creek Bridge	"	"	75 0 0
	389	Waiuku–East Pukekohe	"	"	130 0 0
	390	Waiuku Main Road (£100, £1 for £3)	"	"	150 0 0
	391	Waiuku–Pukekohe	"	"	279 19 11
	392	Awaroa (Block XI.)	Raglan	Waikato	16 2 0
	395	Bothwell Bridge–Barton	"	"	10 8 0
	396	Bothwell to Section 11, Block VI., Awaroa	"	"	79 17 0
	398	Huntly–Kahuruhuru	"	"	133 3 0
	399	Kahuru Road—Blocks VI., VIII., Pepepe Parish	"	"	100 0 0
	400	Kelsey's–Port Waikato	"	"	50 0 0

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
		AUCKLAND—*continued.*			£ s. d.
100	401	Lawson's Hill	Raglan	Waikato	58 6 6
	402	Main Road–West Coast (through Block VI., Awaroa)	"	"	150 0 8
	403	Mercer Punt	Raglan and Manukan	"	20 14 10
	404	Ngaruawahia–Huntly West	Raglan	"	93 6 9
	406	Otorohaea Trig. Road	"	"	130 2 8
	408	Tuakau Bridge (balance)	"	Franklin and Waikato	4,585 18 0
	409	Tuakau Punt (road to)	"	Ditto	20 0 0
	410	Tuakau–Raglan	"	Waikato	526 19 8
	411	Waimai–Waingaro–Ngaruawahia (£1,243, £1 for £1, on account of £3,000)	"	"	195 14 2
	412	Waipa, Sections 33 to 131	"	"	192 18 0
	413	Wairamarama–Onewhero	"	"	118 16 1
	414	Wairamarama–Tuakau	"	"	91 7 6
	415	Whangape Parish (road to Section 43)	"	"	20 0 0
	418	Main Road–Opuatia (Block I.)	"	"	50 0 0
	419	Main Road to Opuatia (Block II.)	"	"	118 14 3
	420	Mercer–Rangiriri	Waikato and Manukau	"	143 2 5
	421	Miranda Wharf–Section 46, Block I., Piako	Waikato	"	32 7 0
	422	Oheke Valley, from Section 45, Maramaru–Miranda	"	"	49 18 9
	423	Pukekawa–Mercer	Raglan	"	50 0 0
	424	Rangiriri–Cambridge (main road)	Waikato	"	216 13 6
	425	Rangiriri Survey District, Blocks X., XI.	"	"	107 15 6
	426	Wairangi Railway-station–Great South Road	"	"	50 0 0
	428	Wairangi Station–Waerenga Settlement	"	"	100 0 0
	429	Te Aroha–Rotorua	Piako	Bay of Plenty	30 6 10
	430	Te Aroha and Waitoa (drains), (£20, £1 for £1)	"	"	166 8 11
	431	Rangiatea Block (road through)	"	"	30 0 0
	432	Coromandel–Mania	Coromandel	Thames	1,000 0 0
	433	Coromandel–Thames	Coromandel and Thames	"	257 7 5
	434	Manaia–Waikawau	Coromandel	"	155 3 2
	435	Thames–Waikawau	Thames	"	500 0 0
	438	Turua roads	"	Ohinemuri	100 0 0
	442	Netherton–Railway-station	Ohinemuri	"	465 19 0
	443	Paeroa–Waitoa	"	"	100 0 0
	444	Village-settlements roads	..	..	212 12 2
	445	Works not specifically appropriated	..	..	355 12 3
	446	Contingencies and engineering	..	..	510 5 2
		Total—Auckland	..	..	£53,346 17 10
		TE KUITI—			
	447	Aotea–Raglan	Kawhia and Raglan	Waikato	75 3 11
	448	Karioi, Blocks VII. and IX. (main road to)	Raglan	"	6 0 5
	449	Karioi Parish Block	"	"	150 0 0
	451	Raglan–Ruapuke	"	"	150 0 0
	453	Ruapuke–Aotea	"	"	24 3 2
	455	Waimaori Hill	"	"	79 13 0
	456	Waingaro Block–Raglan–Waipa	"	"	146 17 0
	457	Waitetuna–Aotea	Kawhia and Raglan	"	36 3 0
	459	Waitetuna–Kauri	Raglan	"	291 4 7
	460	Waitetuna–Whatawhata	"	"	26 2 7
	465	Whatawhata Swamp	Waipa	"	25 0 0
	467	Awaroa	Kawhia	"	1 1 10
	472	Kauroa–Pakoka	Raglan and Kawhia	"	80 4 2
	473	Kawhia Wharf	Kawhia	"	617 17 11
	476	Kihikihi–Otorohanga–Te Kuiti	Waipa, Kawhia, and West Taupo	"	42 16 0
	478	Mahoenui–Kawhia South	Kawhia	Waikato and Egmont	3,577 6 0
	479	Mangaopohue	"	Waikato	116 5 8
	480	Mangaotaki Bridge	"	Waikato and Egmont	673 15 6
	481	Mangauika A 1A	"	Waikato	45 14 0
	485	Paemako Improved-farm Settlement	"	"	33 1 8
	487	Pakeho Block	"	"	76 17 9
	488	Pirongia–Kawhia (main road)	"	"	1,576 5 3
	489	Pirongia West	"	"	458 17 4
	490	Rohe-Potae tracks	Clifton, Kawhia, and West Taupo	Waikato, Egmont, and Bay of Plenty	76 7 4
	493	Te Kuiti–Awakino (main road)	Kawhia	Waikato and Egmont	2,285 16 2
	494	Te Kuiti–Te Poro-o-tarao	Clifton and Kawhia	Waikato	32 1 6
	495	Te Rauamoa Improved-farm Settlement	Kawhia	"	1 10 3
	498	Wharauroa	"	"	375 3 8
	499	Kihikihi–Waotu	Waipa and West Taupo	Bay of Plenty	21 5 0
	500	Tunnel–Taumaranui (main road)	West Taupo and Clifton	Waikato and Bay of Plenty	170 11 3
	501	Ohura (north of Paorae Stream)	Clifton	Waikato and Egmont	89 11 0
	503	Contingencies and engineering	..	..	1,391 10 11
		Total—Te Kuiti	..	..	£12,754 7 10

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		ROTORUA—			
100	504	Arahiwi and Mamaku Railway-station	Rotorua and Piako	Bay of Plenty	230 6 1
	505	Echo Lake Geyser	Rotorua	"	362 7 6
	506	Galatea–Ruatoki (main road)	Whakatane	"	254 0 1
	507	Hamurana Springs	Rotorua	"	8 4 7
	510	Mamaku, Rotorua–Tirau	"	"	37 4 0
	512	Maraeroa–Oturoa	Piako and Rotorua	"	364 2 1
	513	Mourea Bridge (main road)	Rotorua	"	48 10 7
	514	Okere Falls	"	"	43 10 6
	515	Okoheriki 1D	"	"	193 19 2
	516	Rangiuru–Rotorua, *viâ* Ngatipahiko (main road)	Tauranga and Rotorua	"	238 17 10
	517	Rotoiti–Tarawera, *viâ* Okataina	Rotorua	"	194 10 0
	518	Rotorua–Galatea–Ruatahuna (main road)	Rotorua and Whakatane	"	1,537 15 3
	519	Rotorua–Matata	Ditto	"	220 0 0
	520	Rotorua–Ngongataha Mount	Rotorua	"	244 7 6
	521	Rotorua Survey District, Blocks III., IV., VIII.; Rotoiti Survey District, Blocks I., V.	"	"	135 3 11
	523	Rotorua–Te Teko (main road)	Rotorua and Whakatane	"	689 11 9
	524	Rotorua–Wairoa	Rotorua	"	132 5 10
	525	Rotorua Wharf	"	"	64 19 11
	526	Rotowhero, *via* Waiotapu–Wairakei (main road)	"	"	552 15 0
	528	Taumata: Nos. 1A, 2A, 3B, East; 3B West No. 1; 3C East; 3G West No. 1	"	"	294 15 9
	531	Kaimai Road	Piako and Tauranga	"	64 0 0
	533	Thompson's Track (Te Aroha–Tauranga)	"	Bay of Plenty and Ohinemuri	200 0 0
	534	Tirau–Rotorua (main road)	Piako and Rotorua	Bay of Plenty	285 17 1
	535	Tokaanu–Waihi	East Taupo	"	32 0 0
	536	Akeake Bridge (main road)	Tauranga	"	95 0 0
	537	Aongatete Bridge	"	"	4 10 0
	542	Maketu–Rotorua	Rotorua	"	443 6 8
	543	Maketu Survey District (drains), Block II.	Tauranga	"	50 0 0
	545	Oropi Settlement	"	"	10 0 0
	546	Otara River–Papamoa	Opotiki	"	63 11 3
	547	Otawa Nos. 1A and 1B	Tauranga	"	69 3 9
	548	Papamoa	"	"	50 0 0
	549	Papamoa Settlement, Nos. 1 and 2	"	"	410 3 3
	550	Pongakawa–Rotorua	Rotorua	"	190 16 6
	553	Taumata, Block XIV., Otanewainuku Survey District	"	"	200 0 0
	556	Tauranga–Runanga (main road)	Rotorua, East Taupo, Wairoa, and Hawke's Bay	"	1,552 9 2
	558	Waipapa Bridge	Tauranga	"	9 17 10
	559	Ateamuri–Orakei–Korako	East Taupo	"	739 8 7
	561	Runanga Stock Paddock	"	"	43 10 10
	562	Taupo–Te Aratiatia Rapids	"	"	18 4 0
	563	Tokaanu Road and Wharf (main road)	"	"	236 12 1
	564	Tokaanu–Taupo (main road)	"	"	424 4 10
	565	Waikato Bridge, Tokaanu (main road)	"	"	111 3 0
	566	Waikato Bridge (Waiotapu)	"	"	50 16 10
	567	Bay of Plenty (sundry roads)	Whakatane, Tauranga, Opotiki, and Waiapu	"	100 0 0
	568	Galatea–Te Teko (main road)	Whakatane	"	141 13 3
	570	Matata–Te Teko (main road)	"	"	349 14 10
	571	Nukuhou–Maraetotara	Opotiki	"	469 13 6
	572	Opouriao Settlement	Whakatane	"	49 2 3
	573	Rangitaiki–Ruatoki–Waiotahi (main road)	"	"	166 9 0
	574	Ruatahuna–Waikaremoana (main road)	Whakatane and Wairoa	"	5,836 7 0
	575	Tarawera River Embankment	Whakatane	"	60 16 6
	576	Te Teko–Whakatane (main road)	"	"	376 8 3
	578	Waimana Block	"	"	436 0 10
	579	Waimana Gorge	"	"	52 4 0
	581	Whakatane River protective works	"	"	49 11 0
	582	Whakatane Wharf	"	"	100 0 0
	583	Omarumutu–Te Whaiti	Opotiki	"	70 0 0
	584	Opotiki–Wairu Bay (main road)	"	"	25 0 0
	585	Opotiki–Ormond	"	"	1,254 5 9
	586	Tirohanga Bridge (£1 for £1)	"	"	43 11 5
	588	Waimana Valley	Whakatane	"	288 12 4
	589	Waioeka (Blocks II., III., IV.)	Opotiki	"	82 3 5
	591	Waiotahi	"	"	43 8 0
	593	Contingencies and engineering			306 5 10
		Total—Rotorua			£21,503 10 2

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		HAWKE'S BAY—			
100	594	Awanui–East Cape	Waiapu	Waiapu	100 0 0
	595	Awanui–Tikitiki–Kawakawa	"	"	125 0 0
	596	Gisborne *via* Tologa Bay–Hicks Bay (main road)	Cook and Waiapu	"	743 17 9
	597	Kawakawa–Hicks Bay	Waiapu	"	300 0 0
	598	Mata Valley	"	"	26 15 0
	600	Tauwhareparae–Crown lands	"	"	100 0 0
	601	Waihuka	"	"	243 0 0
	602	Waipiro Hot Springs, Tokomaru	"	"	200 0 0
	605	Waipiro–Te Puia–Hikiwai	"	"	500 0 0
	606	Wairu Bay–East Cape	"	"	100 0 0
	607	Whareponga–Reporua	"	"	150 0 0
	608	Berry's Road (Hangaroa Survey District)	Cook	"	259 15 8
	610	Gisborne–Opotiki (main road)	Cook and Opotoki	Waiapu and Bay of Plenty	606 3 6
	611	Gisborne–Rotorua (stock)	Cook and Whakatane	Ditto	1,557 4 6
	612	Gisborne–Waikaremoana (main road)	Cook and Wairoa	Waiapu	399 18 0
	613	Gisborne–Wairoa	Cook	"	764 17 0
	616	Hangaroa–Tiniroto	"	"	300 0 0
	617	Kakariki–Te Horo	Cook and Waiapu	"	200 0 0
	618	Karaka–Mangatu	Cook	"	522 7 1
	620	Motu District	"	"	716 15 2
	621	Motu (main road)	"	"	1,434 0 10
	622	Muriwai–Mahia	Cook and Wairoa	"	300 0 0
	624	Ngatapa–Motu	Cook	"	360 0 0
	625	Nuhaka–Gisborne (main road)	"	"	168 9 1
	626	Nuhaka No. 1	Cook and Wairoa	"	674 0 7
	627	Oliver–Motu	Cook	"	366 12 10
	628	Pokarae Road and Punt	"	"	40 0 0
	629	Pouparae Settlement	"	"	161 12 8
	630	Puatai Hill	"	"	200 0 0
	631	Ruakituri Valley–Gisborne	Wairoa and Cook	"	321 2 6
	632	Tauwhareparae–Arakihi	Cook	"	99 19 10
	633	Te Arai	"	"	200 0 0
	635	Tologa–Arakihi	"	"	119 10 2
	636	Tologa Hill	"	"	250 0 0
	639	Waikohu–Mota	"	"	2,717 6 6
	641	Wainui	"	"	100 0 0
	642	Willow's Estate	"	"	213 4 11
	643	Frasertown–Waikaremoana (main road)	Wairoa	"	2,778 4 11
	644	Mohaka Bridge (main road)	"	Waiapu and Hawke's Bay	26 5 3
	645	Napier–Wairoa (main road)	Hawke's Bay and Wairoa	Hawke's Bay	3,910 16 6
	646	Nuhaka Bridge (main road)	Wairoa	Waiapu	2,308 4 5
	649	Onepoto–Waikaremoana	"	"	420 2 5
	651	Rotokakarangu Road (main road)	"	"	213 6 8
	653	Runanga–Pohue (main road)	Wairoa and Hawke's Bay	Hawke's Bay	1,153 6 10
	655	Tunanui–Mahia	Wairoa	Waiapu	1,066 9 6
	657	Waikaremoana Accommodation-house Road	"	"	2 14 0
	660	Wairoa–Mahia (main road)	"	"	200 0 0
	662	Napier–Murimotu (royalty on timber)	Hawke's Bay	Hawke's Bay	12 14 9
	663	Ahiweka (on account of £1,000)	Waipawa	Waipawa	33 3 7
	666	Dannevirke–Weber–Wimbledon–Porangahau (main road)	Waipawa and Patangata	Waipawa and Pahiatua	1,072 9 11
	671	Mangatoro bridges	Waipawa	Waipawa	1,138 2 0
	674	Ngapaeruru roads	"	"	5,738 16 7
	675	Norsewood–Apiti. (See also Wellington District)	"	Waipawa and Rangitikei	381 12 6
	676	Ormondville–Waikopiro	"	Waipawa	265 16 8
	677	Paeroa	"	"	77 5 0
	678	Rangitoto	"	"	38 11 6
	679	Ruahine	"	"	14 12 5
	680	Ruanui Road, Waikopiro	"	"	178 10 2
	681	Ruhia	"	"	67 1 10
	682	Tahukaretu Bridge and Road (main road)	"	Pahiatua	400 0 0
	684	Waikopiro	"	Waipawa	1,226 3 11
	685	Waikopiro Improved-farm Settlement	"	"	89 9 1
	687	Oporae	Patangata	Pahiatua	456 7 5
	694	Contingencies and engineering			0 9 4
		Total—Hawke's Bay			£38,912 10 9
		TARANAKI—			
	695	Burfoot Improved-farm Settlement	Clifton	Egmont	29 12 6
	696	Derwent Improved-farm Settlement	"	"	128 11 5
	697	Greenlands Improved-farm Settlement	"	"	238 14 5
	698	Junction Road	Stratford, Taranaki, and Clifton	"	751 16 7
	699	Junction Road, Purangi (main road) (£261, £1 for £1)	Clifton and Taranaki	"	1,050 0 0
	700	Kaka	Clifton	"	23 15 0
	701	Mangamaire Creek Bridge (Matau Road South)	"	"	149 7 11
	702	Mangaopa–Purangi	"	"	207 4 6
	703	Mangatawa	"	"	187 2 1

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			£ s. d.
		TARANAKI—*continued.*			
100	704	Mataro	Clifton ..	Egmont ..	87 0 5
	705	Matau Road	" ..	" ..	183 18 11
	706	Mimi-Mokau (main road) (£817, £1 for £1) ..	" ..	" ..	1,210 15 4
	708	Mokau Ferry-service (main road)	" ..	" ..	78 11 0
	710	Moki Junction, Block II., Upper Waitara ..	" ..	" ..	16 1 6
	711	Moki Road	" ..	" ..	924 10 10
	712	Ngatoto	" ..	" ..	211 13 3
	713	Okau Improved-farm Settlement	" ..	" ..	129 10 11
	714	Okoke (£800, £1 for £1)	" ..	" ..	200 13 6
	715	Otaraoa Road	" ..	" ..	443 0 8
	716	Pukemahoe	" ..	" ..	139 0 3
	717	Pukemahoe Road-Purangi	" ..	" ..	46 10 0
	718	Purangi Bridge (main road)	" ..	" ..	90 0 0
	719	Putiki	" ..	" ..	23 18 9
	721	Tikorangi Road	Clifton and Taranaki	Egmont and Taranaki	163 17 1
	722	Tongaporutu Bridge	Clifton ..	Egmont ..	1,380 5 10
	724	Uruti Road	" ..	" ..	143 3 9
	725	Uruti Township	" ..	" ..	16 6 0
	728	Dawson's Falls Road	Stratford ..	" ..	29 12 2
	729	Egmont (£200, £1 for £1)	Taranaki ..	Egmont & Taranaki	145 10 1
	730	Everett Road	" ..	Egmont ..	85 0 0
	732	Maude Road	" ..	Taranaki ..	65 16 8
	734	Mount Egmont	Taranaki, Stratford, Hawera, and Egmont	Taranaki, Hawera, and Egmont	45 0 0
	736	Pitone Road	Taranaki ..	Taranaki ..	213 10 6
	737	Plymouth Road (£1 for £1)	" ..	" ..	56 5 0
	739	Tahua Village Road	" ..	" ..	7 6 0
	740	Upper Carrington Road (through Patua Block) ..	" ..	" ..	290 5 8
	742	Waitara District roads	" ..	" ..	267 0 0
	743	Waiweranui	Egmont ..	" ..	93 4 4
	744	Akama	Stratford ..	Egmont ..	200 0 0
	745	Brewer-Murcott (£1 for £1)	" ..	" ..	925 0 0
	746	Douglas-Tunupo, Makuri and Mohakau (£1,561, £1 for £1)	" ..	" ..	1,276 5 0
	747	Gatton Special Settlement	" ..	" ..	99 15 8
	749	Hurimoana	" ..	" ..	49 1 4
	750	Kohuratahi-Tangarakau	" ..	" ..	178 3 2
	751	Maikai	Clifton ..	" ..	196 6 2
	753	Mangaehu and Llewellyn Special Settlements ..	Stratford ..	" ..	112 16 4
	755	Mangaehu Bridge, Puniwhakau	" ..	" ..	444 19 0
	757	Mangaehu Road North (£1 for £1)	" ..	" ..	300 0 0
	758	Mangaehu Track	" ..	" ..	100 0 0
	759	Mangaehu (£1 for £1)	" ..	" ..	200 0 0
	760	Mangaotuku (£1 for £1)	" ..	" ..	157 10 0
	761	Mangaowata	" ..	" ..	137 13 11
	763	Mangere Improved-farm Settlement	" ..	" ..	1 4 0
	764	Mangere Road	" ..	" ..	324 16 3
	765	Mangere Stream Dray Bridge	" ..	" ..	27 3 9
	766	Matau Road North	Clifton ..	" ..	166 6 7
	767	Ngatoto Road North	" ..	" ..	165 6 8
	768	Ohura (south of Paorae Stream)	Stratford and Clifton	" ..	8,623 0 11
	769	Pembroke (£300, £1 for £1)	Stratford ..	" ..	33 11 0
	770	Pohokura	" ..	" ..	100 0 0
	772	Puni, Taurakawa, and Murcott roads	" ..	" ..	206 15 3
	773	Puniwhakau (£166, £1 for £1)	" ..	" ..	1,434 0 2
	774	Putikituna	" ..	" ..	1,200 0 0
	775	Raekohua	" ..	" ..	121 0 0
	776	Taihore (£1 for £1)	" ..	" ..	501 0 0
	778	Tawhiwhi	" ..	" ..	62 5 6
	779	Terrace End	" ..	" ..	288 4 10
	781	Tututawa	" ..	" ..	93 18 10
	782	Vera Road	" ..	" ..	500 0 0
	783	Whangamomona Valley	" ..	" ..	77 17 7
	784	Whitianga Road	" ..	" ..	374 10 4
	785	Mangamingi Township	Hawera ..	Patea ..	1 10 0
	787	Patua roads	Taranaki ..	Taranaki ..	5 1 6
	788	Poti Improved-farm Settlement	Hawera ..	Hawera ..	17 17 6
	789	Punehu Bridge	Egmont ..	" ..	226 0 10
	790	Tangahoe Valley	Hawera ..	Patea ..	660 0 5
	791	Ball Road	Patea ..	" ..	64 6 3
	792	Eltham-Waitotara	Patea and Hawera	" ..	551 1 3
	793	Maben Road	Patea ..	" ..	811 0 2
	796	Nukuhau	" ..	" ..	75 16 0
	797	Okahutiria-Mataimoana	" ..	" ..	1,053 14 3
	798	Okutuku	" ..	" ..	100 0 0
	799	Otoia District	" ..	" ..	51 1 2
	802	Raniwhakaooma	" ..	" ..	43 6 6
	803	Taumatatahi Improved-farm Settlement ..	" ..	" ..	7 3 0
	804	Upper Waitotara Valley	" ..	" ..	3 15 0
	805	Whenuakura Valley	" ..	" ..	199 18 0
	807	Contingencies and engineering	..	..	272 4 11
		Total—Taranaki			£32,376 1 10

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		WANGANUI—			
100	808	Tangarakau River	Stratford	Egmont	800 0 0
	809	Makakaho (Upper Waitotara)	Patea	Patea	133 18 0
	810	Pipiriki–Pungarato	Wanganui	"	5 5 0
	811	Makotuku Valley	"	"	10 6 2
	814	Clifton Block	"	"	206 14 6
	815	Huikumu	"	"	120 3 0
	816	Kawautahi–Otapouri	"	"	155 7 6
	817	Mangawhero–Murimotu	"	"	172 7 11
	818	Mangawhero–Mangatiti	"	"	169 8 0
	822	Moawhango–Te Horo (main road)	Wanganui and Hawke's Bay	Patea and Rangitikei	87 13 8
	824	Otaranoho	Wanganui	Patea	13 8 0
	826	Paengaroa–Turangarere	"	"	67 1 6
	827	Pipiriki–Waiouru (main road)	"	"	4,296 13 8
	828	Raetihi–Ohura (main road)	"	"	322 3 9
	829	Raetihi–Parapara	"	"	133 0 5
	830	Raetihi Township roads	"	"	71 8 6
	831	Rangiwaea	"	"	176 10 8
	832	Retaruke Valley	"	"	213 18 4
	833	Rotoaira–Waimarino	Wanganui, East Taupo, and West Taupo	Patea and Bay of Plenty	4 11 0
	834	Ruanui 2A and 3A	Wanganui	Patea	231 19 8
	835	Taumaranui–Ohakune (main road)	Wanganui and West Taupo	Patea and Bay of Plenty	826 19 1
	836	Tokaanu–Pipiriki	Wanganui and East Taupo	Ditto	1,000 0 0
	837	Turakina Valley	Rangitikei	Patea	271 3 6
	838	Waimarino	Wanganui	"	355 15 0
	839	Waiouru–Tokaanu (main road)	Wanganui and East Taupo	Patea and Bay of Plenty	356 18 6
	840	Wangaehu Bridge (Upper) (Mangamahu)	Wanganui	Patea	659 14 3
	841	Wanganui River Road	"	"	14 6 0
	843	Wanganui Block	"	"	76 10 6
	845	Gorge–Ohutu Improved-farm settlement	Rangitikei	Rangitikei	48 5 8
	846	Gorge Road	"	"	39 19 10
	847	Hautapu Improved-farm Settlement	Wanganui	Patea	353 13 0
	849	Hiwera	Rangitikei	Rangitikei	39 11 2
	851	Kaiangaroa and Moawhango Valley	"	"	61 0 8
	852	Makohine Valley	"	"	61 9 0
	853	Makohine (Upper)	"	"	399 1 11
	854	Mangapapa	"	"	80 0 0
	855	Mangamahoe Bridge	"	Patea	86 12 8
	856	Masterton–Tenui Improved-farm Settlement	"	Rangitikei	5 6 6
	857	Mataroa–Mangaweka	"	"	169 17 5
	860	Murray's Track	"	Patea and Rangitikei	256 18 8
	861	Ngaturawa	"	Rangitikei	20 0 0
	862	Ohingaiti–Waiouru (main road)	Rangitikei and Wanganui	Patea and Rangitikei	4,084 16 3
	863	Ohutu Improved-farm Settlement	Rangitikei	Rangitikei	203 15 3
	866	Otuarei Improved-farm Settlement	"	"	13 13 0
	867	Otuareiawa Bridge	"	"	74 3 9
	868	Pohonuiotane Block (£518, £1 for £1)	"	Patea	94 16 5
	869	Rangitikei Bridge, Bull's (main road)	Rangitikei and Manawatu	Manawatu	3,548 19 3
	870	Rangitikei Bridge, Vinegar Hill (£1 for £1)	Rangitikei and Kiwitea	Rangitikei and Patea	748 0 0
	871	Rangitikei Bridge, Mangaweka (main road) (on account of £2,935)	Ditto	Rangitikei	147 4 3
	873	Rongoiti Improved-farm Settlement	Wanganui	Patea	7 15 3
	874	Sommerville Improved-farm Settlement	Rangitikei	Rangitikei	97 8 4
	875	Taihape Township roads (£292, £1 for £1)	"	"	48 9 11
	876	Taihape–Paengaroa	Rangitikei and Wanganui	Patea and Rangitikei	672 6 11
	877	Taihape–Otuarei	Rangitikei and Hawke's Bay	Rangitikei	60 0 0
	878	Taihape Improved-farm Settlement	Rangitikei	"	108 9 8
	879	Tekapua	"	Patea and Rangitikei	229 13 4
	880	Torere	"	Rangitikei	207 6 10
	881	Torere–Pukeokahu	Rangitikei and Hawke's Bay	"	282 3 8
	883	Turakina Valley extension	Wanganui	Patea	155 19 0
	885	Wairano	Rangitikei	Rangitikei	39 19 4
	887	Mangawharariki (see also Wellington District)	"	"	20 4 4
	888	Ohingaiti–Pemberton	Rangitikei and Kiwitea	Patea and Rangitikei	127 19 4
	889	Village-settlements roads			256 11 6
	891	Contingencies and engineering			191 12 6
		Total—Wanganui			£23,996 10 8

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
100		WELLINGTON—			£ s. d.
	892	Mangarere Road (Hautapu Block)	Kiwitea ..	Rangitikei ..	106 19 2
	893	Mangarere Road, Mangaweka	" ..	" ..	247 8 6
	895	Pourangaki Suspension-bridge	Kiwitea and Rangitikei	" ..	127 3 8
	896	Aorangi Settlement roads	Oroua ..	" ..	303 8 5
	897	Fitzherbert–Tokomaru	Kairanga ..	Palmerston ..	279 6 8
	900	Palmerston–Foxton	Kairanga and Manawatu	" ..	200 0 0
	902	Railway, to junction of Cameron's line (£1 for £1)	Kairanga ..	" ..	250 0 0
	905	Apiti-Rangiwahia (main road)	Pohangina and Kiwitea	Rangitikei ..	121 11 0
	906	Coal Creek Bridge and Road (Pohangina Valley to Makiekie Road) (£1 for £1)	Pohangina ..	" ..	339 9 8
	907	Main Road, Mangoira–Coal Creek (main road) ..	" ..	" ..	175 0 5
	908	Malton	Pohangina ..	Palmerston ..	25 19 0
	909	Norsewood–Apiti (main road) (see also Hawke's Bay)	Pohangina and Waipawa	Rangitikei and Waipawa	124 19 7
	910	Oroua–Coal Creek Road (£1 for £1)	Pohangina ..	Rangitikei ..	200 0 0
	911	Pohangina	" ..	" ..	52 13 4
	913	Pohangina Valley Forest Reserve	" ..	" ..	788 8 7
	914	Pohangina–Woodville	" ..	" ..	17 8 7
	915	Umutoi Survey District	Kiwitea ..	" ..	67 5 6
	916	Umutoi–Table Flat	" ..	" ..	5 13 11
	917	Auputa Road and Bridge	" ..	" ..	88 9 6
	918	Conspicuous Road	" ..	" ..	5 4 2
	920	Hautapu No. 2	Rangitikei and Kiwitea	" ..	20 6 2
	921	Hautapu–Ruahine..	Kiwitea ..	" ..	137 13 7
	922	Junction, Te Parapara–Mangahuia ..	" ..	" ..	90 9 10
	923	Kawatu Improved-farm Settlement	" ..	" ..	96 12 9
	924	Kawatu Valley	" ..	" ..	838 9 4
	925	Kelpie (£140, £1 for £1)	" ..	" ..	26 7 0
	926	Kew	" ..	" ..	7 4 6
	927	Kimbolton	" ..	" ..	21 3 6
	928	Lagoon Road (£250, £1 for £1)	" ..	" ..	94 5 11
	930	Mangamako–Otara (£1 for £1)	" ..	" ..	125 1 2
	932	Mangawharariki (see also Wanganui District) ..	" ..	" ..	520 5 3
	933	Mangawharariki Bridge (main road)	" ..	" ..	52 15 0
	934	Mania Road	" ..	" ..	27 11 6
	935	Marton, 1 and 2	" ..	" ..	59 3 0
	936	McBeth's Road–Birmingham	" ..	" ..	570 17 0
	937	Onslow	" ..	" ..	14 15 6
	939	Sylvester's–Mangawharariki Road	" ..	" ..	71 4 0
	940	Umutoi	" ..	" ..	14 1 4
	941	Umutoi No. 2 (wire-rope cage)	" ..	" ..	60 0 0
	942	Akitio Bridge (main road)	Patangata ..	Pahiatua ..	899 6 10
	943	Waihi Valley–McQuinn's	Akitio ..	" ..	94 19 11
	944	Woodville, Malton Block	Pohangina & Woodville ..	" ..	23 5 0
	945	Otawhao (Upper)	Woodville ..	" ..	61 0 0
	946	Ballance Bridge (Mathieson's)	Pahiatua ..	" ..	351 6 0
	947	Ballance–Manawatu Gorge	" ..	" ..	621 15 9
	948	Ballance–Upper Gorge Bridge	" ..	" ..	14 10 2
	949	Central Road–Hall Farm-homestead Settlement ..	" ..	" ..	87 8 0
	950	Coonoor Farm-homestead Association	" ..	" ..	79 18 11
	952	Dew's Road	" ..	" ..	7 0 0
	953	Eglinton Road (Kaitawa District)	" ..	" ..	208 12 6
	954	Hall Special Settlement	" ..	" ..	132 6 7
	955	Horse-shoe Bridge (Makuri Gorge Road) (main road) (£1 for £1)	" ..	" ..	33 4 8
	957	Kaitawa Ridge Road	" ..	" ..	1,361 15 1
	959	Makairo–Coonoor Road (main road)	" ..	" ..	664 12 10
	960	Makairo–Kumeroa (main road)	Pahiatua and Woodville	" ..	287 9 0
	963	Makuri–Pongaroa	Pahiatua and Akitio	" ..	1,650 11 10
	964	Makuri–Pongaroa Bridges (main road)	Akitio ..	" ..	198 0 0
	965	Makuri Township	Pahiatua ..	" ..	54 19 0
	966	Makuri Valley (Upper)	" ..	" ..	167 10 4
	969	Mangahao–Tutaekara	" ..	" ..	11 2 6
	970	Mangaramarama Village Settlement	" ..	" ..	200 0 0
	971	Mangatainoka River Bridge, Hamua (on account of £1,800)	" ..	" ..	1,461 8 1
	972	Mangatainoka River Bridge, Lower Scarborough Road (£1 for £1)	" ..	" ..	250 0 0
	973	Mangatainoka River protection-works	" ..	" ..	132 3 7
	974	Mangatoro–Coonoor Valley (main road) ..	" ..	" ..	119 13 6
	975	Manuhara	Akitio ..	" ..	197 8 11
	977	Nae-nae and Waiwera Block–Mokomoko ..	Pahiatua ..	" ..	166 4 3
	978	Ngaturi–Aohanga	" ..	" ..	743 10 7
	979	Nikau-Omata	" ..	" ..	31 17 11
	980	Ohinereiata	" ..	" ..	89 6 5
	982	Pa Valley	..	Masterton ..	20 6 11

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		WELLINGTON—*continued.*			
100	983	Pahiatua–Palmerston	Pahiatua ..	Pahiatua ..	1,145 8 2
	984	Range Road–Pongaroa	Akitio ..	" ..	94 9 0
	985	Sutherland's–Rock Road	Pahiatua ..	" ..	100 0 0
	987	Te Aupapa	" ..	" ..	200 0 0
	988	Thompson's Road	" ..	" ..	124 12 2
	989	Tiraumea South–Kaitawa	" ..	" ..	337 3 3
	990	Tiraumea Valley	" ..	" ..	237 18 3
	991	Towai	Akitio ..	" ..	464 18 11
	993	Turitea–Makuri	Pahiatua ..	" ..	425 1 4
	994	Tutaekara–Nikau	" ..	" ..	273 4 1
	999	Waiwera Block	Eketahuna ..	Masterton ..	250 7 2
	1000	Woodville–Aohanga	Pahiatua ..	Pahiatua ..	1,039 15 4
	1002	Alfredton–Weber (Alfredton end)	Akitio and Masterton	Pahiatua and Masterton	400 0 0
	1003	Alfredton–Weber (main road)	Akitio ..	Pahiatua ..	2,721 8 11
	1004	Barton's Line	Masterton ..	Masterton ..	129 0 3
	1010	Burling's–Mecalickstone	" ..	" ..	497 19 11
	1012	Christchurch Association	" ..	" ..	212 18 2
	1013	Downes'–McRae's	" ..	Wairarapa ..	200 0 0
	1014	Duffy's section (road to)	" ..	" ..	86 12 3
	1016	Fernyhurst–Kaiwhata Road	Masterton ..	Wairarapa ..	769 0 5
	1021	Kaiwhata–Chalmers Road	" ..	" ..	37 10 11
	1022	Kaiwhata–Rewa	" ..	" ..	560 1 3
	1023	Kaiwhata Run 49	" ..	" ..	12 12 11
	1024	Kaiwhata Runs (Kaiwhata–Chalmers)	" ..	" ..	22 12 3
	1025	Kaiwhata Valley	Wairarapa South ..	" ..	238 13 0
	1033	Mangatiti and Black Creek Bridges	Akitio ..	Pahiatua ..	250 0 0
	1036	Maungatakato Road	Masterton ..	Masterton ..	34 5 1
	1040	Ruamahanga Bridge (Upper Opaki to Mount Bruce), (on account of £2,000)	" ..	" ..	15 12 0
	1041	Saunders' Road	" ..	" ..	200 0 0
	1042	Taueru Bridge, Masterton, East Coast (main road), (£1 for £1)	Masterton and Wairarapa South	Masterton and Wairarapa	300 0 0
	1044	Utewai Road (Waterfalls)	Masterton ..	Masterton ..	481 8 3
	1046	Waihoki Valley	Akitio ..	Pahiatua ..	316 15 7
	1051	Wilson and Chalmers	Masterton ..	Masterton ..	50 0 0
	1053	Tenui Valley (main road)	Akitio ..	" ..	179 1 9
	1054	Akitio Improved-farm settlement	" ..	Pahiatua ..	140 11 6
	1055	Akitio River Road, Mount Wolff	" ..	" ..	371 15 2
	1056	Akitio River Suspension-bridge Road	" ..	" ..	92 0 5
	1060	Huia	" ..	" ..	530 18 3
	1061	Kaituna	" ..	" ..	658 12 0
	1063	Makuri–Aohanga, Rakaunui	" ..	" ..	778 11 3
	1064	Mangatiti	" ..	" ..	41 16 9
	1065	Mangatiti Improved-farm Settlement	" ..	" ..	41 1 8
	1066	Manuhara	" ..	" ..	116 1 6
	1067	Masterton Reform Association	" ..	" ..	539 6 5
	1068	McLeod's Road	" ..	" ..	76 8 9
	1070	Mecalickstone	" ..	" ..	78 17 5
	1071	Mount Arthur Road	" ..	" ..	153 18 1
	1072	Pahiatua Nos. 1, 2, 3, 4	" ..	" ..	1,187 12 10
	1073	Pakowai–Mataikona Settlement roads	" ..	" ..	451 0 0
	1075	Pongaroa–Aohanga	" ..	" ..	752 9 0
	1076	Pongaroa Cemetery Reserve Road	" ..	" ..	140 7 0
	1078	Pongaroa Township	" ..	" ..	91 8 2
	1081	Range Road	" ..	" ..	147 14 0
	1082	Rising Sun Association	" ..	" ..	478 9 0
	1083	Spur Road, Waikawa to King Creek	" ..	" ..	260 15 3
	1084	Waihi	" ..	" ..	460 0 2
	1085	Waihi-Akitio	" ..	" ..	333 5 4
	1086	Waihi River Footbridge and Oporae Road ..	" ..	" ..	200 0 0
	1091	Waipatukaka, near Pongaroa	Akitio and Castlepoint	" ..	177 16 8
	1094	Bowen's–Hastwell	Eketahuna ..	Masterton ..	612 7 1
	1095	Eketahuna–Alfredton (main road)	Eketahuna and Masterton	" ..	50 0 0
	1096	Eketahuna–Nireaha (central road)	Eketahuna ..	" ..	92 9 0
	1097	Hukanui–Pahiatua	" ..	" ..	110 7 8
	1100	Kaipororo–Stirling	" ..	" ..	9 6 0
	1101	Kakariki Special Settlement	" ..	" ..	50 17 3
	1102	Makakahi Bridge, Hamua	" ..	" ..	68 3 0
	1103	Makakahi–Kaipororo	" ..	" ..	179 0 11
	1105	Mangaoronga	" ..	" ..	186 5 3
	1106	Mangaraupi and Mangaroa No. 2 Roads ..	" ..	" ..	162 14 3
	1108	Mangatainoka River Bridge, Newman–Stirling ..	" ..	" ..	1,172 7 5
	1109	Mangatainoka Valley	" ..	" ..	61 8 1
	1110	Native Land K No. 2	" ..	" ..	30 2 9
	1113	Parkville–Mangatainoka (main road)	" ..	" ..	471 18 9
	1116	Smith's Road	Mauriceville ..	" ..	112 9 0
	1117	Stirling Block	Eketahuna ..	" ..	20 15 2
	1118	Tawatahia	" ..	" ..	276 8 0
	1119	Wellington No. 2 and Parkville Special Settlement	" ..	" ..	304 7 0
	1121	Barton's–Mangamahoe Junction	Mauriceville ..	" ..	104 1 0

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		WELLINGTON—*continued.*			
100	1122	Dagg's Road	Mauriceville	Masterton	46 4 9
	1124	Mangamahoe	"	"	385 11 1
	1126	Mount Baker (Tawataia Tollgate), Mangamahoe	"	"	183 10 11
	1128	Ahiaruhe	Masterton	"	25 0 0
	1129	Bismarck Road, Wharau District	Wairarapa South	Wairarapa	317 15 3
	1130	Cameron's Road	Featherston	"	93 16 4
	1131	Craigie Lee (Douglas Road)	Wairarapa South	"	303 10 4
	1132	Cross Creek	Featherston	"	213 3 0
	1135	Gladstone–East Coast (main road)	Wairarapa South	"	815 8 6
	1140	Kaitangata–Waiohine	"	"	184 4 11
	1142	Kohunui–Palliser Bay	Featherston	"	100 0 0
	1143	Kokotau Bridge (£1 for £1)	Wairarapa South	"	247 15 10
	1144	Karaka Bay–Kaiwhata Road	"	"	121 11 2
	1145	Mangatarere Valley	"	"	283 10 5
	1147	Martinborough–Ponatahi	Wairarapa South and Featherston	"	200 0 0
	1148	Mongahuia–Kokotau	Wairarapa South	"	200 0 0
	1149	Ngakonui to Clifton Grove and Summer Hill	Wairarapa South and Featherston	"	387 15 7
	1150	Norfolk Road, towards Mount Holdsworth	Wairarapa South	"	272 9 4
	1151	Norfolk Road, Waingawa	"	"	150 0 0
	1152	Pahaoa Bridge (Sutherland's)	Featherston	"	694 14 11
	1153	Pahaoa Road (£612, £1 for £1)	"	"	170 12 6
	1155	Rocky Hill–Wainuioru	Wairarapa South	"	215 11 2
	1158	Turner's Road–Wainuioru	"	"	597 7 4
	1160	Waiohine Valley	"	"	414 17 10
	1162	Wharau–Kaiwhata (main road)	"	"	1,208 12 6
	1164	Woodside–Waiohine	Featherston	"	109 6 6
	1165	Akatarawa–Waikanae	Hutt	Otaki	400 0 0
	1167	Gladstone	Horowhenua	Manawatu	150 0 0
	1168	Horowhenua Beach Road (£1 for £1)	"	"	21 0 0
	1169	Horowhenua Improved-farm Settlement	"	Otaki	45 8 2
	1171	Johnston Road (£1 for £1)	"	Manawatu	200 0 0
	1172	Kimberley Road, Block VI.	"	Otaki	565 4 7
	1173	Manakau Bridge	"	"	100 0 0
	1176	Ohau River protective works (Silvester's)	"	"	165 0 0
	1177	Otaki Bridge (main road)	"	"	1,901 9 2
	1183	Tokomaru, Ohau, Waikawa, Horowhenua, and Otaki Bridges (main road)	"	Otaki and Manawatu	128 0 0
	1184	Waikanae Beach Road	"	Otaki	125 0 0
	1185	Waikanae Bridge (main road)	"	"	1,344 8 4
	1186	Waikanae–Paikakariki	Hutt	"	400 0 0
	1187	Waikanae–Te Horo (main road)	Horowhenua	"	1,141 16 8
	1189	Waikawa Bridge	"	"	72 14 1
	1190	Waitohu Bridge	"	"	150 0 0
	1192	Akatarawa	Hutt	"	100 0 0
	1193	Akatarawa Bridges	"	"	200 0 0
	1201	Korokoro Settlement roads	"	Wellington Suburbs	564 5 6
	1202	Luff's Road (off Whiteman's Valley Road)	"	Otaki	70 0 0
	1205	Mungaroa Valley	"	"	100 0 0
	1206	Pahautanui Bridle-track–Wainui	"	"	100 0 0
	1207	Paikakariki–Paraparaumu (main road)	"	"	300 0 0
	1209	Paparangi Estate roads	"	"	87 17 0
	1210	Paraparaumu Valley–Mangakotukutuku	"	"	500 0 0
	1211	Paraparaumu–Waikanae	"	"	300 0 0
	1212	Porirua Bridge	"	"	100 0 0
	1214	Southie's Road	"	"	100 0 0
	1217	Wainui Stream Road	"	"	200 0 0
	1219	Village settlements roads			43 6 3
	1220	Works not specifically appropriated			17 7 7
	1221	Contingencies and engineering			625 1 4
		Total—Wellington			£59,842 14 8
		NELSON—			
	1222	Aniseed Valley	Waimea	Nelson	200 0 0
	1223	Belgrove–Upper Waiti	"	Motueka	97 17 3
	1224	Belgrove–Westport–Reefton (main road)	Waimea, Inangahua, and Buller	Motueka and Buller	3,413 4 3
	1225	Belgrove–Tophouse–Tarndale (main road)	Waimea and Amuri	Motueka and Ashley	83 4 11
	1227	Eves Valley, Waimea West (£1 for £1)	Waimea	Nelson	7 4 11
	1228	Fairhall–Tadmor	"	Motueka	41 8 0
	1232	Kaiteriteri–Riwaka	"	"	71 16 0
	1234	Maitai £1 for £1)	"	Nelson	75 0 0
	1237	Motueka Valley (£1 for £1)	"	Motueka	18 0 3
	1238	Motueka River protective works (£500, £1 for £1)	"	"	165 0 0
	1241	Moutere Hills	"	"	150 0 0
	1245	Moutere (Upper)	"	"	50 0 0
	1248	Norris's Gully–Stewart's	"	"	125 2 3
	1249	Pohara–Awaroa Track	Collingwood	"	330 15 0
	1251	Quail Valley	Waimea	"	28 18 6
	1252	Richmond–Collingwood (main road)	Waimea and Collingwood	Nelson and Motueka	250 0 0

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			£ s. d.
		NELSON—*continued.*			
100	1253	Riwaka Valley Road and Bridge	Waimea	Motueka	200 0 0
	1255	Stanley Brook–Motueka Valley	"	"	119 5 1
	1256	Stanley Brook Hill, Motueka Valley–Railway-station	"	"	250 0 0
	1257	Tadmor Ford (Motueka)	"	"	21 19 9
	1260	Tadmor (Upper)	"	"	156 5 0
	1263	Wairoa Gorge	"	"	34 18 9
	1265	Wakefield–Stanley Brook	"	"	100 0 0
	1266	Woodstock–Stanley Brook	"	"	250 0 0
	1268	Rai–Harvey's Bay	Sounds	Nelson	13 0 0
	1270	Bonny Doon–Jamieson's	Collingwood	Motueka	100 0 0
	1273	East Road (long cutting to Pohara)	"	"	86 10 0
	1275	Motupipi River Bridge (main road)	"	"	27 4 5
	1277	Oparara Schoolhouse Road	Buller	"	100 0 0
	1278	Pakawau–Tamatea	Collingwood	"	126 6 0
	1280	Takaka River Protection (£1 for £1)	"	"	278 14 7
	1282	Takaka–Riwaka (£1 for £1) (main road)	Waimea and Collingwood	"	56 5 1
	1284	Waitapu Survey District (Block XI.)	Collingwood	"	13 8 8
	1287	Buller Road (loop-line, nine miles to Westport) (on account of £2,000)	Buller	Buller	350 0 0
	1289	Horse Terrace–Hunter's	Inangahua	"	97 12 0
	1290	Karamea	Buller	Motueka	149 19 0
	1291	Karamea–Mud Flat	"	"	65 0 0
	1292	Lyell Cemetery and Road	"	Buller	65 3 0
	1293	Mangles–Braeburn	Inangahua	"	200 0 0
	1294	Mokihinui–Little Wanganui River	Buller	Motueka	2,174 13 2
	1297	Oparara Road and Bridge	"	"	67 1 1
	1304	Glenroy Bridge (approaches)	Inangahua	Buller	179 19 9
	1307	Inangahua Bridge, Reefton (main road)	"	"	20 8 2
	1309	Inangahua flood damages	"	"	500 0 0
	1313	Mangles Bridge–Murchison	"	"	164 11 9
	1316	Marula, *viâ* Caslani's	"	"	200 0 0
	1322	Upper Inangahua Valley	"	"	50 0 0
	1324	Cobden Hill (bridle-track)	Grey	Grey	100 0 0
	1326	Haupiri–Amuri	"	"	152 18 1
	1327	Main Coal Creek–Coal Creek Falls	"	"	39 11 3
	1328	Nelson Creek Footbridge	"	"	183 4 4
	1329	Seven-mile Bridge–Beach Track, Point Elizabeth	"	"	54 8 10
	1330	Waipuna–Clarke River	"	"	100 0 0
	1331	Waipuna	"	"	137 9 4
	1334	Contingencies and engineering			4 15 9
		Total—Nelson			£12,098 4 2
		MARLBOROUGH—			
	1335	Anakoa–Manaroa	Sounds	Wairau	178 7 1
	1336	Anakoa–Titirangi	"	"	31 1 10
	1337	Arapawa–Te Awaiti	"	"	119 11 6
	1340	Crail Bay–Homewood	"	"	93 4 6
	1341	Crail Bay Track	"	"	38 18 10
	1342	Double Bay–Torea	"	"	93 15 4
	1343	Elaine Bay–Harvey's Bay	"	Nelson	197 7 10
	1344	Endeavour Inlet–Titirangi	"	Wairau	12 3 0
	1345	Fairy Bay, North West Bay	"	Nelson	105 2 4
	1346	Hakahaka–Opihi	"	Wairau	22 7 0
	1347	Harvey's Bay, Pelorus Sound	"	Nelson	10 12 0
	1348	Harvey's Bay–Tuna Bay	"	"	69 7 6
	1349	Kenepuru–Anakoa	"	Wairau	27 16 6
	1350	Kenepuru–Endeavour Inlet	"	"	2 14 0
	1351	Kenepuru–Mahakipawa	Sounds and Marlborough	"	113 2 0
	1352	Kenepuru–Manaroa	Sounds	"	43 17 1
	1353	Kenepuru Sound	"	"	33 19 6
	1354	Kiaho Canal and Kenepuru Track	"	"	53 4 10
	1355	Mahau Sound	"	"	17 7 0
	1356	Manaroa–Hopai	"	"	16 13 0
	1358	Nydia Bay–Havelock	Sounds and Marlborough	Nelson	167 4 4
	1359	Ohinetaha–Te Mehia	Sounds	Wairau	6 0 0
	1360	Onahau Bay–Kenepuru Sound	"	"	77 13 0
	1363	Piripaua Neck Cutting	"	"	15 18 10
	1365	Port Underwood–Opua Bay	"	"	43 12 0
	1366	Queen Charlotte Sound	"	"	56 16 0
	1367	Resolution Bay–Endeavour Inlet	"	"	28 3 0
	1368	Richmond Bay–Kenny's Isle	"	"	254 10 3
	1369	Robin Hood Bay–Ocean Bay	"	"	19 3 0
	1370	Skiddaw Run–Te Matau-a-Maui	"	"	198 14 4
	1371	Te Awaite Wharf	"	"	290 0 9
	1372	Te Mehia–Portage Bay	"	"	92 6 7
	1373	Tennyson Inlet	"	Nelson	7 0 0
	1374	Titirangi–Ship Cove	"	Wairau	133 2 6
	1375	Torea Bay Road	"	"	51 1 6

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
		MARLBOROUGH—*continued*			£ s. d.
100	1376	Torea Bay Wharf and shed	Sounds	Wairau	20 3 6
	1377	Torea Neck	"	"	4 5 9
	1378	Tory Heads–Picton	"	"	240 1 8
	1379	Waitaria–Manaroa	"	"	10 3 0
	1380	Waitaria–Te Matau-a-Maui	"	"	83 7 4
	1381	Wet Inlet–Crail Bay	"	"	12 16 3
	1382	Whatamonga–Port Underwood	"	"	63 15 6
	1383	White's Bay–Port Underwood	"	"	11 12 9
	1385	Anakiwi–Grove	Marlborough	"	258 9 11
	1387	Bartlett's Creek–Langley Dale	"	"	184 0 0
	1390	Blenheim–Kaikoura–Waiau (main road)	Marlborough, Kaikoura, and Amuri	Wairau and Ashley	1,644 6 11
	1391	Blind River Roads	Marlborough	Wairau	289 16 2
	1392	Blind River–Starborough	"	"	306 7 8
	1393	Bluff Cove and Port Underwood	"	"	1 8 0
	1394	Canvastown–Deep Creek	"	"	81 3 0
	1395	Cemetery Gate–Blarich	"	"	132 5 8
	1396	Clarence Bridge protective works (main road)	Marlborough and Kaikoura	Wairau and Ashley	337 18 8
	1397	Double Bay	Marlborough	Wairau	6 8 0
	1398	Fulton's–Grove	"	"	79 7 9
	1400	Grove Wharf and shed	"	"	2 14 0
	1402	Harvey's Bay–Tawero Point	Sounds	Nelson	80 0 6
	1403	Havelock–Canvastown	Marlborough	Wairau	100 0 0
	1404	Havelock flood damages	"	"	200 0 0
	1405	Havelock–Grove	"	"	64 15 0
	1406	Havelock–Kaituna (main road)	"	"	100 0 0
	1407	Kaituna River protective-works	"	"	45 0 0
	1408	Kaituna–Tuamarina (main road)	"	"	78 9 0
	1411	Mahakipawa–Moetapu	"	"	121 14 8
	1412	Mahakipawa–Moetapu–Cawte's land	"	"	97 5 4
	1414	Marukoko Bridge	"	"	68 3 8
	1415	Mill Creek Bridge	"	"	100 0 0
	1416	Mudflat Bridge	"	"	200 0 0
	1417	Nelson–Havelock (main road)	Marlborough and Waimea	Wairau and Nelson	75 7 6
	1419	Omaka Ford	Marlborough	Wairau	100 0 0
	1421	Onahau–Anakiwi Track	"	"	332 14 11
	1422	Opawa River protective works	"	"	200 0 0
	1423	Pelorus River (north side) and Sound–Nelson Main Road	"	Nelson	115 8 9
	1424	Pember's–Pukaka Valley	"	Wairau	100 0 0
	1425	Pember's Road–White's Bay	"	"	100 0 0
	1427	Picton–Queen Charlotte Sound	"	"	12 18 6
	1428	Port Underwood–Fighting Bay	"	"	34 6 3
	1430	Rocky, Dangerous, and Okaramio Creeks (bridges), (main road)	"	"	375 1 7
	1435	Three Bridges Flat, Kekerangu	Marlborough	Wairau	39 5 0
	1436	Tophouse (main road)	"	"	150 0 0
	1438	Tuamarina–White's Bay	"	"	23 15 0
	1439	Waikakaho Bridge	"	"	300 0 0
	1440	Wairau Native Reserve–Pilot-station	"	"	100 0 0
	1442	Wairau River–Gravel-pit drain	"	"	0 5 0
	1443	Blue duck, Irongate, Aniseed, and Ohau Creeks (bridges)	Kaikoura	Ashley	860 5 6
	1444	Conway Accommodation-house Reserve (old P.W. cutting)	Amuri	"	33 10 4
	1445	Conway–Waiau	Cheviot	"	105 10 7
	1446	Hapuka and Puhipuhi Rivers (main road)	Kaikoura	"	253 0 10
	1448	Kahautara Bluff (main road)	"	"	1,353 17 3
	1450	Kahautara–Hawkswood (main road)	Kaikoura and Cheviot	"	79 4 0
	1452	Kaikoura–Cheviot (Kahautara River–Kowhai River) (main road)	Kaikoura	"	58 7 0
	1453	Puhipuhi Block	"	"	79 19 9
	1455	Contingencies and engineering			491 18 9
		Total—Marlborough			£13,122 14 11
		WESTLAND—			
	1456	Bell Hill	Grey	Grey	199 12 9
	1457	Black Bridge	"	"	14 9 0
	1459	Brunner–Blackball	"	"	200 0 0
	1463	Greenstone–Teremakau (widening road)	"	Westland	20 12 0
	1464	Grey Valley–Teremakau (main road)	"	"	189 17 6
	1470	Mitchell's–Inchbonnie	"	"	130 17 0
	1471	Poerua Estate	"	"	420 6 11
	1474	Teremakau Traffic-bridge (main road)	Grey and Westland	"	270 0 0
	1475	Westbrook–Blue Bluff	Grey	"	26 12 4
	1478	Arahura (Upper) Road protection	Westland	"	173 6 3
	1479	Arawata Track	"	"	100 0 0
	1480	Arawata (Lower) Track bridges	"	"	119 16 3
	1484	Blue River shelter-hut	"	"	79 13 1
	1488	Camelback–Hokitika River	"	"	15 6 0

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		WESTLAND—*continued.*			
100	1492	Copeland Track	Westland	Westland	100 0 0
	1495	Donoghue's–Mikonui (main road)	"	"	234 15 4
	1498	Franz Josef Glacier	"	"	64 13 0
	1499	Goldsborough protective works (£1 for £1)	"	"	49 7 2
	1500	Great South Road (main road)	"	"	2,660 16 2
	1502	Haast–Blue River (main road)	"	"	100 10 0
	1503	Haast Pass (main road)	"	"	62 5 0
	1505	Hokitika River Bridge (Mout's Rivulet)	"	"	139 5 3
	1506	Hokitika Flat	"	"	295 13 7
	1508	Hokitika River protection	"	"	109 6 5
	1509	Hokitika–Arthur's Pass	"	"	3,915 6 7
	1510	Hunt's Beach–Makawhio (main road)	"	"	62 11 3
	1512	Isaac Bluff Track	"	"	79 7 3
	1513	Jackson's Valley (main road)	"	"	232 19 4
	1514	Jacob's River Wire Bridge	"	"	19 6 11
	1516	Kanieri Lake Road	"	"	143 5 8
	1517	Kanieri Forks (main road)	"	"	72 0 0
	1518	Karangarua–Main South Road (main road)	"	"	366 4 0
	1521	Kokatahi River protective works	"	"	400 0 0
	1523	Kokatahi	"	"	109 7 8
	1524	Kokatahi (Lower) School to river	"		170 4 2
	1525	Kokotahi River–Main Flat	"	"	103 3 4
	1528	Koiterangi Municipal Reserve	"	"	300 0 0
	1529	Koiterangi Road–Limekilns	"	"	9 0 0
	1530	Lake Mary deviation (Jackson's Track)	"	"	281 0 4
	1531	Little Wanganui protective works	"	"	16 10 0
	1536	Mathias Pass	"	"	42 12 3
	1537	Mount Tuhua Track	"	"	13 16 0
	1538	Murray's Creek Bridge	"	"	20 19 1
	1539	McKay's Creek	"	"	20 9 0
	1546	Sunnybight	"	"	185 9 1
	1547	Teremakau overflow, Sandy Creek	"	"	116 8 11
	1548	Turnbull River Road	"	"	180 2 9
	1549	Waiho–Cook Valley	"	"	139 9 9
	1550	Waiho Springs–Glacier	"	"	72 4 0
	1551	Waitaha–Kakapotahi	"	"	201 8 11
	1555	Westland Ferry-service (main road)	"	"	108 0 0
	1557	Woodstock–Mahinapua	"	"	100 0 0
	1559	Contingencies and engineering			32 14 0
		Total—Westland			£13,291 1 3
		CANTERBURY—			
	1560	Culverden–Hanmer Plains (main road)	Amuri	Ashley	590 8 9
	1561	Hurunui Bridge at Greta (main road)	Cheviot and Ashley	"	124 17 11
	1562	Waiau (Lower) Bridge	Amuri	"	150 0 0
	1564	Cheviot County roads	Cheviot	"	214 7 2
	1571	Kowai Bridge (Leithfield) (£1 for £1)	Ashley	"	129 12 6
	1574	Waipara–Cheviot (£1 for £1) (main road)	Cheviot and Ashley	"	300 0 0
	1575	Arthur's Pass–Springfield	Selwyn	Selwyn	1,948 0 4
	1588	Roimata Settlement	"	Avon	0 12 6
	1595	Valetta Railway-station	Ashburton	Ashburton	199 17 8
	1596	Winterslow (track, near Cameron's woolshed, through Run 102)	"	"	147 16 0
	1599	Opihi River protective works	Geraldine	Geraldine	10 17 3
	1602	Opuha River Bridge (south branch)	"	"	200 0 0
	1603	Orari Gorge	"	"	44 15 9
	1609	Main South Road	Levels	Timaru and Waitaki	250 0 0
	1613	Fairlie–Pukaki (main road)	Mackenzie	Waitaki	227 8 8
	1614	Limestone and Camp Valley Roads (Albury)	"	Geraldine	146 4 8
	1615	Mount Cook and glaciers	"	Waitaki	93 1 5
	1618	Puhaki–Mount Cook	"	"	222 4 3
	1619	Puhaki–Omarama (main road)	"	"	95 7 6
	1621	Kapua (Dugdale's Creek diversion)	Waimate	"	24 8 0
	1626	Skevington	"	"	249 8 0
	1629	Waikakahi Settlement	"	"	64 2 11
	1632	Works not specifically appropriated	"	"	3 0 0
	1633	Contingencies and engineering			7 3 4
		Total—Canterbury			£5,443 14 7
		OTAGO—			
	1636	Herbert (main road) £1 for £1)	Waitaki	Oamaru	50 0 0
	1638	Kartigi	"	Waihemo	100 4 0
	1640	Livingstone–Kyeburn	Waitaki and Manio-toto	Waitaki and Waihemo	87 18 0
	1641	Maerewhenua Bridge (Hutton's) (main road)	Waitaki	Waitaki	1,208 14 2
	1644	Moeraki, Block XIV.	"	Waihemo	52 12 9
	1645	Moeraki Road–Railway-station	"	"	100 0 0
	1646	Mount Stalker	"	"	80 0 0
	1647	Oamaru Creek Bridge	"	Oamaru	657 5 0
	1648	Port Road–Beach, Moeraki	"	Waihemo	50 0 0

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902. £ s. d.
		ROADS, ETC.—*continued.*			
		OTAGO—*continued.*			
100	1650	Upper Waitaki (Ahuriri or Otematata Pass (main road)	Waitaki ..	Waitaki ..	353 17 2
	1651	Waianakarua Slate-quarry	" ..	Oamaru ..	200 0 0
	1653	Elderslie	" ..	Waitaki ..	297 2 8
	1655	Komako Township	Maniototo ..	Waihemo ..	100 0 0
	1657	Kyeburn Bridge and approaches (main road) ..	" ..	" ..	500 0 0
	1658	Maniototo, Block XI.	" ..	" ..	100 0 0
	1659	Manuherika Bridge (main road)	" ..	" ..	180 0 0
	1660	Manuherika Bridge (Beck's), (on account of £1,000) (main road)	" ..	" ..	500 0 0
	1664	Run 206F, Maniototo	" ..	" ..	80 0 0
	1665	Run 206A, Naseby	" ..	" ..	200 0 0
	1669	Macrae's Flat–Dunback (main road)	Waihemo ..	" ..	250 0 0
	1671	Shag Point Coal-mine	" ..	" ..	300 0 0
	1672	Shag River Traffic-bridge (on account of £2,000) (main road)	" ..	" ..	679 18 5
	1674	Callon's Bridge	Waikouaiti ..	Waikouaiti ..	174 3 3
	1675	Carey's Bay Culvert	" ..	" ..	393 13 8
	1676	Corner Bush, Merton	" ..	" ..	40 6 0
	1677	Corner Bush, Puketirake	" ..	" ..	50 0 0
	1680	Hayward's Point Road–Purakanui	" ..	..	25 0 0
	1684	Kilmog (main road)	" ..	" ..	123 7 6
	1686	Lower Port	" ..	" ..	100 0 0
	1687	Main North Road (£1 for £1)	" ..	" ..	250 0 0
	1688	Mount Cargill	" ..	" ..	400 0 0
	1690	Normanby–Mount Cargill (main road)	Borough of North-east Valley	Dunedin ..	100 0 0
	1691	North Harbour and Blueskin, Section 21, Block VIII.	Borough of Maori Hill	" ..	17 10 0
	1692	North Harbour and Blueskin, Block VIII. ..	Ditto ..	" ..	150 0 0
	1694	Pine Hill Boundary	Borough of North-east Valley	" ..	100 0 0
	1700	Purakanui Native Reserve–Railway-station ..	Waikouaiti ..	Waikouaiti ..	116 2 0
	1702	Signal Hill	Borough of North-east Valley	Dunedin ..	125 0 0
	1705	Waikouaiti, Block VI.	Waikouaiti ..	Waikouaiti ..	70 5 0
	1706	Waitati–Waikari (main road)	" ..	" ..	150 0 0
	1707	Warrington	" ..	" ..	85 17 3
	1708	Water of Leith protective works	Borough of Maori Hill	Dunedin ..	200 0 0
	1709	Eglinton	" ..	" ..	150 0 0
	1712	Bendigo–Matakanui (on account of £9,000) (main road)	Vincent ..	Wakatipu and Tuapeka	178 6 7
	1713	Cromwell–Hawea and Lindis Pass	" ..	Wakatipu ..	300 0 0
	1715	Galloway Station–Ida Valley	" ..	Tuapeka ..	200 0 0
	1716	Hawea Lake tracks	" ..	Wakatipu ..	100 0 0
	1717	Hawea–Lindis Pass	" ..	" ..	100 0 0
	1718	Hawea Bridge–Head Lake Wanaka	" ..	" ..	80 0 0
	1719	Lauder District, Blocks III., IV., V., VI. ..	" ..	" ..	150 0 0
	1720	Makaroro–Haast Valley	" ..	" ..	100 10 3
	1724	Ben Lomond Run	Lake ..	Wakatipu ..	296 4 0
	1726	Dart District, Block IV.	" ..	" ..	100 0 0
	1730	McCabe's Coal-pit–Gibbston	" ..	" ..	50 0 0
	1735	Queenstown Wharf	" ..	" ..	979 19 1
	1736	Rees Valley	" ..	" ..	100 0 0
	1738	Anderson's Bay (main road)	Boroughs of South Dunedin, St. Kilda, and Caversham	Caversham ..	125 0 0
	1740	Kaik–Lower Portobello	Peninsula ..	Waikouaiti ..	118 9 2
	1742	Peninsula Beach, Portobello	" ..	" ..	169 2 9
	1748	Taieri Maori Village, Henley (road to)	Taieri	Bruce	10 0 0
	1749	Taieri Bridge–Pukekura	"	"	246 6 11
	1750	Beaumont and Rankleburn	Tuapeka ..	Tuapeka ..	200 0 0
	1753	Rankleburn, Block VIII.	"	Clutha ..	200 0 0
	1755	Rankleburn Creek, towards Clydevale	" ..	"	150 0 0
	1756	Rankleburn Bush	" ..	Tuapeka ..	150 0 0
	1760	Akatore–Fortification (£80, £1 for £1)	Bruce ..	Bruce ..	150 0 0
	1761	Akatore Blocks	" ..	" ..	150 0 0
	1762	Akatore River Bridge (£150, £1 for £1) ..	" ..	" ..	150 0 0
	1764	Balmoral Riding (£1 for £1), Hillend Subdivision ..	" ..	" ..	250 0 0
	1765	Centre Road, Inch-Clutha (£1 for £1)	" ..	" ..	544 15 0
	1767	Inch-Clutha River District (£1 for £1)	" ..	" ..	250 0 0
	1768	Kaitangata Riding (£1 for £1)	" ..	" ..	143 13 0
	1769	Kaitangata–Wangaloa	" ..	" ..	50 0 0
	1773	Matau River protective works (Inch-Clutha) ..	" ..	" ..	100 0 0
	1774	Matau Bridge, Kaitangata (£1 for £1)	" ..	" ..	1,000 0 0
	1779	Taieri Beach Village Settlement–Dairy factory ..	" ..	" ..	100 0 0
	1781	Tokomairiro Riding (£1 for £1)	" ..	" ..	250 0 0
	1783	Barr's Road	Clutha ..	Clutha ..	36 4 3
	1784	Catlin's Blocks	" ..	" ..	914 1 6
	1786	Glenomaru Blocks	" ..	" ..	791 19 4
	1787	Hay's Road (Glenomaru, from railway-station past Section 29, Block X., to Little Poerua River)	..	" ..	100 17 9

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
		OTAGO *continued.*			£ s. d.
100	1789	Heathfield Improved-farm Settlement	Clutha ..	Clutha ..	3 17 6
	1790	Hunt's Road	" ..	" ..	147 3 10
	1791	Kaler's Road	" ..	" ..	15 17 5
	1792	Mouat's Saddle	" ..	" ..	84 11 8
	1793	Owaka–Catlin's Lake	" ..	" ..	163 13 6
	1795	Owaka–Tautuku (main road)	" ..	" ..	400 1 9
	1798	Purakauite Stream	" ..	" ..	39 0 6
	1799	Ratanui–Whitehead	" ..	" ..	147 1 7
	1801	Rimu, Block XIV.	" ..	" ..	239 11 11
	1802	Rimu Improved-farm Settlement	" ..	" ..	131 13 10
	1804	Tautuku, Block VIII.	" ..	" ..	179 4 3
	1805	Tautuku–Waikawa (main road)	" ..	Clutha and Mataura	236 19 11
	1809	Waipati Bridge	" ..	Clutha ..	70 0 0
	1810	Waipati Improved-farm Settlement	Clutha & Southland	" ..	260 10 6
	1812	Waiwera Bridge, Dunedin–Invercargill (£1 for £1) (main road)	Clutha ..	" ..	4 10 0
	1813	Woodlands Blocks	" ..	" ..	1,032 6 11
	1814	Woodlands Improved-farm Settlement.. ..	" ..	" ..	86 11 1
	1816	Woodlands (Sections 23, 24, and 27, Block X.) ..	" ..	" ..	150 9 0
	1819	Contingencies and engineering	" ..	" ..	35 7 2
		Total—Otago	..	..	£21,462 18 9
		SOUTHLAND—			
	1821	Acker's Village, Invercargill Hundred, South of Block XX. to road east from Section 61 to 46	Southland ..	Awarua ..	141 5 0
	1824	Balfour–Cattle Flat	" ..	Wallace ..	100 0 0
	1831	Campbelltown roads	" ..	Awarua ..	125 0 0
	1832	Cemetery Road, Bluff	" ..	" ..	125 0 0
	1834	Centre Bush–Otapiri	" ..	" ..	100 0 0
	1836	Charleton Road	" ..	Mataura ..	100 0 0
	1840	Clifton–Tisbury (main road)	" ..	Invercargill ..	193 1 6
	1842	Crowe's Road, South Hillend	" ..	Awarua ..	300 0 0
	1843	Devereaux–East Winton	" ..	" ..	41 10 4
	1847	Dundale–Edgehope	" ..	Mataura ..	250 0 0
	1848	East Road (main road)	" ..	Invercargill ..	500 0 0
	1850	Forest Hill	" ..	Awarua ..	400 0 0
	1852	Frain's Road	" ..	Mataura ..	96 0 0
	1855	Garvie Burn Bridge–Wendonside School ..	" ..	Wakatipu ..	100 0 0
	1856	Girdler's Road	" ..	Awarua ..	200 0 0
	1860	Grove Bush and Mill Road District	" ..	" ..	100 0 0
	1861	Haldane Improved-farm Settlement	" ..	Mataura ..	102 5 7
	1863	Hedgehope Bridge (Bushy Park Road).. ..	" ..	" ..	75 0 0
	1865	Hokonui District, Section 831	" ..	Awarua ..	200 0 0
	1866	Hokonui–Forest Hill	" ..	" ..	200 0 0
	1867	Hokonui, Section 93	" ..	" ..	100 0 0
	1869	Invercargill East–Richmond Grove (main road) ..	" ..	Invercargill ..	150 0 0
	1870	Invercargill Hundred Blocks	" ..	Awarua ..	67 15 1
	1876	Kingswell Creek, Seaward Bush	" ..	Invercargill ..	2 13 1
	1880	Line of Hundreds	" ..	Awarua ..	150 0 0
	1881	Line of Hundreds (Southland end)	" ..	" ..	300 0 0
	1884	Lumsden–Balfour (main road)	" ..	Wallace ..	100 0 0
	1885	Mabel District	" ..	Mataura ..	200 0 0
	1888	Maclean's Road, Seaward Bush	" ..	Awarua ..	37 10 2
	1890	McPherson's Ford Road, Mokoreta	" ..	Mataura ..	300 0 0
	1892	Main North Road through Block III. to Ryal Bush Railway-station	" ..	Awarua ..	150 0 0
	1893	Makarewa Bridge	" ..	" ..	300 0 0
	1896	Makarewa Bush	" ..	" ..	200 0 0
	1897	Makarewa–Grove Bush..	" ..	" ..	250 0 0
	1898	Makarewa–Hedgehope Flood-channel ..	" ..	" ..	80 0 0
	1901	Mill and Flora Road	" ..	" ..	230 0 0
	1902	Mill Road–Makarewa, Block X., Sections 32 and 33	" ..	" ..	50 0 0
	1903	Millar's Road	" ..	Mataura ..	100 0 0
	1904	Mimihau–Burke's Hill	" ..	" ..	150 0 0
	1906	Mokoreta, Block VII.	" ..	" ..	97 2 0
	1908	Mokoreta, Block XIV.	" ..	" ..	23 4 2
	1910	Moturimu	" ..	Awarua ..	3 1 1
	1911	Moturimu Improved-farm Settlement.. ..	" ..	" ..	0 1 1
	1912	Murphy's Road (£100, £1 for £1)	" ..	" ..	100 0 0
	1913	Myross Bush	" ..	" ..	100 0 0
	1917	New River Hundred Blocks	" ..	" ..	100 0 0
	1918	New River Hundred–Main North Road (Sections 3 and 4, Block III., to Ryal Bush Railway-station)	" ..	" ..	200 0 0
	1920	New River Hundred (Section 16, Block XIX.) ..	" ..	" ..	100 0 0
	1922	Norman's Road, Oreti	" ..	" ..	50 0 0
	1925	North Road–Invercargill	" ..	" ..	200 0 0
	1928	Oreti Bridge, Dipton	" ..	" ..	1,200 0 0
	1929	Oreti Bridge–Hillend	" ..	" ..	300 0 0
	1931	Otama Valley Road	" ..	Wakatipu ..	200 0 0
	1935	Otara–Haldane Post-office	" ..	Mataura ..	99 11 10

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
		SOUTHLAND—*continued.*			£ s. d.
100	1936	Otatara	Southland	Awarua	0 6 3
	1937	Otatara Outfall-drain	"	"	51 4 2
	1938	Oteramika	"	Mataura	121 13 1
	1942	Oteramika (Gorge Road–Section 43, Block VII.)	"	"	100 0 0
	1944	Oteramika–Timpany	"	"	155 16 8
	1946	Pleasant Creek	"	Awarua	100 0 0
	1947	Pope's Road–O'Neil's Section	"	"	300 0 0
	1948	Pyramid Hill, Waipahi–Pyramid Road	"	Wakatipu	250 0 0
	1949	Reaby Retreat	"	Mataura	200 0 0
	1952	Ryal Bush Road through deferred payment Block	"	Awarua	200 0 0
	1954	Scott Street, Invercargill	"	Invercargill	292 9 11
	1957	Seaward Bush (near Clifton)	"	"	25 1 9
	1963	Seaward Bush Outfall-drain (Clifton, Tisbury, and Scott Streets)	"	"	17 2 10
	1966	Seaward Bush, front of Section 84 to Section 93, Block II.	"	"	50 15 0
	1967	Seaward Bush Township (through Block III.)	"	"	31 17 6
	1969	Seaward-Moss Road	"	Awarua	37 9 0
	1973	Spring Hill School–Makarewa	"	"	200 0 0
	1975	Thompson's Crossing–Bush Road	"	"	100 0 0
	1977	Tisbury Road–Clifton Street (on account of £500)	"	Invercargill	18 19 7
	1980	Tramway Road	"	"	250 0 0
	1984	Waikawa Blocks	"	Mataura	655 6 4
	1985	Waikawa District Main Road	"	"	200 0 0
	1986	Waikawa Fortrose (main road)	"	"	200 0 0
	1988	Waikawa Improved-farm Settlement	"	"	108 17 6
	1989	Waikawa–Long Beach Creek	"	"	193 12 2
	1990	Waikawa Main Road	"	"	24 16 0
	1991	Waikawa–Otara	"	"	208 4 1
	1993	Waikawa–Wyndham Valley (main road)	"	"	248 11 0
	1994	Waikiwi	"	Awarua	50 0 0
	1995	Waikiwi Main North Road	"	"	300 0 0
	1996	Waimahaka, Block VII., Mokoreta	"	Mataura	345 2 9
	1998	Waimatua, Seaward Bush	"	Awarua	64 0 0
	2000	Waimatuku Flat	"	"	200 0 0
	2001	Waipahi Bridge at Arthurton (£1 for £1) (main road)	"	Clutha	250 0 0
	2003	Wendon District	"	Wakatipu	400 0 0
	2004	Wendon and Greenvale Blocks	"	"	200 0 0
	2006	West Plains	"	Awarua	49 17 6
	2009	Winton, Block VIII.	"	"	96 18 3
	2012	Winton Hundred, Block IX. (Sections IX.–XIII.)	"	"	94 19 6
	2014	Wyndham Valley (Corie to Bews)	"	Mataura	100 0 0
	2015	Wyndham Valley, towards Clinton	"	"	100 0 0
	2017	Aparima School Road–Line of Hundreds (£1 for £1)	Wallace	Wallace	75 0 3
	2020	Chamberlain's–Gorge	"	"	348 4 2
	2021	Clifden Bridge–Papatotara (main road)	"	"	140 19 11
	2022	Clifden–Manapouri (main road)	"	"	275 11 0
	2023	Clifden–Otautau (main road)	"	"	450 0 0
	2025	Curtin's Road (Annandale)	"	"	100 0 0
	2026	Devanny and Creegan's (Wrey's Bush)	"	"	50 0 0
	2027	Dipton–Hamilton Run	"	"	150 0 0
	2028	Dipton Township protective works	"	Awarua	100 0 0
	2029	Fairfax Bridge	"	Wallace	500 0 0
	2031	Ford's Road (Groper's Bush)	"	"	50 0 0
	2032	Hamilton Burn Bridge and protective works	"	"	200 0 0
	2033	Harvey's Road, Nightcaps	"	"	100 0 0
	2034	Heddon Bush–Drummond (main road)	"	"	50 0 0
	2035	Heddon Bush (Bayswater)–Otautau	"	"	50 0 0
	2040	Jacob's River protection (Etal's Creek)	"	"	60 0 0
	2041	Langford and Sheehan's Road, Taringatura District	"	"	100 0 0
	2044	Longwood Blocks	"	"	152 12 9
	2045	Manapouri–Flaxy Creek (main road)	"	"	219 7 6
	2049	Mossburn–Te Anau (main road)	"	"	250 0 0
	2050	Nightcaps–Beaumont	"	"	150 0 0
	2051	Opio Bridge (Lower)–Line of Hundreds (£1 for £1)	"	"	50 0 0
	2055	Papatotara Improved-farm Settlement	"	"	37 10 2
	2056	Papatotora Punt, Drummond's Ferry	"	"	19 3 6
	2057	Papatotara–Waiau Mouth (main road)	"	"	426 9 4
	2058	Pourakino–Wild Bush	"	"	70 0 0
	2059	Riverton–Colac	"	"	200 0 0
	2061	Riverton–Orepuki	"	"	249 0 0
	2062	Rowley's Road, Longwood, Block XVII.	"	"	37 14 7
	2065	Sutherland–Gorge Road	"	"	16 3 6
	2066	Te Anau–George Sound	"	"	490 4 5
	2067	Te Anau Jetty	"	"	154 18 3
	2068	Te Tua	Wallace and Lake	"	34 2 7
	2070	Waiau District, Blocks VII., VIII., X.	Wallace	"	120 0 0
	2071	Waiau Lower Ferry	"	"	132 7 4
	2073	Wairaki–Nightcaps	"	"	50 0 0
	2076	Wairio–Mount Linton and Birchwood Road	"	"	200 0 0
	2077	Wakapatu–Ruahine	"	"	30 0 0
	2078	Wallacetown–Spar Bush	"	Awarua	200 0 0
	2081	Wilson's Road, Longwood, Block II.	"	Wallace	79 2 11

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		ROADS, ETC.—*continued.*			
		SOUTHLAND—*continued.*			£ s. d.
100	2082	Winton–Bayswater	Wallace	Wallace	150 0 0
	2083	Wrey's Bush Bridge	"	"	250 0 0
	2084	Fiords	Fiords	"	100 10 10
	2085	Manapouri–Doubtful	"	"	18 0 0
	2086	Manapouri–Dusky Sound	"	"	5 10 0
	2087	Te Anau–Sutherland Falls	Lake and Wallace	Wallace & Wakatipu	3,526 6 5
	2089	Half-moon Bay Township Tramway	Stewart Island	Awarua	77 0 4
	2090	Half-moon Bay Wharf	"	"	100 0 0
	2092	Paterson's Inlet–Mason Bay	"	"	206 9 5
	2093	Port William–Horseshoe Bay	"	"	213 6 4
	2095	Stewart Island (main road)	"	"	117 1 1
	2096	Stewart Island Roads	"	"	432 11 9
	2099	Contingencies and Engineering			172 14 10
		Credit Land and Survey Department: Recoveries			*Cr.* 75 11 10
		Total—Southland			£27,195 13 1
		Vote No. 100—Total for 1901–2			£335,347 0 6
		GOVERNMENT LOANS TO LOCAL BODIES ACCOUNT. ROADS TO OPEN UP CROWN LANDS.			
		AUCKLAND—			£ s. d.
111	3	Kohumaru Block	Mongonui	Bay of Islands	58 2 9
	4	Maungataniwha Block	"	"	2 5 6
	5	Maungataniwha No. 2 Block	"	"	31 10 3
	14	Parakahi (XIII., Russell Survey District) Block	Bay of Islands	"	5 2 0
	18	Waimatanui Block	Hokianga	"	604 19 4
	22	Mangakahia No. 2 Block	Whangarei	Marsden	13 0 0
	23	Mangakahia (XI., XII., XV., XVI.) Block	"	"	48 16 3
	25	Opuawhanga No. 1 Block	"	"	157 3 0
	29	Tangihua Block	"	"	247 1 11
	30	Waipu (V., VI., VII., IX., X., XI.) Block	"	"	93 18 3
	31	Whatiriri No. 1 Block	"	"	156 14 9
	33	Mareikuri (I.) Block	Hobson	"	93 17 0
	34	Mareikura (II.) Block	"	"	42 13 5
	35	Maropiu (III., Kaihu) Block	"	"	122 11 2
	37	Maungaru Block	Hobson	"	191 0 9
	39	Tokatoka Swamp Block (second loan)	Otamatea	"	267 17 7
	41	Awaroa No. 2 Block	Raglan	Waikato	49 11 9
	44	Opuatia No. 1 Block	"	"	354 6 7
	45	Opuatia No. 2 Block	"	"	257 15 5
	46	Opuatia No. 3 Block	"	"	243 14 1
		Total—Auckland			£3,042 1 9
		TE KUITI—			
	53	Kawhia Block	Kawhia	Waikato	126 8 11
	54	Te Puroa Block	Raglan	"	411 7 1
	55	Kinohaku West Block	Kawhia	"	411 10 0
	56	Kinohaku West No. 2 and Taharoa Block	"	"	1,937 0 2
	57	Mahoenui Block	"	Egmont	47 11 0
	59	Pakeho Block	"	Waikato	483 4 4
	60	Pirongia West Block	"	"	902 3 4
	62	Puketarata Block	"	"	14 2 8
	63	Puketarata No. 2 Block	"	"	320 5 11
	64	Whangaingatakapu Block	"	"	75 0 4
		Total—Te Kuiti			£4,728 13 9
		ROTORUA—			
	67	Kaikokupu Block	Tauranga	Bay of Plenty	282 19 3
	68	Mamaku Block	Piako and Rotorua	"	199 4 7
	69	Mangorewa-Kaharoa Block	Rotorua	"	654 9 2
	70	Okohiriki Block	Piako and Rotorua	"	114 4 5
	72	Waiawa Block	Opotiki	"	1,293 0 6
		Total—Rotorua			£2,543 17 11
		HAWKE'S BAY—			
	75	Wharekopae and Tahora No. 2	Cook	Waiapu	305 6 3
	81	Ngapaeruru Block	Waipawa	Waipawa	138 16 8
		Total—Hawke's Bay			£444 2 11
		TARANAKI—			
	88	Moki Block	Clifton	Egmont	1,034 14 1
	89	Okoke Block	"	"	13 19 0
	90	Piko Block	"	"	775 16 3
	91	Putiki Block	"	"	383 19 10
	93	Waikekeho Block	"	"	49 5 4
	96	Kohuratahi Block	Stratford	"	16 14 4
	97	Llewellyn Block	"	"	298 19 1

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Electorate.	Net Expenditure for Year ended 31st March, 1902.
		GOVERNMENT LOANS TO LOCAL BODIES ACCOUNT—*ctd.* ROADS TO OPEN UP CROWN LANDS—*continued.*			
		TARANAKI—*continued.*			£ s. d.
111	98	Makahu Block	Stratford	Egmont	165 17 3
	99	Marco Block	"	"	10 5 7
	100	Mauku Block	"	"	22 14 0
	101	Poarangi Block	"	"	15 4 0
	102	Putikituna Block	"	"	9 9 0
	104	Tahora Block	"	"	25 5 0
	105	Waingarara Block	"	"	13 13 0
	106	Kuraiti Block	Hawera	Patea	249 6 5
	108	Whenuakura Block	Patea	"	324 6 7
		Total—Taranaki			£3,409 8 9
		WANGANUI—			
	109	Momohaki Village-settlement Block	Patea	Patea	30 12 4
	110	Te Ngaue Block	"	"	139 4 0
	111	Gladstone Block	Wanganui	"	371 16 1
	112	Kaitieke Block	"	"	1,339 5 5
	113	Makotuku (III.) Block	"	"	87 3 0
	114	Manganui and Ruapehu Block	"	"	784 9 1
	115	Marton No. 3 Block	"	"	664 3 6
	116	Ngamatea-Maungakaretu Block	"	"	953 10 10
	117	Tauakira Block	"	"	1,056 8 4
	118	Waimarino No. 2 Block	"	"	25 12 0
	120	Ngaurukoku Block	"	"	50 9 0
	121	Ohinewairua (XIII.) Block	Rangitikei	Rangitikei	318 13 3
	122	Ohinewairua-Pukeokahu Block	Rangitikei and Hawke's Bay	"	183 12 2
	123	Oraukura Block	Rangitikei	"	174 18 4
	124	Pohonui-o-tane Block	"	Patea	3,471 19 4
	125	Pukeokahu Block	"	Rangitikei	233 12 0
	127	Te Ruanui Block	Wanganui	Patea	258 10 4
	128	Tiriraukawa-Hautapu Block	Rangitikei	Rangitikei	225 7 10
		Total—Wanganui			£10,369 6 10
		WELLINGTON—			
	129	Hautapu-Ruahine No. 2 Block	Rangitikei	Rangitikei	189 4 0
	130	Hautapu-Ruahine Block	Kiwitea	"	3 8 10
	131	Kawatau Block	"	"	6 8 10
	132	Onslow Block	"	"	22 2 3
	134	Dannevirke Centennial Block	Akitio	Masterton	509 17 6
		Total—Wellington			£731 1 5
		MARLBOROUGH—			
	136	Pine Valley Block	Marlborough	Wairau	429 18 6
	137	Kaitao Block	Kaikoura	Ashley	143 19 1
	138	Puhipuhi Block	"	"	1,218 16 4
	139	Stag and Spey Block	"	"	2,558 6 5
		Total—Marlborough			£4,351 0 4
		WESTLAND—			
	141	Waitaha Block	Westland	Westland	943 19 2
		Total—Westland			£943 19 2
		OTAGO—			
	143	Blackstone-Gimmerburn Block	Maniototo	Waihemo	300 0 0
	144	Gimmerburn Block	"	"	134 10 5
	145	Lauder-Blacksone Block	Maniototo and Vincent	"	76 0 0
	146	Maniototo No. 2 Block	Maniototo	"	200 0 0
	148	Naseby, Maniototo, and Gimmerburn Block	"	"	300 0 0
	151	Lauder-Tiger Hill Block	Vincent	Tuapeka	300 0 0
	152	Catlin's (IV., V., VII., VIII.) Block	Clutha	Clutha	104 7 5
		Total—Otago			£1,414 17 10
		Vote No. 111.—Total for 1901-2			£31,978 10 8
		*Votes 100 and 111.—Grand total for 1901-2			367,325 11 2
		Add expenditure of previous years			5,316,894 8 8
		Total expenditure to 31st March, 1902			£5,684,219 19 10

*For balance of expenditure under Class XXVI., Roads, see Vote 99, £19,339 19s. 7d.

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Net Expenditure for Year ended 31st March, 1902.
		ROADS ON GOLDFIELDS.		£ s. d.
101	1	Subsidies towards the construction of roads and tracks in mining districts, and minor works for the development of minerals	..	2,862 0 1
				2,862 0 1
		Auckland.		
	3	Whakapara–Puhipuhi	Whangarei ..	135 0 0
	4	Cabbage Bay to Port Charles and Cape Colville	Coromandel ..	226 15 6
	5	Tairua–Whenuakite	" ..	150 0 0
	6	Coromandel-Cabbage Bay	" ..	115 11 5
	7	Tokatea–Kennedy Bay	" ..	230 1 0
	8	Coromandel–Kuaotunu *viâ* Matarangi	" ..	428 6 6
	9	Tiki–Kaimarama	" ..	200 13 6
	10	Tiki–Manaia	" ..	502 16 9
	11	Manaia–Waikawau	" ..	1,449 0 0
	12	Mercury Bay to Whenuakite and Boat Harbour	" ..	50 0 0
	14	Whitianga–Gumtown	" ..	200 0 0
	15	Coromandel–Whangapoua	" ..	396 14 6
	16	Kikowhakarere–Cabbage Bay	" ..	100 0 0
	18	Whitianga–Kaimarama	" ..	313 8 0
	19	Mahakirau Goldfield road	" ..	128 18 0
	20	Tiki–Te Koumu	" ..	166 0 0
	21	Opitonui Road	" ..	146 4 6
	24	Four-in-Hand Road	"	145 3 6
	25	Bridle's Point–Deepwater	" ..	100 0 0
	26	Opitonui Bridge	" ..	200 0 0
	29	Gumtown Road	" ..	44 0 0
	30	Kapowai Track	" ..	389 0 0
	31	Mahaki Goldfield Track	" ..	47 0 0
	38	Thames to Waikawau	Thames ..	54 18 8
	39	Thames to Hikutaia	" ..	162 12 4
	40	Upper Tararu Road	" ..	36 19 0
	41	Tapu Creek and extension	" ..	53 5 0
	42	Turua–Netherton	" ..	253 7 5
	43	Hikutaia–Whangamata "Wires" Track	" ..	110 8 5
	44	Matatoki Road	" ..	42 9 0
	45	Wharepoa Settlement Road	" ..	150 12 6
	46	Omahu–Whangamata	" ..	189 2 0
	49	Upper Landing–Tairua	" ..	50 0 0
	51	Thames to Whangamata	" ..	200 0 0
	52	Whangamata to Wentworth	" ..	52 16 10
	53	Karaka Creek Road	" ..	100 0 0
	54	Hape Creek Road	" ..	100 0 0
	55	Waiotahi Road	" ..	193 16 5
	56	Waiomo Creek Road	" ..	92 10 0
	57	Lower Tairua–Broken Hill	" ..	105 0 0
	64	Hikutaia–Waihi	Ohinemuri ..	563 7 6
	65	Waitekauri–Golden Cross	" ..	304 2 10
	66	Waihi–Whangamata	" ..	400 10 0
	67	Paeroa–Te Aroha	" ..	109 3 6
	68	Paeroa–Waitoa	" ..	566 5 0
	70	Hikutaia–Waitekauri	" ..	93 0 0
	72	Roads, Netherton	" ..	300 0 0
	73	Hikutaia–Maratoto	" ..	172 2 6
	74	Tui Mine Track	" ..	194 14 0
	75	Waihi County Boundary	" ..	865 2 7
	76	Karangahake–Rotokohu	" ..	297 11 0
	77	Komata Creek Road	" ..	50 0 0
	78	Karangahake–Maungakara	" ..	132 7 10
	79	Mill Road	" ..	180 0 0
	80	Paeroa–Waihi	" ..	45 0 0
	81	Karangahake Mountain Track	" ..	30 15 0
	83	Dividing-range Track to Mangakino	" ..	20 0 0
	85	Waitawheta Road, deviation	" ..	255 2 6
	88	Waitekauri Hill Track	" ..	100 0 0
	90	Thompson's Track	Piako ..	58 0 0
	90	Thompson's Track	Tauranga ..	200 0 0
	91	Waihi–Katikati	" ..	500 0 0
	92	Blind Bay–Whangaparapara	Great Barrier ..	200 0 0
				13,449 15 0
		Marlborough.		
	93	Havelock–Tuamarina	Pelorus Road Board	150 7 9
	94	Onamalutu–Wakamarina	"	212 0 0
	96	Top Valley Road	"	479 15 8
	97	Picton Grove	"	611 14 10
				1,453 18 3

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Net Expenditure for Year ended 31st March, 1902.
				£ s. d.
		ROADS ON GOLDFIELDS—*continued.*		
		Nelson.		
101	98	Bonny Doon Road	Collingwood ..	400 4 0
	99	Anatoki Track	" ..	20 10 0
	101	Kaituna–Ferntown	" ..	82 10 0
	102	Ferntown–Pakawau	" ..	156 1 4
	103	Takaka–Collingwood "Inland" Road	" ..	574 10 0
	104	Bainham–Upper Aorere Valley	" ..	100 0 0
	106	Takaka Roads	" ..	203 3 1
	107	Collingwood Bridge	" ..	146 1 9
	108	Pakawau–Tamatea	" ..	73 18 0
	110	Collingwood–Kaituna	" ..	170 10 5
	115	Wangapeka–Baton	Waimea ..	248 1 9
	116	Lloyd's Valley Road Bridge	" ..	50 0 0
	118	Shaggery Road	" ..	100 0 0
	121	Glenrae–Tadmor	" ..	59 17 6
	122	Brooklin Valley Road	" ..	19 11 11
	125	Wangapeka–Kiwi	" ..	42 13 7
	131	Millerton Road	Buller ..	50 0 0
	132	Lyell Bridge–Ryan's	" ..	100 0 0
	133	Wilson's Lead Road	" ..	150 0 0
	135	Denniston Hill Road	" ..	670 1 10
	136	Oparara River Road–Karamea	" ..	150 0 0
	138	Bradshaw's Lead Road	" ..	100 0 0
	139	Westport–Mokihinui	" ..	400 0 0
	140	Costello's Hill Road	" ..	100 0 0
	141	Lyell–Eight-mile (widening)	" ..	50 0 0
	142	Addison's Road–Buller Road	" ..	250 0 0
	144	Land of Promise Road	" ..	250 0 0
	145	Karamea Mud Flat Road	" ..	150 0 0
	146	Mokihinui–Little Wanganui	" ..	701 13 11
	147	Mokihinui end of Westport Road	" ..	150 0 0
	149	Karamea Bridge	" ..	1,595 18 0
	150	Fenian Creek Track	" ..	150 0 0
	151	Karamea River protective works	" ..	200 0 0
	152	Coalbrookdale–Cedar Creek	" ..	200 0 0
	155	Orawaiti Bridge	" ..	225 0 0
	156	Long Tunnel, Addison's	" ..	100 0 0
	157	Charleston–Brighton	" ..	100 0 0
	158	Nile River Bridge, Charleston	" ..	360 0 0
	159	Brighton–Grey County boundary	" ..	250 0 0
	160	Deadman's Creek, Brighton	" ..	150 0 0
	161	Caroline Terrace	" ..	100 0 0
	163	Mulliky Creek–Karamea	" ..	100 0 0
	164	Lyell–Cedar Creek	" ..	150 0 0
	165	Millerton–Mine Creek	" ..	145 0 0
	166	Mokihinui–Ngakawau	" ..	150 0 0
	167	Waimangaroa–Birchfield	" ..	200 0 0
	169	Fairdown–Waimangaroa	" ..	150 0 0
	181	Murray Creek–Waitahu	Inangahua ..	112 16 6
	182	Reefton–Maruia	" ..	200 0 0
	183	Belgrove–Westport–Reefton	" ..	501 8 10
	184	Matakitaki–Glenroy–Maruia Plains	" ..	225 15 6
	185	Glenroy Bridge	" ..	296 12 4
	186	Mangle's Valley Road	" ..	66 12 3
	187	Larry's Creek Bridge extension	" ..	267 7 10
	189	Blackwater–Big River	" ..	150 0 0
	190	Inangahua Bridge	" ..	766 6 4
	191	Boatman's Creek Bridge	" ..	3 19 0
	194	Warwick–Maruia Bridge	" ..	150 0 0
	201	Ahaura Bridge	Grey ..	520 3 0
	202	Waipuna Road	" ..	150 0 0
	203	Blackball Creek Bridge	" ..	140 0 0
	204	Barrytown–Paparoa	" ..	50 0 0
	205	Lake Hochstetter Track	" ..	98 19 7
	206	Ahaura–Haupiri	" ..	261 0 10
	207	Deadman's Creek Bridge	" ..	147 7 4
	208	Ahaura–Orwell Creek	" ..	361 3 10
	209	Orwell Creek Bridge	" ..	173 7 7
	210	Eight-mile Creek Bridge	" ..	242 16 10
	211	Blackball–Healy's Gully	" ..	50 0 0
	213	Seven-mile Creek–Nine-mile Bluff	" ..	400 0 0
	214	Granville–Grey River	" ..	75 0 0
	215	Cape Terrace Road	" ..	50 0 0
	216	Hatter's Terrace–Bell Hill	" ..	50 0 0
	217	Main Grey Bridge repairs	" ..	93 4 10
		Carried forward	..	15,649 9 6

TABLE No. 4—*continued.*

STATEMENT showing the NET EXPENDITURE on ROADS, &c.—*continued.*

Vote No.	Item No.	Name of Work.	County.	Net Expenditure for Year ended 31st March, 1902.
				£ s. d.
		Brought forward	..	15,649 9 6
		ROADS ON GOLDFIELDS—*continued.*		
		Nelson—continued.		
101	218	Moonlight Creek Bridge	Grey ..	19 16 2
	219	Waipuna Bridge	" ..	15 15 5
	220	Saltwater Creek Bridge	" ..	105 14 4
	221	Sawyer's Creek Bridge	" ..	246 17 8
	222	Ross Creek Bridge	" ..	84 18 11
	223	Potts Creek Bridge	" ..	330 0 9
	224	Taylorville Bridge	" ..	378 19 10
				16,831 12 7
		Westland.		
	237	Reefton–Hokitika–Ross	Westland ..	1,878 17 2
	239	Kokatahi Road	" ..	155 0 0
	238	Great South Road	" ..	1,816 15 5
	240	Wataroa Bluff Track	" ..	100 0 0
	241	Doughboy Road	" ..	111 15 9
	242	Milltown Track deviation	" ..	23 3 6
	243	Stafford–Awatuna..	" ..	1,157 15 7
	244	Gillam's Gully Track	" ..	170 16 0
	247	Seven-mile Creek–Taipo	" ..	230 0 0
	248	Okarito Forks–Waiho	" ..	2 4 8
	249	Browning's Pass Track	" ..	109 18 6
	250	Seddon's Terrace Track	" ..	100 0 0
	251	Middle Branch, Styx River	" ..	200 0 0
	252	Kumara Beach Road–Teramakau	" ..	600 0 0
	253	Lamplough Track..	" ..	43 3 0
	256	Ogilvie's Beach Road	" ..	490 1 0
	257	Kanieri Forks Road	" ..	238 6 0
	259	Dillman's Road to Nos. 4 and 5 Channels	" ..	30 0 0
	261	Kanieri Lake Road	" ..	56 19 10
	262	Tucker Flat Road..	" ..	55 15 0
	267	Ross Cemetery Road	Ross Borough Council	200 0 0
				7,770 11 5
		Otago.		
	270	Clarendon–Berwick	Bruce ..	100 0 0
	271	Table Hill–Canada Reefs	" ..	100 0 0
	272	Lawrence–Waipori	Tuapeka ..	200 0 0
	300	Lawrence–Clyde	" ..	100 0 0
	280	Beaumont–Rankleburn	" ..	200 0 0
	284	Gentle Annie–Clyde	Vincent ..	225 0 0
	300	Lawrence–Clyde	" ..	375 0 0
	283	White's Reef–Fraser Basin	" ..	100 0 0
	285	Nevis Valley Road	" ..	200 0 0
	286	Hawea–Lindis Pass	" ..	150 0 0
	287	Cromwell Borough–Lowburn	" ..	100 0 0
	288	Alexandra Bridge	" ..	750 0 0
	290	Arrowtown–Macetown	Lake ..	100 0 0
	291	Skipper's Bridge	" ..	744 0 0
	292	Track up Shotover River	" ..	100 0 0
	294	Crown Terrace–Cardrona	" ..	150 0 0
	295	Queenstown–Gentle Annie	" ..	125 0 0
	296	Arthur's Point–Moke Creek	" ..	110 0 0
	299	Doolan's Coal-pit Road	" ..	242 10 0
				4,171 10 0
		Southland.		
	302	Colac–Round Hill..	Southland ..	150 0 0
	303	Waimumu Claims Road	" ..	100 0 0
	307	Croydon Dredging Claims	" ..	200 0 0
	309	Glenary Bridge	" ..	400 0 0
	310	Garston–Nevis	" ..	150 0 0
	323	Stewart Island Road to Mines	Stewart Island ..	33 16 11
				1,033 16 11
		Expenditure for year ended 31st March, 1902	..	47,573 4 3
		Expenditure for previous years	..	487,877 4 10
		Total expenditure to 31st March, 1902, on Roads on Goldfields	..	£535,450 9 1

Development of Goldfields.—Table No. 5.

STATEMENT showing the EXPENDITURE for WATER-RACES on GOLDFIELDS out of Public Works Fund to 31st March, 1902, and the LIABILITIES on that Date.

LOCALITY AND NAME OF RACE.	EXPENDITURE. Survey and Construction, 1870–1901.	Grants, Subsidies, 1870–1901.	Survey and Construction 1901–1902.	Grants, Subsidies, 1901–1902.	Totals.	LIABILITIES. Authorities on Construction	Authorities on Grants, Subsidies.	Contracts.	Totals.	Total Expenditure and Liabilities.	LOCALITY AND NAME OF RACE.
NORTH ISLAND.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	NORTH ISLAND.
AUCKLAND PROVINCIAL DISTRICT—											AUCKLAND PROVINCIAL DISTRICT—
Thames	80,708 19 3	..	..	..	80,708 19 3	..	..	..	..	80,708 19 3	Thames.
Tairua Water-race	..	34 5 4	..	..	34 5 4	..	..	..	..	34 5 4	Tairua Water-race.
Compensation, Thames Water-race	..	1,250 0 0	..	..	1,250 0 0	..	..	..	..	1,250 0 0	Compensation, Thames Water-race.
R. Kelly's water-race, Mata	..	40 0 0	..	..	40 0 0	..	..	..	..	40 0 0	R. Kelly's water-race, Mata.
Kuaotunu Sludge-channel	..	200 0 0	..	..	200 0 0	..	..	..	..	200 0 0	Kuaotunu Sludge-channel.
Drain, Te Aroha West	..	..	..	61 0 0	61 0 0	..	..	..	..	61 0 0	Drain, Te Aroha West.
	80,708 19 3	1,524 5 4	..	61 0 0	82,294 4 7	..	..	..	..	82,294 4 7	
MIDDLE ISLAND.											MIDDLE ISLAND.
WESTLAND PROVINCIAL DISTRICT—											WESTLAND PROVINCIAL DISTRICT—
Subsidies—											*Subsidies*—
Hohonu	3 7 0	1,955 12 1	..	..	1,958 19 1	..	..	..	..	1,958 19 1	Hohonu.
Hibernian	12 5 8	1,992 14 8	..	..	2,005 0 4	..	..	..	..	2,005 0 4	Hibernian.
New River	21 5 0	3,496 0 3	..	..	3,517 5 3	..	..	..	..	3,517 5 3	New River.
Kanieri	1 5 6	10,310 18 4	..	..	10,312 3 10	..	..	..	..	10,312 3 10	Kanieri.
Rimu Drainage-tunnel	191 19 6	..	..	..	191 19 6	..	..	..	..	191 19 6	Rimu Drainage-tunnel.
Ross Sludge-channel	..	1,554 10 6	..	..	1,554 10 6	..	..	..	..	1,554 10 6	Ross Sludge-channel.
Kumara Sludge-channel No. 2	..	2,762 17 2	..	..	2,762 17 2	..	..	..	..	2,762 17 2	Kumara Sludge-channel No. 2.
Kumara Sludge-channel No. 3	..	58 0 0	..	..	58 0 0	..	..	..	..	58 0 0	Kumara Sludge-channel No. 3.
Kumara No. 4 Main Tail-race	..	1,151 10 8	..	..	1,151 10 8	..	..	..	..	1,151 10 8	Kumara No. 4 Main Tail-race.
Kumara No. 5 Main Tail-race	..	5,006 15 9	..	..	5,006 15 9	..	..	..	..	5,006 15 9	Kumara No. 5 Main Tail-race.
Trustees Main Tail-race, Waimea	..	1,244 11 8	..	193 17 6	1,438 9 2	..	466 2 6	..	466 2 6	1,904 11 8	Trustees Main Tail-race, Waimea.
Branch Tail-race to No. 4 Channel, Payne and party	..	100 0 0	..	..	100 0 0	..	..	..	..	100 0 0	Branch Tail race to No. 4 Channel, Payne and party.
Kelly's Terrace Tunnel	..	1,454 7 9	..	467 11 0	1,921 18 9	..	187 2 3	..	187 2 3	2,109 1 0	Kelly's Terrace Tunnel.
Wainihinihi Water-race	9,871 5 3	..	2,566 7 9	..	12,437 13 0	..	..	..	..	12,437 13 0	Wainihinihi Water-race.
Quinn's Creek Water-race (purchase)	..	70 0 0	..	..	70 0 0	..	..	..	..	70 0 0	Quinn's Creek Water-race (purchase).
Raising dam, Loop-line	1,125 16 6	..	..	..	1,125 16 6	..	..	..	..	1,125 16 6	Raising dam Loop-line.
Ngahere–Blackball	..	200 0 0	..	..	200 0 0	..	..	..	..	200 0 0	Ngahere–Blackball.
Donnelly's Creek Tail-race	..	444 4 5	..	..	444 4 5	..	..	..	..	444 4 5	Donnelly's Creek Tail-race.
Purchase of Byrne, O'Hallahan, and Murdoch's water-rights	..	35 0 0	..	..	35 0 0	..	..	..	..	35 0 0	Purchase of Byrne, O'Hallahan, and Murdoch's water-rights.
Jones Creek Storm-channel	..	..	50 0 0	..	50 0 0	..	..	..	..	50 0 0	Jones Creek Storm-channel.
Government Works—											*Government Works*—
Waimea–Kumara	192,754 12 4	..	908 19 7	..	193,663 11 11	387 12 7	..	..	387 12 7	194,051 4 6	Waimea–Kumara.
Mikonui	25,927 4 6	..	..	..	25,927 4 6	..	..	..	..	25,927 4 6	Mikonui.
NELSON PROVINCIAL DISTRICT—											NELSON PROVINCIAL DISTRICT—
Government Works—											*Government Works*—
Nelson Creek	90,722 10 8	..	..	..	90,722 10 8	..	..	..	..	90,722 10 8	Nelson Creek.
Napoleon Hill	257 16 7	..	..	..	257 16 7	..	..	..	..	257 16 7	Napoleon Hill.
Argyle (Charleston)	15,501 15 3	..	..	..	15,501 15 3	..	..	..	..	15,501 15 3	Argyle (Charleston).
Black's Point	244 9 0	..	..	..	244 9 0	..	..	..	..	244 9 0	Black's Point.
Carried forward	336,635 12 9	31,837 3 3	3,525 7 4	661 8 6	372,659 11 10	387 12 7	653 4 9	..	1,040 17 4	373,700 9 2	

Development of Goldfields.—Table No. 5—*continued.*

STATEMENT showing the EXPENDITURE for WATER-RACES on GOLDFIELDS out of Public Works Fund to 31st March, 1902, and the LIABILITIES on that Date—*continued.*

LOCALITY AND NAME OF RACE.	EXPENDITURE. Survey and Construction, 1870–1901.	Grants Subsidies, 1870–1901.	Survey and Construction 1901–1902.	Grants, Subsidies, 1901–1902.	Totals.	LIABILITIES. Authorities on Construction.	Authorities on Grants, Subsidies.	Contracts.	Totals.	Total Expenditure and Liabilities.	LOCALITY AND NAME OF RACE.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Brought forward	336,635 12 9	31,837 3 3	3,525 7 4	661 8 6	372,659 11 10	337 12 7	653 4 9	..	1,040 17 4	373,700 9 2	
MIDDLE ISLAND—*continued.*											MIDDLE ISLAND—*continued.*
NELSON PROVINCIAL DISTRICT—*ctd.*											NELSON PROVINCIAL DISTRICT—*ctd.*
Subsidies—											*Subsidies*—
Jones, Baxter, and party, water-race from Roaring Meg	..	800 0 0	..	..	800 0 0	..	..	..	..	800 0 0	Jones, Baxter, and party, water-race from Roaring Meg.
Bell Hill Co.'s Race	..	500 0 0	..	..	500 0 0	..	..	..	..	500 0 0	Bell Hill Co.'s Race.
Randall Creek Water-race ..	322 18 2	..	..	..	322 18 2	..	..	..	..	322 18 2	Randall Creek Water-race.
Wills and party, water-race at Sulky Gully	..	218 0 0	..	..	218 0 0	..	..	..	..	218 0 0	Wills and party, water-race at Sulky Gully.
OTAGO PROVINCIAL DISTRICT—											OTAGO PROVINCIAL DISTRICT—
Subsidies—											*Subsidies*—
Arrow	..	612 10 0	..	..	612 10 0	..	..	..	..	612 10 0	Arrow.
Beaumont and Tuapeka ..	4 6 2	640 0 0	..	..	644 6 2	..	..	..	..	644 6 2	Beaumont and Tuapeka.
Carrick Range	..	9,249 13 1	..	..	9,249 13 1	..	..	..	..	9,249 13 1	Carrick Range.
Mount Pisgah	..	200 0 0	..	..	200 0 0	..	..	..	..	200 0 0	Mount Pisgah.
Lawrence Drainage-channel ..	..	3,076 14 0	..	16 5 0	3,092 19 0	..	..	..	..	3,092 19 0	Lawrence Drainage-channel.
Ophir Tail-race	..	1,150 0 0	..	..	1,150 0 0	..	..	..	..	1,150 0 0	Ophir Tail-race.
Muddy Creek Channel ..	..	850 0 0	..	..	850 0 0	..	..	..	..	850 0 0	Muddy Creek Channel.
St. Bathan's	..	1,562 10 0	..	62 10 0	1,625 0 0	..	375 0 0	..	375 0 0	2,000 0 0	St. Bathan's.
Maerewhenua	1,065 0 0	..	..	..	1,065 0 0	..	..	..	..	1,065 0 0	Maerewhenua.
Artesian wells, Maniototo ..	20 0 0	..	..	..	20 0 0	..	..	..	..	20 0 0	Artesian wells, Maniototo.
Improving water-supply, Oamaru	1,150 7 2	..	..	..	1,150 7 2	..	..	..	..	1,150 7 2	Improving water-supply, Oamaru.
Mountain Hut Water-race ..	221 0 6	..	3,228 8 9	..	3,449 9 3	..	1,735 2 6	..	1,735 2 6	5,184 11 9	Mountain Hut Water-race.
Government Works—											*Government Works*—
Mount Ida	71,418 3 5	..	..	..	71,418 3 5	1,967 0 0	..	..	1,967 0 0	73,385 3 5	Mount Ida.
Waipori	11,263 1 0	..	..	..	11,263 1 0	..	..	..	..	11,263 1 0	Waipori.
CANTERBURY PROVINCIAL DISTRICT—											CANTERBURY PROVINCIAL DISTRICT—
Subsidy—											*Subsidy*—
Ninety-mile Beach Water-race	65 6 7	..	..	..	65 6 7	..	..	..	..	65 6 7	Ninety-mile Beach Water-race.
SOUTHLAND PROVINCIAL DISTRICT—											SOUTHLAND PROVINCIAL DISTRICT—
Subsidy—											*Subsidy*—
Round Hill	..	133 19 4	..	..	133 19 4	..	..	..	..	133 19 4	Round Hill.
GENERAL—											GENERAL—
Increased water-supply ..	530 4 0	100 0 0	..	..	630 4 0	..	..	..	..	630 4 0	Increased water-supply.
DEPARTMENTAL—											DEPARTMENTAL—
Salaries, travelling, advertising, &c.	6,720 6 8	..	..	..	6,720 6 8	..	..	..	..	6,720 6 8	Salaries, travelling, advertising, &c.
TOTALS	429,416 6 5	50,930 9 8	6,753 16 1	740 3 6	487,840 15 8	2,354 12 7	2,763 7 3	..	5,117 19 10	492,958 15 6	TOTALS.
SUMMARY.											SUMMARY.
NORTH ISLAND	80,708 19 3	1,524 5 4	..	61 0 0	82,294 4 7	..	..	..	..	82,294 4 7	NORTH ISLAND.
MIDDLE ISLAND	429,416 6 5	50,930 9 8	6,753 16 1	740 3 6	487,840 15 8	2,354 12 7	2,763 7 3	..	5,117 19 10	492,958 15 6	MIDDLE ISLAND.
TOTALS	510,125 5 8	52,454 15 0	6,753 16 1	801 3 6	570,135 0 3	2,354 12 7	2,763 7 3	..	5,117 19 10	575,253 0 1	TOTALS.

Development of Goldfields.—Table No. 5a.

STATEMENT showing ASSISTANCE towards PROSPECTING, and MISCELLANEOUS SERVICES, out of Public Works Fund to 31st March, 1902, and the LIABILITIES on that Date.

—	Total Expenditure to 31st March, 1901.	Net Expenditure during 12 Months ended 31st March, 1902.	Total Net Expenditure to 31st March, 1902.	Liabilities on 31st March, 1902.	Total Net Expenditure and Liabilities.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Assistance towards prospecting* ..	12,806 13 9	1,509 10 9	14,316 4 6	1,826 6 2	16,142 10 8
Purchase of diamond-drill ..	722 1 5	..	722 1 5	..	722 1 5
Prospecting deep levels, Thames,—					
Queen of Beauty Claim ..	25,000 0 0	..	25,000 0 0	..	25,000 0 0
Inspector's fee, deep-level shaft, Thames	500 0 0	..	500 0 0	..	500 0 0
Compensation Proclamation of Rivers	12,467 13 3	5,318 2 9	17,785 16 0	..	17,785 16 0
Water Conservation—					
Reports on Coromandel Harbour and Kuaotunu Sludge-channel	80 12 6	..	80 12 6	..	80 12 6
Engineer's salary and expenses ..	1,514 6 5	484 7 5	1,998 13 10	..	1,998 13 10
Eweburn Reservoir	16,182 13 2	179 6 0	16,361 19 2	..	16,361 19 2
Telephone-line, Bannockburn to Nevis	50 0 0	..	50 0 0	..	50 0 0
Reports on Ross Flat	284 10 8	..	284 10 8	..	284 10 8
Resumption of land	862 7 0	..	862 7 0	..	862 7 0
Water-supplies for Mining Townships—					
Waitekauri	445 2 5	..	445 2 5	..	445 2 5
Karangahake	607 6 5	..	607 6 5	..	607 6 5
Purchase of Cassrell's and Bennett's leaseholds, Paeroa	2,250 0 0	..	2,250 0 0	..	2,250 0 0
Mackeytown	..	279 0 5	279 0 5	71 19 7	351 0 0
Clycle	..	..	..	1,100 0 0	1,100 0 0
Totals	73,773 7 0	7,770 7 4	81,543 14 4	2,998 5 9	84,542 0 1

* Expenditure prior to 31st March, 1894, £2,630 16s. 2d.

TABLE No. .

STATEMENT showing the EXPENDITURE on TELEGRAPHS out of Public Works Fund to 31st March, 1902, and the Liabilities on that Date.

Line.	Expenditure during Twelve Months ended 31st March, 1902.	Total Expenditure and Liabilities.
	£ s. d.	£ s. d.
Telephone exchanges,—		
Ashburton	4 8 1	
Auckland	203 11 4	
Christchurch	426 12 2	
Dannevirke	0 4 0	
Dunedin	1,173 18 10	
Feilding	8 17 6	
Gisborne	80 10 0	
Greymouth	8 11 2	
Hawera	149 1 10	
Hokitika	390 9 6	
Invercargill	131 14 9	
Masterton	299 4 5	
Napier	52 15 2	
Nelson	23 13 6	
New Plymouth	5 12 5	
Oamaru	41 17 2	
Pahiatua	32 8 7	
Palmerston North	30 4 6	
Stratford	6 6 10	
Thames	152 10 4	
Timaru	154 1 1	
Wanganui	136 0 5	
Wellington	661 0 8	
New wires,—		
Doubtless Bay	220 14 1	
Kerikeri	71 2 8	
Whangarei-Limestone Island	86 19 10	
Mangawai-Te Arai	14 14 0	
Pahi-Whakapirau	19 14 11	
Helensville-Tahekeroa	2 19 1	
Carried forward	4,589 18 10	..

TABLE No. 6—*continued.*

STATEMENT showing EXPENDITURE on TELEGRAPHS out of Public Works Fund—*continued.*

Line.	Expenditure during Twelve Months ended 31st March, 1902.	Total Expenditure and Liabilities.
	£ s. d.	£ s. d.
Brought forward	4,589 18 10	
New wires—*continued.*		
Auckland–Mahoenui	273 5 3	
Auckland–Rotorua	296 12 1	
Mount Roskill–Waikowai	26 9 8	
Manurewa Bureau	6 4 11	
Tuakau–Onewhero	2 3 3	
Cambridge–Hautapu	73 2 6	
Thames–Paeroa	32 17 8	
Waikino–Waitekauri	18 2 4	
Motuihi–Waiheke Island	89 2 4	
Rotorua–Waiotapu	263 15 8	
Postmaster's Bath, Rotorua	2 18 3	
Paemako	4 11 2	
Poro-o-tarao–Ongarue	0 14 1	
Ongarue–Taumaranui	82 0 0	
New Plymouth–Auckland	53 8 2	
Opunake–Pihama–Manaia	4 10 0	
Strathmore–Whangamomona–Huikama	432 13 4	
Otakeho–Auroa	45 13 2	
Kaponga–Awatuna	58 2 9	
Wanganui–Hawera	9 12 0	
Wanganui–Fordell–Mangamahu	634 16 7	
Rongotea–Glenoroua	10 18 0	
Weraroa	3 7 6	
Taradale–Fernhill	56 13 9	
Waipawa–Tamumu–Patangata–Elsthorpe	368 13 5	
Wimbledon–Titree	120 11 9	
Pahiatua–Hamua	8 10 0	
Pahiatua–Kaitawa	22 11 6	
Mangaramarama	0 14 0	
Alfredton–Pongaroa	181 1 4	
Eketahuna–Rongomai	107 5 2	
Eketahuna–Nireaha	103 18 2	
Masterton–Carterton	54 0 0	
Muritai–Pencarrow	91 4 1	
Cullensville–Pelorus Sound	10 17 5	
Mahakipawa	2 17 0	
Waitapu	3 6 6	
Motupipi	3 19 0	
Whangamoa	0 8 6	
Greymouth–Reefton	62 13 6	
Rimu–Kokatahi	214 17 10	
Kakatahi–Koiterangi	78 7 9	
Okura Ferry	38 11 1	
Kowai Bush	1 17 0	
Prebbleton	3 9 6	
Yaldhurst	0 18 11	
West Melton Bureau	67 19 6	
Christchurch–Akaroa Trunk	87 13 5	
Timaru–Temuka	45 11 11	
Timaru–Fairlie Creek	5 12 2	
Georgetown–Ikawai	4 14 7	
Blackstone Hill–Ophir	121 9 4	
Wedderburn–Idaburn	26 6 8	
Ranfurly–Waipiata	14 8 4	
Hamilton's	1 19 6	
Dunedin–Port Chalmers	56 2 1	
Milton–Adams Flat	42 13 8	
Heriot–Dunrobin	3 7 2	
Arrowtown–Kawarau	15 6 8	
Waikaia Bureau	11 8 7	
Invercargill–Lumsden	2 12 0	
Riverton–Colac Bay–Orepuki	106 0 9	
Titiroa	0 0 9	
Purchase of material	22,563 2 5	
	31,728 16 2	
Expenditure to 31st March, 1901	906,158 6 1	
		937,887 2 3
Total expenditure	..	937,887 2 3
Liabilities, 31st March, 1902	..	43,873 0 0
Total expenditure and liabilities	..	£981,760 2 3

TABLE No. 7.

STATEMENT showing the EXPENDITURE on PUBLIC BUILDINGS out of Public Works Fund to 31st March, 1902, and the LIABILITIES on that Date.

—	Total Expenditure to 31st March, 1901.	Expenditure for Year ended 31st March, 1902.	Total Expenditure to 31st March, 1902.	Liabilities on Authorities, Contracts, &c., 31st March, 1902.	Total Expenditure and Liabilities.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Judicial	410,127 14 3	28,728 3 4	438,855 17 7	3,666 15 6	442,522 13 1
Postal and Telegraphic ..	217,324 12 7	40,361 4 2	257,685 16 9	17,690 16 1	275,376 12 10
Customs	7,902 5 0	2,066 9 9	9,968 14 9	1,030 15 0	10,999 9 9
Offices for Public Departments ..	219,420 4 11	4,326 17 7	223,747 2 6	77 7 11	223,824 10 5
Lunatic Asylums	458,849 11 10	16,743 9 7	475,593 1 5	2,913 7 7	478,506 9 0
Defence Depot, Wellington ..	1,359 16 0	1,662 13 5	3,022 9 5	..	3,022 9 5
School-buildings	1,049,360 18 11	38,606 6 9	1,087,967 5 8	2,316 13 4	1,090,283 19 0
Hospitals	54,483 10 7	1,200 0 0	55,683 10 7	..	55,683 10 7
Quarantine Stations	6,441 7 5	422 12 0	6,863 19 5	81 15 6	6,945 14 11
Survey	543 4 5	..	543 4 5	..	543 4 5
Parliament Buildings	55,027 1 11	4,423 12 5	59,450 14 4	34 16 0	59,485 10 4
Government House, Auckland ..	4,940 0 4	..	4,940 0 4	..	4,940 0 4
" Wellington	5,866 14 1	1,887 1 3	7,753 15 4	..	7,753 15 4
Agricultural	6,209 13 0	534 15 8	6,744 8 8	..	6,744 8 8
Miscellaneous	11,793 2 7	4,636 5 9	16,429 8 4	..	16,429 8 4
Totals	2,509,649 17 10	145,599 11 8	2,655,249 9 6	27,812 6 11	2,683,061 16 5

TABLE No. 8.

STATEMENT showing the EXPENDITURE on LIGHTHOUSES, HARBOUR WORKS, and HARBOUR DEFENCES, out of Public Works Fund, to 31st March, 1902, and the LIABILITIES on that Date.

—	Total Expenditure to 31st March, 1901.	Net Expenditure during 12 Months ended 31st March, 1902.	Total Expenditure to 31st March, 1902.	Liabilities on Authorities, Contracts, &c., to 31st March, 1902.	Total Expenditure and Liabilities.
LIGHTHOUSES.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Akaroa	7,148 16 5	..	7,148 16 5	..	7,148 16 5
Brothers	6,241 0 0	..	6,241 0 0	..	6,241 0 0
Cape Egmont	3,354 6 4	..	3,354 6 4	..	3,354 6 4
Cape Foulwind	6,955 9 1	..	6,955 9 1	..	6,955 9 1
Cape Kidnappers	2,109 11 7	..	2,109 11 7	..	2,109 11 7
Cape Maria van Diemen	7,028 14 8	..	7,028 14 8	..	7,028 14 8
Cape Palliser	6,712 9 6	..	6,712 9 6	..	6,712 9 6
Cape Saunders	6,066 6 3	..	6,066 6 3	..	6,066 6 3
Centre Island	5,785 19 0	..	5,785 19 0	..	5,785 19 0
Cuvier Island	7,405 9 11	..	7,405 9 11	..	7,405 9 11
French Pass Beacon	668 15 8	..	668 15 8	..	668 15 8
French Pass	1,427 17 5	..	1,427 17 5	..	1,427 17 5
Hokitika	801 9 7	..	801 9 7	..	801 9 7
Jackson's Reef Beacon	3,180 0 5	..	3,180 0 5	..	3,180 0 5
Kiourangi Point	27 17 0	1,767 3 7	1,795 0 7	712 2 5	2,507 3 0
Kaipara	5,571 8 0	..	5,571 8 0	..	5,571 8 0
Manukau Heads	600 13 11	..	600 13 11	..	600 13 11
Marine Store	499 11 3	..	499 11 3	..	499 11 3
Moeraki	2,943 1 11	..	2,943 1 11	..	2,943 1 11
Mokohinau	8,185 11 0	..	8,185 11 0	..	8,185 11 0
Portland Island	6,554 14 5	..	6,554 14 5	..	6,554 14 5
Puysegur Point	9,958 19 5	..	9,958 19 5	..	9,958 19 5
Stephens Island	9,454 11 11	..	9,454 11 11	..	9,454 11 11
Timaru	1,116 17 3	..	1,116 17 3	..	1,116 17 3
Tiritiri Cable	1,085 19 6	..	1,085 19 6	..	1,085 19 6
Tory Channel	353 7 7	..	353 7 7	..	353 7 7
Waipapapa Point	5,969 18 11	..	5,969 18 11	..	5,969 18 11
East Cape	7,578 2 8	16 6 0	7,594 8 8	..	7,594 8 8
Miscellaneous, including expenditure on s.s. "Hinemoa" and "Stella"	20,590 5 9	276 12 4	20,866 18 1	..	20,866 18 1
Total Lighthouses ..	145,377 6 4	2,060 1 11	147,437 8 3	712 2 5	148,149 10 8

TABLE No. 8.—*continued.*

STATEMENT showing the EXPENDITURE on LIGHTHOUSES, HARBOUR WORKS, and HARBOUR DEFENCES, out of Public Works Fund—*continued.*

—	Total Expenditure to 31st March, 1901.	Net Expenditure during 12 Months ended 31st March, 1902.	Total Expenditure to 31st March, 1902.	Liabilities on Authorities, Contracts, &c., to 31st March, 1902.	Total Expenditure and Liabilities.
HARBOUR WORKS.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Maungaturoto Wharf	..	250 0 0	250 0 0	..	250 0 0
Wharf at Howick	1,087 18 2	..	1,087 18 2	..	1,087 18 2
Pollock Wharf, Manukau	150 0 0	..	150 0 0	..	150 0 0
Whangarei Heads Wharf	600 0 0	..	600 0 0	..	600 0 0
Matakana Wharf	556 10 3	..	556 10 3	..	556 10 3
Waiuku Channel	357 11 6	..	357 11 6	..	357 11 6
Coromandel Wharf	*Cr.* 0 10 0	..	*Cr.* 0 10 0	..	*Cr.* 0 10 0
Waitara Harbour	2,000 0 0	..	2,000 0 0	..	2,000 0 0
Removing eel-weirs, Patea River	50 0 0	..	50 0 0	..	50 0 0
Wairoa Harbour	..	1,500 0 0	1,500 0 0	..	1,500 0 0
Mokau Wharf	..	12 13 9	12 13 9	..	12 13 9
Napier Harbour	916 7 7	923 13 8	1,840 1 3	..	1,840 1 3
Manawatu River, snagging	214 13 3	..	214 13 3	..	214 13 3
Foxton Marine Reserve, Protection of	50 0 0	..	50 0 0	..	50 0 0
Castlepoint Jetty	51 14 1	..	51 14 1	..	51 14 1
Kaikoura Jetty and Harbour	2,912 16 10	..	2,912 16 10	..	2,912 16 10
Picton, removal of old wharf	94 0 0	..	94 0 0	..	94 0 0
Nelson, dredging harbour	2,806 15 8	..	2,806 15 8	..	2,806 15 8
Motueka Wharf, protection	..	100 0 0	100 0 0	..	100 0 0
Collingwood Harbour	745 18 8	..	745 18 8	..	745 18 8
Pakawau Wharf	2 0 0	..	2 0 0	..	2 0 0
Karamea Wharf	559 19 11	..	559 19 11	..	559 19 11
Little Wanganui Wharf, wharf approach, and snagging river	297 8 10	13 12 0	311 0 10	..	311 0 10
Westport Harbour	14,110 18 7	..	14,110 18 7	..	14,110 18 7
Greymouth Harbour	127,233 19 6	..	127,233 19 6	..	127,233 19 6
Hokitika Harbour	58,780 5 10	..	58,780 5 10	..	58,780 5 10
Okarito Wharf, repairs and extension	7 9 3	275 15 1	283 4 4	..	283 4 4
Lyttelton, reclamation works, Sticking Point	1,556 19 3	213 9 10	1,770 9 1	..	1,770 9 1
Okuru Wharf	..	130 0 0	130 0 0	..	130 0 0
Timaru Harbour	100,000 0 0	..	100,000 0 0	..	100,000 0 0
Martin's Bay, removal of rock	5 0 0	..	5 0 0	..	5 0 0
Port Levy Jetty	250 0 0	..	250 0 0	..	250 0 0
Toitois Jetty	1,000 0 0	..	1,000 0 0	..	1,000 0 0
Balclutha Jetty	250 0 0	..	250 0 0	..	250 0 0
Catlin's River, removal of rocks	277 19 0	..	277 19 0	..	277 19 0
Catlin's River Jetty	1,015 7 7	..	1,015 7 7	..	1,015 7 7
Queenstown Beacon	35 0 0	..	35 0 0	..	35 0 0
Queenstown Jetty	297 8 0	..	297 8 0	..	297 8 0
Jackson's Bay Jetty	32 6 4	..	32 6 4	..	32 6 4
Raising dredge "Hapuka"	777 7 9	..	777 7 9	..	777 7 9
Miscellaneous	400 0 0	..	400 0 0	..	400 0 0
Stewart Island Wharf, Horseshoe Bay	230 0 0	..	230 0 0	..	230 0 0
Chatham Islands: Waitangi, removal and extension of wharf and store	20 0 0	..	20 0 0	..	20 0 0
Chatham Islands: Shed at Pitt Island	..	1 10 0	1 10 0	..	1 10 0
Total Harbour Works	319,733 5 10	3,420 14 4	323,154 0 2	..	323,154 0 2
HARBOUR DEFENCES.					
Guns	147,768 18 10	..	147,768 18 10	..	147,768 18 10
Ammunition	24,531 6 7	..	24,531 6 7	..	24,531 6 7
War Office stores	9,933 10 9	..	9,933 10 9	..	9,933 10 9
Torpedo-boats and torpedoes	20,203 13 7	..	20,203 13 7	..	20,203 13 7
Submarine mining stores	17,665 2 2	..	17,665 2 2	..	17,665 2 2
Miscellaneous	18,009 5 10	..	18,009 5 10	..	18,009 5 10
Works in colony	224,062 17 6	6,678 0 9	230,740 18 3	190 6 8	230,931 4 11
Land for depots and batteries	38,327 14 6	..	38,327 14 6	..	38,327 14 6
Total Harbour Defences	500,502 9 9	6,678 0 9	507,180 10 6	190 6 8	507,370 17 2
Grand total	965,613 1 11	12,158 17 0	977,771 18 11	902 9 1	978,674 8 0

APPENDICES TO THE PUBLIC WORKS STATEMENT, 1902.

APPENDIX A.

AUDITED STATEMENT OF EXPENDITURE ON PUBLIC WORKS OUT OF THE PUBLIC WORKS FUND FOR THE YEAR 1901–2.

Prepared in compliance with Section 8 of "The Public Works Act, 1894."

SIR,— Public Works Department, Wellington, 31st May, 1902.

In compliance with the 8th section of "The Public Works Act, 1894," I enclose a statement of the expenditure during the preceding financial year on all works and services chargeable to the Public Works Fund.

I have, &c.,
WM. HALL-JONES,
Minister for Public Works.

The Controller and Auditor-General, Wellington.

STATEMENT of NET EXPENDITURE on all WORKS and SERVICES chargeable to the PUBLIC WORKS FUND for the Year 1901–2.

Class.	Votes.	Summary.	Appropriation.	Expenditure.	Credits.	Net Expenditure.
		PUBLIC WORKS FUND.	£	£ s. d.	£ s. d.	£ s. d.
XX.	81	Public Works, Departmental ..	16,135	17,551 9 8	1,147 4 7	16,404 5 1
XXI.	82–83	Railways	1,362,492	1,375,395 16 7	41,455 3 6	1,333,940 13 1
XXII.	84–93	Public Buildings	214,740	146,317 8 4	717 16 8	145,599 11 8
XXIII.	94–96	Lighthouses, Harbour-works, and Harbour Defences	38,877	12,224 5 10	65 8 10	12,158 17 0
XXIV.	97	Tourist and Health Resorts ..	12,750	11,260 0 10	..	11,260 0 10
XXV.	98	Immigration	300	539 14 2	400 0 0	139 14 2
XXVI.	99–101	Roads	446,604	416,688 16 10	14,428 12 6	402,260 4 4
XXVII.	102	Development of Goldfields ..	50,000	15,365 6 11	40 0 0	15,325 6 11
XXVIII.	103	Purchase of Native Lands ..	30,000	18,261 9 10	..	18,261 9 10
XXIX.	104	Telegraph Extension	40,489	40,627 17 4	8,899 1 2	31,728 16 2
XXX.	105	Rates on Native Lands	650	570 9 4	..	570 9 4
XXXI.	106	Contingent Defence	180,000	155,333 12 7	8,457 19 6	146,875 13 1
XXXII.	107–108	Lands Improvement	7,050	1,685 2 6	7 15 5	1,677 7 1
		Unauthorised	..	2,437 18 6	1,007 10 4	1,430 8 2
		Total Public Works Fund ..	2,400,087	2,214,259 9 3	76,626 12 6	2,137,632 16 9

Public Works Department,

G. J. CLAPHAM,
Accountant.

H. J. H. BLOW,
Under-Secretary.

Examined and found correct.

J. K. WARBURTON,
Controller and Auditor-General.

(Details on next page.)

Vote. No.	Name of Vote.	Appropriation.	Expenditure.	Credits.	Net Expenditure.
	Public Works Fund.	£	£ s. d.	£ s. d.	£ s. d.
	Public Works, Departmental—				
81	Public Works, Departmental	16,135	17,551 9 8	1,147 4 7	16,404 5 1
	Railways—				
	Railway Construction—				
	Kawakawa-Grahamtown		9,326 17 1	..	9,326 17 1
	Helensville Northwards		18,218 6 3	..	18,218 6 3
	Paeroa-Waihi		18,324 5 1	..	18,324 5 1
	Gisborne-Karaka		20,555 10 3	..	20,555 10 3
	Stratford-Kawakawa		14,490 1 6	22 16 0	14,467 5 6
	Marton-Te Awamutu		157,484 10 11	1,506 0 2	155,978 10 9
	Wellington-Woodville (Rimutaka Deviation) ..		609 2 3	5 0 0	604 2 3
	Blenheim-Waipara		48,797 14 8	416 0 1	48,381 14 7
	Midland Railway		66,483 14 2	92 19 10	66,390 14 4
82	Ngahere-Blackball	561,524	116 14 11	0 2 0	116 12 11
	Greymouth-Hokitika (Extension to Ross) ..		355 5 9	..	355 5 9
	Otago Central		93,818 4 0	39 12 9	93,778 11 3
	Heriot Extension		4,055 15 11	..	4,055 15 11
	Catlin's-Seaward Bush		8,017 13 9	16 13 4	8,001 0 5
	Riversdale-Switzers		23 2 6	..	23 2 6
	Orepuki-Waiau		16,490 16 10	34 8 0	16,456 8 10
	Land-claims and other old liabilities on Construction Account		1,597 12 9	..	1,597 12 9
	Surveys, New Lines of Railway		20 16 8	..	20 16 8
	Permanent-way and other Materials		122,539 4 0	38,480 10 6	84,058 13 6
83	Additions to Open Lines	800,968	774,070 7 4	841 0 10	773,229 6 6
	Public Buildings—				
84	General	17,000	16,937 1 5	0 11 0	16,936 10 5
85	Judicial	43,000	28,784 7 6	56 4 2	28,728 3 4
86	Postal and Telegraph	56,490	40,913 12 8	552 8 6	40,361 4 2
87	Customs	5,000	2,066 9 9	..	2,066 9 9
88	Lunatic Asylums	18,000	16,745 14 7	2 5 0	16,743 9 7
89	Quarantine Stations	1,250	422 12 0	..	422 12 0
90	School Buildings	36,000	26,416 9 9	68 18 4	26,347 11 5
91	School Buildings (Special)	30,000	12,296 5 0	37 9 8	12,258 15 4
92	Agricultural	3,000	534 15 8	..	534 15 8
93	Hospitals and other Charitable Institutions ..	5,000	1,200 0 0	..	1,200 0 0
	Lighthouses, Harbour Works, and Harbour Defences—				
94	Lighthouses	6,000	2,060 1 11	..	2,060 1 11
95	Harbour Works	7,877	3,420 14 4	..	3,420 14 4
96	Harbour Defences	25,000	6,743 9 7	65 8 10	6,678 0 9
	Tourist and Health Resorts—				
97	Tourist and Health Resorts	12,750	11,260 0 10	..	11,260 0 10
	Immigration—				
98	Immigration	300	539 14 2	400 0 0	139 14 2
	Construction and Maintenance of Roads, Bridges, and other Public Works—				
99	Roads, Departmental	24,178	19,420 15 3	80 15 8	19,339 19 7
100	Roads, &c.	337,643	349,654 3 10	14,307 3 4	335,347 0 6
101	Roads on Goldfields	84,783	47,613 17 9	40 13 6	47,573 4 3
	Development of Goldfields—				
102	Development of Goldfields	50,000	15,365 6 11	40 0 0	15,325 6 11
	Purchase of Native Lands—				
103	Purchase of Native Lands	30,000	18,261 9 10	..	18,261 9 10
	Telegraph Extension—				
104	Telegraph Extension	40,489	40,627 17 4	8,899 1 2	31,728 16 2
	Rates on Native Lands—				
105	Rates on Native Lands	650	570 9 4	..	570 9 4
	Contingent Defence—				
106	Contingent Defence	180,000	155,333 12 7	8,457 19 6	146,875 13 1
	Lands Improvement—				
107	Improved-farm Settlements	3,800	1,685 2 6	7 15 5	1,677 7 1
108	Lands, Miscellaneous	3,250	..	..	..
	Unauthorised—				
	Services not provided for	..	2,437 18 6	1,007 10 4	1,430 8 2
	Total Public Works Fund	2,400,087	2,214,259 9 3	76,626 12 6	2,137,632 16 9

APPENDIX B.

STATEMENT of all LIABILITIES in respect of the Services of the Public Works Department outstanding at the Close of the Financial Year ended 31st March, 1902, prepared in terms of Section 38, Part IV., of "The Public Revenues Act, 1891," and forwarded, as therein provided, to the Audit Office.

Class.	Votes.	Summary.	Total.
		PUBLIC WORKS FUND.	£ s. d.
XXI.	82	Railways	73,369 0 8
XXII.	84–93	Public Buildings	27,812 6 11
XXIII	94–96	Lighthouses, Harbour Works, and Harbour Defences	902 9 1
			102,083 16 8
		CONSOLIDATED FUND.	
XIV.	67	Public Buildings	312 16 6

Vote No.	Name of Vote.	Total.
	PUBLIC WORKS FUND.	£ s. d.
82	Railway-construction—	
	Kawakawa–Grahamtown	569 12 4
	Helensville Northwards	1,227 19 6
	Paeroa–Waihi	9,716 2 7
	Gisborne–Karaka	960 0 7
	Stratford–Kawakawa	625 0 5
	Marton–Te Awamutu	29,092 17 5
	Wellington–Woodville (Rimutaka Deviation)	36 4 1
	Blenheim–Waipara	5,270 1 6
	Midland Railway	12,100 4 2
	Ngahere–Blackball	147 0 2
	Greymouth–Hokitika (extension to Ross)	37 19 6
	Otago Central	5,869 17 8
	Heriot Extension	82 7 9
	Catlin's–Seaward Bush	327 15 4
	Riversdale–Switzer's	..
	Orepuki–Waiau	875 18 5
	Land-claims, &c.	29 1 9
	Surveys, New Lines of Railway	24 6 0
	Permanent-way Materials	6,376 11 6
		73,369 0 8
	Public Buildings—	
84	General	112 3 11
85	Judicial	3,666 15 6
86	Postal and Telegraph	17,690 16 1
87	Customs	1,030 15 0
88	Lunatic Asylums	2,913 7 7
89	Quarantine Stations	81 15 6
90	School-buildings (part of vote only)	2,316 13 4
92	Agricultural	..
93	Hospitals and other Charitable Institutions	..
		27,812 6 11
	Lighthouses, Harbour Works, and Harbour Defences—	
94	Lighthouses	712 2 5
95	Harbour Works	..
96	Harbour Defences	190 6 8
		902 9 1
	Total, Public Works Fund	102,083 16 8
	CONSOLIDATED FUND.	
67	Public Buildings	312 16 6

G. J. CLAPHAM,
Accountant.

H. J. H. BLOW,
Under-Secretary.

Public Works Department, 9th June, 1902.

APPENDIX C.

SCHEDULE of CONTRACTS CURRENT on the 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1902.

Date of Contract.	Lines of Railway and Branches.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
		RAILWAYS.				£ s. d.	
Aug. 23, 1900	Kawakawa–Grahamstown ..	Ironbark Piles and Timber..	J. Burns and Co.	Dec. 22, 1900	Oct. 17, 1901	163 19 2	
Feb. 7, 1901	"	Ironbark Timber	John Burns	May 8, 1901	Oct. 17, "	276 0 0	
Nov. 9, 1900	Helensville Northwards	1,000,000 Bricks, Komokoriki Tunnel ..	Gardner Bros.	Dec. 29, "	..	2,050 0 0	
Dec. 17, "	Paeroa–Waihi	Land-plan Survey..	D. W. McArthur	June 17, "	Oct. 23, 1901	250 0 0	
July 4, 1901	"	Ohinemuri Bridge..	J. and A. Anderson	Feb. 13, 1903	..	8,771 15 11	
Aug. 23, 1900	Gisborne–Karaka	Ironbark Timber and Piles..	J. Burns and Co.	Dec. 22, 1900	Oct. 17, 1901	532 18 1	
April 30, 1901	"	Gisborne Station-buildings	Matthieson and Baldock ..	Oct. 24, 1901	Oct. 31, "	1,757 14 0	
July 12, "	"	Station-buildings, Gisborne–Ormond ..	Robert Sanders	Jan. 11, 1902	Feb. 20, 1902	1,796 0 0	
July 27, 1900	Marton–Te Awamutu, N.E. ..	Land-plan Survey	F. Gillett	Jan. 27, 1901	Aug. 26, 1901	426 0 0	
Aug. 23, "	" ..	Ironbark Timber and Piles..	J. Burns and Co.	Dec. 22, 1900	Oct. 17, "	270 3 5	
Jan. 17, 1901	" ..	Cast-iron Cylinders, Ongarue Bridges ..	Charles Judd	April 25, 1901	Aug. 17, "	583 16 0	
Feb. 5, "	" ..	Girders, "	J. and A. Anderson	July 15, 1902	..	4,746 0 0	
Feb. 7, "	" ..	Ironbark Timber	John Burns	May 8, 1901	Oct. 17, 1901	965 11 2	
Feb. 15, "	" ..	" , Ongarue Bridges	Murray, Arnold, and Co. ..	May 20, "	Nov. 13, "	671 19 8	
May 8, "	" ..	Taumarunui Bridge	Scott Bros. (Limited) ..	Feb. 3, 1903	..	11,500 9 0	
July 3, "	" ..	Ironwork for Bridges	Samuel Barr	Oct. 1, 1901	Nov. 30, 1901	224 3 7	
Sept. 12, "	" ..	Land-plan Survey..	F. Gillett	Sept. 12, "	..	384 0 0	
Feb. 1, "	Marton–Te Awamutu, S.E. ..	Bolts and Anchor-plates, Mangaweka Viaduct	P. and D. Duncan (Limited)..	April 26, "	April 26, 1901	262 1 0	
April 24, "	" ..	Steel Girders, Toitoi Creek Bridge	Scott Bros. (Limited) ..	Aug. 15, 1902	..	1,890 0 0	
May 8, "	" ..	One 122 ft. 6 in. Steel-girder Span for Hautapu River Bridge	Scott Bros. (Limited) ..	Sept. 3, "	..	1,180 0 0	
Jan. 27, 1902	" ..	Supply and delivery of Joinery, Mangaweka and Ohingaiti Station-buildings	Zazonskowski Bros.	Two weeks after being notified	..	199 3 11	
Jan. 21, "	" ..	Supply and delivery of Timber, Ohingaiti Station-buildings	Alexander Bell	March 4, 1902	..	325 16 3	
Jan. 21, "	" ..	Supply and delivery of Timber, Mangaweka Station-buildings	Alexander Bell	April 1, "	..	725 0 5	
May 15, 1899	Blenheim–Waipara, N.E. ..	Awatere Bridge	Scott Bros. (Limited) ..	April 8, 1901	July 18, 1901	22,001 18 0	
Sept. 3, 1900	Blenheim–Waipara, S.E. ..	Land-plan Survey..	G. B. Sinclair	March 3, "	Sept. 14, "	441 0 0	
Sept. 5, "	" ..	Ironbark Timber and Piles..	Murray, Arnold, and Co. ..	Nov. 27, 1900	Oct. 30, "	972 0 9	
Nov. 16, "	" ..	18,336 ft. Totara Timber	J. T. Brown and Son ..	Jan. 31, 1901	Oct. 15, "	201 13 11	
Feb. 7, 1901	" ..	Ironbark Timber	John Burns	May 8, "	Oct. 17, "	753 0 0	
Feb. 12, "	Midland, Springfield End ..	Patterson's Creek Viaduct	Scott Bros. (Limited) ..	Oct. 15, 1902	..	11,082 8 6	
Nov. 6, 1900	Otago Central	Superstructure, Poolburn and Manuherikia Brdiges	J. and A. Anderson ..	Nov. 18, 1901	..	5,852 16 0	
Jan. 9, 1901	"	Cast-iron Cylinders, Manuherikia Bridges ..	Charles Judd	April 17, "	Aug. 7, 1901	569 10 0	
March 25, "	"	Timber for Station-buildings, Blackstone Hill and Ophir	A. and D. Macpherson and Co.	April 2, "	Aug. 2, "	701 12 4	
March 25, "	"	Timber for Station-buildings, Ida Valley ..	A. and D. Macpherson and Co.	May 14, "	Aug. 2, 1901	396 15 5	
Aug. 29, "	Orepuki–Waiau	Steel Girders, Waimeamea Bridge	A. and T. Burt (Limited) ..	Aug. 19, 1902	..	492 11 6	
Sept. 4, 1900	Permanent-way, Rails	Fifty-one Sets Points and Crossings ..	P. and D. Duncan (Limited)..	Feb. 9, 1901	July 17, 1901	586 10 0	
Nov. 11, 1901	" "	Fifty-one Sets 56 lb. Points and Crossings ..	John Anderson	April 30, 1902	..	586 10 0	
Aug. 23, 1900	" Timber, Iron, &c.	Ironbark Timber and Piles	J. Burns and Co.	Dec. 22, 1900	Oct. 17, 1901	131 18 2	

APPENDIX C—*continued.*

SCHEDULE of CONTRACTS CURRENT on the 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1902—*continued.*

Date of Contract.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
	PUBLIC BUILDINGS.					
	AUCKLAND.				£ s. d.	
July 16, 1900	Additions, Male Wing, Auckland Lunatic Asylum	Ferguson and Malcolm, Auckland	April 12, 1901	Aug. 31, 1901	3,933 14 0	
Nov. 1, „	Post-office, Hamilton	Guthrie and Braithwaite, Auckland	June 30, „	July 5, „	2,166 10 1	
Jan. 3, 1901	Post-office, Gisborne	W. Webb and Sons, Gisborne	Aug. 28, „	..	3,798 1 10	
Feb. 12, „	Native School and Teacher's Residence, Taumaranui	G. H. James, Onehunga	June 12, „	Oct. 2, 1901	665 0 0	
March 11, „	Native School and Teacher's House, Omarumutu	J. H. Moir, Opotiki	July 4, „	Oct. 14, „	660 0 0	
March 12, „	Caretaker's Residence, Post-office, Auckland	J. J. Holland, Auckland	June 11, „	July 20, „	580 0 0	
March 14, „	Lock-up and Matron's Quarters, Auckland	Robert Farrell, Auckland	Sept. 11, „	Jan. 31, 1902	1,761 0 0	
April 1, „	Native School and Teacher's Residence, Whareponga	G. S. Wood, Auckland	July 27, „	Sept. 4, 1901	645 0 0	
May 6, „	Post-office, Onehunga	William E. Hutchison, Auckland	Dec. 30, „	Feb. 3, 1902	1,898 0 0	
May 13, „	Native School, Whakarewarewa	T. H. Sloane, Rotorua	Sept. 7, „	Oct. 24, 1901	685 0 0	
May 17, „	Courthouse, Waihi	W. M. Hay, Thames	Sept. 7, „	Sept. 7, „	991 18 0	
May 3, „	Post-office, Tolago Bay	Mackrell and Colley, Gisborne	July 30, „	Oct. 7, „	408 2 0	
June 1, „	Post-office, Aratapu	William A. Spiers, Dargaville	Aug. 29, „	Sept. 4, „	403 2 10	
July 16, „	Native School, Kerepehi	Alfred J. Smith, Thames	Nov. 11, „	Nov. 23, „	626 6 0	
Sept. 26, „	Public Works Store, Auckland	Charles H. Frankham, Auckland	Nov. 25, „	Dec. 14, „	459 0 0	
Oct. 5, „	Removal of Native School, Taiharuru to Takahiwai	Austin Williams, Whangarei	Nov. 5, „	Jan. 16, 1902	227 0 0	
Nov. 20, „	Native School and Residence, Parewera	David Henderson, Ngaruawahia	March 12, 1902	..	677 0 0	
Dec. 17, „	Pacific Cable Station-buildings, Doubtless Bay	C. H. Frankham, Auckland	May 12 „	..	4,779 0 0	
Jan. 7, 1902	Drill Hall and Gun-room, Auckland	John Davis, Auckland	May 4, „	..	4,391 19 7	
	HAWKE'S BAY.					
Jan. 29, 1901	Additions to Wairoa Courthouse	P. Wilson, Wairoa	March 29, 1901	July 31, 1901	145 0 0	
April 2, „	Lineman's Residence, Tarawera	W. Ward, Napier	Aug. 27, „	Sept. 26, „	640 0 0	
April 29, „	Police Residence, Waipawa	John Adams, Waipawa	July 17, „	Oct. 21, „	606 8 0	
July 22, „	Painting, Papering, Renovating, and Repairs, Courthouse, Napier	Black and Clifton, Napier	Sept. 11, „	Sept. 12, „	259 0 0	
Sept. 22, „	Post-office, Weber	John L. Scott, Dannevirke	Dec. 7, „	Jan. 31, 1902	371 0 0	
	TARANAKI.					
Sept. 25, 1900	Post-office, Opunake	John Ryan, Manaia	Feb. 27, 1901	Mar. 24, 1902	1,103 8 0	
March 16, 1901	Post-office, Inglewood	A. A. Pikett, New Plymouth	Aug. 27, „	Mar. 18, „	1,879 19 0	
March 28, „	Lock-up, &c., Hawera Police-station	William Lloyd, Eltham	May 20, „	July 13, 1901	225 6 8	
May 27, „	Courthouse, Opunake	John Ryan, Manaia	Sept. 4, „	Nov. 1, „	573 12 0	
July 23, „	Sanitary Improvements, Government Buildings, New Plymouth	Robert Coleman, New Plymouth	Sept. 11, „	Feb. 4, 1902	465 0 0	
July 20, „	Post-office, Toko	N. J. King, Stratford	Oct 11, „	Nov. 30, 1901	376 0 0	
Oct. 1, „	Alterations, Additions, and Repairs, Waitara Police-station	F. J. Brabant, Waitara	Nov. 18, „	Feb. 15, 1902	230 0 0	

APPENDIX C—*continued.*

SCHEDULE of CONTRACTS CURRENT on the 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1902—*continued.*

Date of Contract.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
	PUBLIC BUILDINGS—*continued.*				£ s. d.	
	WELLINGTON.					
August 16, 1900	Additions, Courthouse, Wanganui	Russell and Bignell, Wanganui..	Feb. 11, 1901	May 15, 1901	1,438 17 4	
Nov. 10, „	Post and Telegraph Office, Feilding	William Heald, Feilding ..	June 26, „	Dec. 14, „	2,695 0 0	
March 23, 1901	Extension of Lighting-plant, Porirua Asylum	Turnbuil and Jones, Wellington	Oct. 27, „	..	1,473 0 0	
March 12, „	Post-office, Alfredton	George Benton, Alfredton ..	June 7, „	Sept. 10, 1901	292 0 0	
March 22, „	Post-office, Wanganui	N. Meuli, Wanganui	Nov. 27, „	..	5,144 10 4	
May 9, „	Wrought-iron Fencing and Gates, Government Buildings, Wellington ..	J. W. Faulkner and Sons (Limited), Dunedin	Aug. 15, „	Feb. 5, 1902	428 7 6	
July 15, „	Lock-up and Stable, Kimbolton Police-station	R. L. C. Birch, Kimbolton ..	Oct. 4, „	Feb. 13, „	213 0 0	
Sept. 30, „	Alterations, Repairs, Painting, &c., Post-office, Foxton	T. Easton, Foxton	Dec. 7, „	Dec. 16, 1901	187 0 0	
Nov. 11, „	Lecture-room, Trentham Rifle-range	R. A. Wakelin, Greytown North	Jan. 6, 1902	Jan. 13, 1902	219 14 9	
Jan. 9, 1902	Removal of Native School, Mawhitiwhiti to Pariroa	A. F. Riggs, Wanganui ..	Feb. 28, „	..	360 0 0	
March 17, „	Post-office, Pongaroa	H. W. Godfrey, Pahiatua ..	May 25, „	..	375 0 0	
April 15, „	Clock, Masterton	W. Littlejohn and Son, Wellington	July 11, „	..	725 0 0	
	NELSON.					
Jan. 7, 1901	Post and Telegraph Office, Denniston	R. H. Cole, Westport	April 29, 1901	Oct. 1, 1901	423 5 0	
March 1, „	Post-office, Motueka	Andrew Millar, Motueka ..	Aug. 28, „	Sept. 4, „	1,022 2 5	
May 16, „	Timber and Joinery for Dwellings, Farewell Spit Lighthouse	Waddell, McLeod, and Weir, Wellington	June 5, „	June 5, „	538 3 4	
June 8, „	Constable's Quarter's, Reefton	Robert E. Bellamy, Reefton ..	Oct. 5, „	Nov. 2, „	250 10 0	
August 24, „	Gaoler's House, Westport	John Clegg and Thomas Scanlon, Westport	Dec. 20, „	Jan. 28, 1902	506 11 0	
Jan. 29, 1902	Signalman's House, Karamea	George Lineman, Karamea ..	March 17, 1902	..	108 8 4	
Jan. 24, „	Supply and delivery of Joinery, Kahurangi Lighthouse	Stewart Timber, Glass, and Hardware Company	Feb. 24, „	..	143 14 7	
Jan. 18, „	Supply and delivery of Timber, Kahurangi Lighthouse	West Coast Timber Trading Company, Greymouth	Feb. 27, „	..	380 2 4	
	MARLBOROUGH.					
Jan. 1, 1901	Postmaster's Residence, Kaikoura	William Cooke and Co., Kaikoura	July 25, 1901	Sept. 28, 1901	520 0 0	
Nov. 16, „	Alterations to Post-office, Blenheim	Wemyss Bros., Blenheim ..	Jan. 4, 1902	Feb. 25, 1902	199 0 0	
	WESTLAND.					
May 21, 1901	Strong-room, &c., Courthouse, Hokitika	H. J. Reynolds, Hokitika ..	July 18, 1901	Sept. 6, 1901	205 7 0	

APPENDIX C—*continued.*

SCHEDULE of CONTRACTS CURRENT on the 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1902—*continued.*

Date of Contract.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
	PUBLIC BUILDINGS—*continued.*					
	CANTERBURY.				£ s. d.	
Nov. 28, 1900	Post-office, Ashburton	Peter Hyndman, Christchurch ..	July 20, 1901	Feb. 8, 1902	4,300 0 0	
April 4, 1901	Police Sergeant's Quarters, Timaru	Clayton and Co., Timaru ..	June 21, „	Aug. 30, 1901	486 7 0	
May 18, „	Additional Strong-rooms, Provincial Buildings, Christchurch	Soanes Bros., Christchurch ..	July 25, „	July 29, „	613 18 6	
May 28, „	Additions and Alterations to Post-office, Lyttelton	Moore Bros., St. Albans, Christchurch	Aug. 22, „	Aug. 30, „	535 17 6	
July 27, „	Post-office, Hanmer Springs	Gulliver and Rogers, Rangiora ..	Aug. 29, „	Oct. 7, „	506 0 0	
June 4, „	Mobilization Store, Christchurch	W. H. Bowen, St. Albans, Christchurch	Aug. 29, „	Aug. 30, „	499 0 0	
July 24, „	Magnetic Station, Christchurch	P. M. Stewart, Papanui ..	Aug. 21, „	Oct. 30, „	1,046 0 9	
July 24, „	New Wing, Te Oranga Home, Christchurch	A. Clephane, Christchurch ..	Jan. 10, 1902	..	2,315 0 0	
July 30, „	Post-office, Timaru	F. Palliser, Timaru	Feb. 24, „	..	2,595 18 3	
Oct. 28, „	Customhouse, Timaru	Thomas Pringle, Timaru ..	Mar. 17, „	..	1,944 15 0	
	OTAGO AND SOUTHLAND.					
Jan. 24, 1899	Law-courts, Dunedin	Archibald Shaw, Dunedin ..	July 15, 1901	..	19,311 9 11	
Nov. 1, 1900	Boiler-, Engine-, and Accumulator-house, Seacliff Asylum	William Duncan and Son, Dunedin	Mar. 29, „	Aug. 26, 1901	1,117 18 6	
Dec. 4, „	Electric-light Installation, Seacliff Asylum	Steuart and Fenn, Dunedin ..	June 4, „	..	4,344 1 2	
Jan. 31, 1901	Post and Telegraph Office, Caversham	Robert Orr, Caversham ..	July 31, „	Aug. 28, 1901	818 17 0	
Feb. 5, „	Courthouse, Gore	George Lawrence, Dunedin ..	Aug. 5, „	Nov. 6, „	1,781 11 6	
March 25, „	Courthouse, Outram	Robert Scott, Outram	June 21, „	July 29, „	400 15 7	
March 25, „	Police-station, Outram	„ „	June 21, „	July 29, „	429 7 9	
April 2, „	Additions, Police Quarters, Ophir	Thomas Wilkinson, St. Bathans	May 21, „	Sept. 17, „	310 0 0	
April 11, „	Police-station, Roxburgh	Grover and Rooney, Roxburgh ..	July 27, „	Sept. 7, „	395 0 0	
April 15, „	Post-office Clock, Oamaru	Littlejohn and Son, Wellington ..	July 11, 1902	..	755 0 0	
April 15, „	Post-office Clock, Bluff	„ „ ..	July 11, „	..	725 0 0	
June 14, „	Post-office, Gore	George Morrison, Dunedin ..	Mar. 10, „	..	4,878 0 0	
Dec. 31, „	Alterations and Additions, Dunedin Telegraph-office	J. E. White and Son, Dunedin ..	June 30, „	..	2,195 10 0	
Feb. 18, 1902	Strong-room and Library Fittings, Supreme Court, Invercargill	John Walker and Son, Invercargill	April 15, „	..	255 0 0	
	MISCELLANEOUS.					
	AUCKLAND.					
June 18, 1901	Manukau Beacons	Samuel Barr, Onehunga ..	Sept. 6, 1901	Oct. 12, 1901	234 15 2	
April 26, „	Coal Supply, Government Buildings, Auckland	J. J. Craig, Auckland	Mar. 31, 1902	Mar. 31, 1902	Schedule Rates	
June 26, „	Stores Supply, Auckland, Classes I., II., III., IV., V., VI., and XI., and Items 1, 2, 4, 6, 7, 8, 10, 15, 17, and 18 of Class X.	Briscoe and Co. (Limited), Auckland	Mar. 31, „	Mar. 31, „	„	
June 29, „	Stores Supply, Auckland, Class VII.	J. Wilson and Co., Auckland ..	Mar. 31, „	Mar. 31, „	„	
July 2, „	„ „ Class VIII.	J. J. Craig, Auckland	Mar. 31, „	Mar. 31, „	„	
July 3, „	„ „ Class IX.	R. O. Clark, Auckland	Mar. 31, „	Mar. 31, „	„	
May 11, „	„ „ Items 3, 9, 11, 12, 13, 14, and 20 to 25 of Class X. ..	N. Guthridge (Limited), Auckland	Mar. 31, „	Mar. 31, „	„	

APPENDIX C—*continued.*

SCHEDULE of CONTRACTS CURRENT on the 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1902—*continued.*

Date of Contract.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
	MISCELLANEOUS—*continued.*					
	WELLINGTON.				£ s. d.	
Jan. 16, 1901	New Boiler, &c., Porirua Lunatic Asylum	E. Seagar, Wellington	May 10, 1901	Dec. 11, 1901	590 0 0	
May 15, "	Trenching, Stumping, and Burning 12 Acres, Levin Site, Industrial School for Boys	S. J. Moncrieff, Levin	July 24, "	Oct. 14, "	534 0 0	
May 15, "	Stumping, Logging, and Burning 24 Acres, ditto	John Wood and John Devine, Levin	Aug. 7, "	Nov. 1, "	288 0 0	
May 15, "	Fencing and Clearing Line, ditto	William Holtz, Levin	Aug. 7, "	..	93 15 0	
Sept. 13, "	Stumping, Logging, and Burning 11½ Acres, ditto	S. J. Moncrieff, Levin	Nov. 11, "	..	166 0 0	
April 9, "	Chimney-sweeping, Public Buildings, Wellington	Harry Smith, Wellington	Mar. 31, 1902	Mar. 31, 1902	150 0 0	
April 10, "	Removal of Rubbish, " "	T. Costello, Wellington	Mar. 31, "	Mar. 31, "	125 0 0	
April 11, "	Window-cleaning, " "	B. Curlew and Co., Wellington	Mar. 31, "	Mar. 31, "	288 0 0	
June 10, "	Stores Supply, Wellington, Classes I., III., V., XI., and Items 1, 2, 5, 6, 7, 8, 10, 13 to 19, and 24 to 26 of Class X.	Briscoe and Co. (Limited), Wellington	Mar. 31, "	Mar. 31, "	Schedule rates	
July 5, "	Stores Supply, Wellington Class II.	George Winder, Wellington	Mar. 31, "	Mar. 31, "	"	
July 10, "	" " Class IV.	E. W. Mills and Co., Wellington	Mar. 31, "	Mar. 31, "	"	
July 10, "	" " Class VI.	Smith and Smith, Wellington	Mar. 31, "	Mar. 31, "	"	
July 4, "	" " Classes VII. and IX.	P. Hutson and Co., Wellington	Mar. 31, "	Mar. 31, "	"	
June 25, "	" " Class VIII.	Milburn Lime and Cement Company, Wellington	Mar. 31, "	Mar. 31, "	"	
May 11, "	" " Items 3, 4, 9, 11, 12, 20 to 23 of Class X.	N. Guthridge (Limited), Wellington	Mar. 31, "	Mar. 31, "	"	
	NELSON.					
Jan. 15, 1900	Karamea Bridge	H. H. Lange, Westport	Nov. 15, 1900	Feb. 10, 1902	3,855 9 0	
Sept. 5, "	Supply of Ironbark Timber, &c., Ahaura Bridge	Murray, Arnold, and Co., Wellington	Nov. 27, "	Oct. 30, 1901	184 5 2	
June 5, 1901	Cast- and Wrought-iron and Steel work, Kahurangi Lighthouse	Charles Judd, Thames	Nov. 29, 1901	..	995 17 6	
	WESTLAND.					
Feb. 28, 1901	Additions and Repairs, Okarito Wharf	John Sutherland and Co., Okarito	June 13, 1901	..	245 12 1	
June 12, "	Stores Supply, Greymouth, Classes I., II., III., IV., V., VII., VIII., IX., and Items 1, 3, 4, 9, 11 to 14, and 18 to 26 of Class X.	D. McLean, Greymouth	Mar. 31, 1902	Mar. 31, 1902	Schedule rates	
June 13, "	Stores Supply, Greymouth, Class VI.	James Holmes, Greymouth	Mar. 31, "	Mar. 31, "	"	
June 13, "	" " Class XI.	C. Hansen, Greymouth	Mar. 31, "	Mar. 31, "	"	
June 24, "	" " Items 2, 6, 10, 15 to 17 of Class X.	Dalgety and Co. (Limited), Christchurch	Mar. 31, "	Mar. 31, "	"	
	CANTERBURY.					
July 27, 1901	Coal Supply, Public Buildings, Christchurch, and Public Works Department, Springfield	W. White and Co., Christchurch	Mar. 31, 1902	Mar. 31, 1902	"	
July 22, "	Stores Supply, Christchurch, Classes I., II., III., IV., V., VI., VII., VIII., IX., and XI., and Items 1, 3, 4, 5, 7. 8, 9, 11 to 16, 18 to 26 of Class X.	Ashby, Bergh, and Co., Christchurch	Mar. 31, "	Mar. 31, "	"	
July 29, "	Stores Supply, Christchurch, Items 2, 6, 10, 17 of Class X.	Dalgety and Co., Christchurch	Mar. 31, "	Mar. 31, "	"	

APPENDIX C—*continued.*

SCHEDULE of CONTRACTS CURRENT on the 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1902—*continued.*

Date of Contract.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
	MISCELLANEOUS—*continued.*					
	OTAGO.				£ s. d.	
April 24, 1900	Boilers, Seacliff Asylum	Scott Bros. (Limited), Christchurch	June 27, 1901	..	947 0 0	
April 24, 1901	Coal and Firewood Supply, Public Buildings, Dunedin, and Otago Central Railway	Westport Coal Company, Dunedin	Mar. 31, 1902	Mar. 31, 1902	Schedule rates	
June 24, "	Stores Supply, Dunedin, Classes I., V., VI., and Items 1, 5, 6, 7, 18, 19, and 26 of Class X.	John Edmond, Dunedin ..	Mar. 31, "	Mar. 31, "	"	
June 24, "	Stores Supply, Dunedin, Classes II., III., and IV.	Thomson, Bridger, and Co., Dunedin	Mar. 31, "	Mar. 31, "	"	
June 25, "	" " Classes VII. and VIII.	Milburn Lime and Cement Company, Dunedin	Mar. 31, "	Mar. 31, "	"	
June 22, "	" " Class IX.	Briscoe & Co. (Limited), Dunedin	Mar. 31, "	Mar. 31, "	"	
June 24, "	" " Items 2, 8, 10, and 15 to 17 of Class X.	Dalgety and Co. (Limited), Dunedin	Mar. 31, "	Mar. 31, "	"	
May 11, "	" " Items 3, 4, 9, 11 to 14, 20 to 25 of Class X... ..	N. Guthridge (Limited), Dunedin	Mar. 31, "	Mar. 31, "	"	
June 29, "	" " Class XI.	Alexander Thompson, Dunedin..	Mar. 31, "	Mar. 31, "	"	
June 24, "	" Invercargill, Classes I. and VI., and Items 1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14, and 18 to 26 of Class X.	John Edmond, Invercargill ..	Mar. 31, "	Mar. 31, "	"	
June 24, "	" " Classes II., III., IV., and V.	Thomson, Bridger, and Co., Invercargill	Mar. 31 "	Mar. 31, "	"	
June 25, "	" " Classes VII. and VIII.	Milburn Lime and Cement Company, Invercargill	Mar. 31 "	Mar. 31, "	"	
June 22, "	" " Class IX.	Briscoe and Co. (Limited), Invercargill	Mar. 31 "	Mar. 31, "	"	
June 24, "	" " Items 2, 6, 10, 15, 16, 17 of Class X.	Dalgety and Co. (Limited), Invercargill	Mar. 31 "	Mar. 31, "	"	
June 29, "	" " Class XI.	Alexander Thompson, Invercargill	Mar. 31 "	Mar. 31, "	"	

APPENDIX D.

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1902, showing Deliveries to the latter Date.

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
				s. d.				
NORTH ISLAND.								
AUCKLAND DISTRICT.								
27 April, 1899	Olsen and Teko	Poro-o-tarao	2,000 totara	3 0	Waimeha	16 May, 1900	523	Determined.
25 Jan., 1900	C. H. Adams	"	2,000 "	3 0	"	25 Jan., 1901	..	"
6 Mar., "	Martin Lee	"	2,000 "	3 0	"	6 Mar., "	2,132	17 Aug., 1901.
5 June, "	J. Johnson	Matauri Bay	5,000 puriri	3 9	Kawakawa	5 Dec., 1900	3,115	In hand.
20 Aug., "	J. Russell	Kawakawa	500 totara	3 0	"	20 Nov., "	307	Determined.
5 Sept., "	H. Currie	Makaraka	5,000 puriri	4 6	Gisborne	5 April, 1901	..	Contract cancelled.
5 Oct., "	R. McMillan	Kaukapakapa	2,000 totara	3 3	Tahekeroa	5 July, "	2,000	6 Sept., 1901.
3 Nov., "	Ellis and Burnand	Otorohanga	10,000 "	3 0	Mangapeehi	3 Mar., "	10,000	7 Oct., "
17 Dec., "	Tutahanga	Poro-o-tarao	2,000 "	3 0	Waimeha	17 April, "	2,085	9 Oct., "
11 Jan., 1901	Ellis and Burnand	Otorohanga	20,000 "	3 0	Ongarue	11 Jan., 1902	4,199	In hand.
25 Jan., "	Geo. Burns	Ahuroa	2,000 "	3 3	Ahuroa	25 July, 1901	2,000	4 Nov., 1901.
25 Feb., "	Ellis and Burnand	Otorohanga	5,000 matai	2 9	Mangapeehi	Not fixed	2,707	In hand.
8 Mar., "	James Moir	Komokoriki	2,000 totara	3 3	Makarau	31 Dec., 1901	1,000	21 Feb., 1902—Contract cancelled.
1 April, "	W. Ngawati	Kopunui	564 puriri	4 0	Kawakawa	20 Mar., 1902	564	20 Mar., 1902.
4 April, "	John Paul	Puhoi	1,000 totara	3 3	Ahuroa	31 Dec., 1901	1,000	— Jan., "
10 April, "	C. Straka	Tahekeroa	829 "	3 3	Tahekeroa	14 May, "	829	14 May, "
10 April, "	Lane and Brown	Totara North	1,154 puriri	3 11	Opua	17 Aug., "	1,154	17 Aug., "
25 April, "	T. H. Reynolds	Poro-o-tarao	2,000 totara	3 0	Ongarue	25 Oct., "	1,811	..
16 May, "	W. Simcock	Kaukapakapa	500 "	3 3	Tahekeroa	16 Aug., "	500	23 Aug., "
8 June, "	R. McMillan	"	2,000 "	3 3	"	12 Aug., "	2,000	21 Dec., "
24 June, "	McLennan and Pettit	Poro-o-tarao	1,000 "	3 0	Paraketu	24 Dec., "	..	Contract cancelled.
31 Aug., "	W. Simcock	Kaukapakapa	500 "	3 3	Tahekeroa	30 Nov., "	500	10 Dec., 1901.
26 Oct., "	N. Faithful	Kirikiri	198 puriri	4 0	Kawakawa	26 Oct., "	198	26 Oct., "
11 Dec., "	Geo. Burns	Ahuroa	1,000 totara	3 3	Ahuroa	11 Mar., 1902	..	..
11 Dec., "	R. McMillan	Kaukapakapa	500 "	3 3	Tahekeroa	11 Mar., "	500	11 Mar., 1902.
11 Dec., "	W. Simcock	"	500 "	3 3	"	11 Mar., "	..	..
20 Mar., 1902	W. Ngawati	Kopunui	1,768 "	3 3	Kawakawa	20 Mar., "	1,768	20 Mar., 1902.
Various	Sundry small contractors	Various	943 puriri 1,346 totara	Various	Various	Various	943 1,469	31 Mar., 1902.
STRATFORD DISTRICT.								
25 May, 1901	Taranaki Sawmillers' Co-operative Association (Limited)	Stratford	11,000 rimu	2 9	Stratford	30 Nov., 1901	6,785	Balance of order cancelled.
29 May, "	F. C. Hills	Ngaire	2,000 rimu or matai	2 8	Skinner Road Station	29 Sept., "	1,180	Ditto.
29 May, "	Webber and Ellis	Stratford	500 rimu or matai	2 8	Stratford–Toko line	31 Aug., "	500	30 Nov., 1901.
29 May, "	John Jago	Midhurst	500 rimu	2 6	Midhurst Railway-station	..	526	20 Aug., "

APPENDIX D—*continued.*

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c.—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
				s. d.				
NORTH ISLAND—*continued.*								
HUNTERVILLE DISTRICT.								
6 Mar., 1900 ..	J. F. Matthews ..	Utiku	500 totara	3 6	Pawerawera	Not specified ..	500	29 Nov., 1901.
23 Mar., „ ..	G. D. Torrey	„	1,000 „	3 6	„	„ ..	..	..
10 April, „ ..	T. O'Sullivan	„	1,000 „	3 6	„	„ ..	619	..
9 June, „ ..	John Woolston ..	„	500 „	3 6	„	„ ..	207	..
12 June, „ ..	Dixon Bros.	„	2,000 „	3 6	„	„ ..	2,000	4 Feb., 1902.
30 June, „ ..	Smith Bros.	„	5,000 „	3 6	„	„ ..	3,792	As completed.
9 July, „ ..	Leitch Bros.	„	3,000 „	3 6	„	„ ..	3,155	13 Mar., 1902.
23 Aug., „ ..	F. Mickleson	Palmerston North ..	3,000 „	3 6	„	31 Mar., 1901 ..	4,490	10 April, 1901.
24 Aug., „ ..	J. G. Collins	„ ..	3,000 „	3 6	„	Not specified ..	3,000	11 April, „
10 Sept., „ ..	R. Franklin	Utiku	1,000 „	3 6	„	31 Mar., 1901 ..	..	..
12 Dec., „ ..	Manawatu Timber Company	Feilding	5,000 „	3 6	Mangaweka	31 Mar., „ ..	2,633	..
29 Dec., „ ..	J. G. Collins	Palmerston North ..	1,500 „	3 6	Pawerawera	Not specified ..	853	As completed.
29 Dec., „ ..	W. Murray	Maharahara ..	12,000 „	3 6	Mangaweka	31 Mar., 1901 ..	10,967	..
29 Dec., „ ..	Duncan Corbett ..	Mangaweka ..	1,000 „	3 6	Pawerawera	31 Mar., „ ..	929	..
29 Dec., „ ..	E. Andresen	„ ..	5,000 „	3 6	Mangaweka	31 Mar., „ ..	2,821	..
21 Jan., 1901 ..	Dixon Bros.	Utiku	2,000 „	3 6	„	31 Mar., „ ..	776	..
6 Feb., „ ..	David Doak	Mangaweka ..	120 „	3 6	„	31 Mar., „ ..	127	4 May, 1901.
8 June, „ ..	F. Arnesen	Utiku	5,000 „	3 6	Utiku	7 July, „ ..	5,495	24 Oct., „
14 June, „ ..	J. C. Andresen ..	„	5,000 „	3 6	„	14 Mar., „ ..	5,016	14 Feb., 1902.
14 June, „ ..	William Foley ..	„	500 „	3 6	„	14 Dec., „ ..	538	11 Oct., 1901.
22 June, „ ..	R. Campbell	„	1,500 „	3 6	„	22 Dec.. „ ..	1,560	13 Dec., „
18 July, „ ..	H. Ross	Mangaweka ..	500 „	3 6	„	31 Dec., „ ..	264	..
27 July, „ ..	Jas. Hancox	„ ..	250 maire and totara	3 6	Mangaweka	Not specified ..	252	4 Oct., 1901.
6 Aug., „ ..	R. Rhodes	„	5,000 totara	3 6	Utiku	6 Jan., 1902 ..	5,000	29 Nov., 1901.
6 Aug., „ ..	J. F. Matthews ..	Utiku	1,000 „	3 6	„	Not specified ..	882	..
16 Aug., „ ..	Rummel and Hooper ..	Mangaweka ..	600 „	3 6	Mangaweka	„ ..	591	25 Nov., 1901.
28 Aug., „ ..	W. Foley	Utiku	500 „	3 6	Utiku	31 Jan., 1902 ..	571	2 Feb., 1902.
28 Aug., „ ..	R. Print	„	1,000 „	3 6	„	31 Jan., „ ..	877	..
28 Aug., „ ..	F. D. Luks	„	1,000 „	3 6	„	31 Jan., „ ..	1,166	19 Feb., 1902.
28 Aug., „ ..	F. W. Beechey ..	„	1,000 „	3 6	„	31 Jan., „ ..	1,045	14 Feb., „
28 Aug., „ ..	F. Morris	„	1,000 „	3 6	„	31 Jan., „ ..	1,058	14 Feb., „
12 Sept., „ ..	Charles Travis ..	Kawhatau	400 „	3 6	Mangaweka	30 Sept., 1901..	434	29 Nov., 1901.
29 Nov., „ ..	D. O'Shea	Utiku	413 „	3 6	Utiku	Not specified ..	413	29 Nov., „
29 Nov., „ ..	J. McCracken ..	„	257 „	3 6	„	„ ..	257	29 Nov., „

APPENDIX D—*continued.*

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
				s. d.				
SOUTH ISLAND.								
NELSON.								
6 Dec., 1901 ..	H. Baigent	Nelson	1,500 black-birch	3 0	Motupiko	Not fixed ..	..	..
6 Dec., „ ..	F. Mead, jun. ..	Motupiko ..	1,000 matai 500 black-birch	3 0	Motupiko Railway ..	Not fixed	1,000 matai 100 black-birch	3 Dec., 1901.
WESTPORT DISTRICT.								
9 Oct., 1900 ..	Smith and Smith ..	Westport	3,000 silver-pine	3 0	Westport Wharf	..	2,798	28 Sept., 1901.
25 Nov., „ ..	P. McCready	Cape Foulwind ..	1,400 ditto	3 0	„	..	1,400	12 April, „
21 Dec., „ ..	J. Hobbs	Mokihinui ..	1,700 „ 300 totara	3 0	„	1 Oct., 1901..	1,983	17 May, „
31 Jan., 1901 ..	J. O'Brien	Westport	1,000 silver-pine	3 0	„	Not fixed ..	993	1 April, „
6 Feb., „ ..	M. Gibbens	„	1,000 ditto	3 0	„	1 Sept., 1901..	925	30 Dec., „
6 Feb., „ ..	W. H. Martin.. ..	„	1,000 „	3 0	„	1 Sept., „ ..	970	31 Oct., „
8 Feb., „ ..	M. Williams	„	250 „	3 0	„	1 Sept., „ ..	234	12 Dec., „
15 Feb., „ ..	T. Tiller	Cape Foulwind ..	1,000 „	3 0	„	1 Sept., „ ..	1,000	29 May, „
15 Feb., „ ..	W. Gibson	Addison's Flat ..	400 totara	3 0	„	1 Sept., „ ..	479	16 Aug., „
15 Feb., „ ..	Gibbens and Martin ..	Westport	600 silver-pine	3 0	„	1 Sept., „ ..	482	7 Dec., „
26 Feb., „ ..	W. Gibson	Addison's Flat ..	3,000 ditto	3 0	„	1 Sept., „ ..	3,000	27 April, „
28 Feb., „ ..	McKay and Henderson	Cape Foulwind	2,000 „ 1,000 totara	3 0	„	1 Sept., „ ..	2,954	6 July, „
28 Feb., „ ..	P. Ahearn	„ ..	1,000 silver-pine	3 0	„	1 June, „ ..	1,000	29 May, „
28 Feb., „ ..	H. Carter	„	400 ditto 100 totara	3 0	„	1 June, „ ..	464	10 July, „
12 Mar., „ ..	J. Lines	„	200 silver-pine 800 totara	3 0	„	1 Oct., „ ..	969	24 Dec., „
21 Mar., „ ..	F. Fox	„	500 silver-pine 500 totara	3 0	„	1 July, „ ..	1,018	1 July, „

APPENDIX D—*continued.*

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c.—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of completion.
			SOUTH ISLAND—*continued.*					
			WESTPORT DISTRICT—*continued.*					
				s. d.				
25 Mar., 1901 ..	J. Hobbs and Co. ..	Mokihinui	6,000 silver-pine	3 0	Westport Wharf	Not fixed ..	5,480	7 Jan., 1902.
13 April, 1902 ..	P. McCready	Cape Foulwind ..	104 ditto	3 0	"	" ..	104	12 April, 1901.
27 April, " ..	Wm. Lockwood ..	Westport	1,000 "	3 0	"	" ..	934	3 Sept., "
2 May, 1901 ..	W. Gibson	Addison's Flat ..	4,000 "	3 0	"	" ..	4,245	19 July, "
11 May, " ..	J. Croawell	Westport	1,000 "	3 0	"	" ..	930	16 Aug., "
11 May, " ..	B. Lambert	"	600 "	3 0	"	" ..	533	15 July, "
14 June, " ..	P. McCready	Cape Foulwind ..	1,000 "	3 3	"	" ..	1,000	9 June, "
24 June, " ..	E. Jamieson	" ..	1,500 "	3 3	"	" ..	1,497	4 Jan., 1902.
24 June, " ..	F. Fox	" ..	1,000 "	3 3	"	" ..	918	4 Jan., "
25 June, " ..	P. Keayes	"	900 " 190 totara	3 3	"	" ..	1,090	23 Dec., 1901.
July, " ..	W. Harney	Westport ..	500 silver-pine 500 totara	3 3 3 0	"	" ..	981	5 Oct., "
8 July, " ..	A. Tiller	Cape Foulwind	1,000 silver-pine 1,000 totara	3 3 3 0	"	" ..	2,000	5 Oct., "
6 July, " ..	H. Carter	"	700 silver-pine 340 totara	3 3 3 0	"	" ..	1,059	4 Nov., "
12 Aug., " ..	G. G. McKay	" ..	3,000 silver-pine	3 3	"	" ..	2,968	2 Dec., "
12 Aug., " ..	W. Gibson	Addison's Flat ..	664 ditto	3 3	"	" ..	664	19 July, "
10 Dec., " ..	G. G. McKay	Cape Foulwind ..	25 "	3 3	"	" ..	25	25 Dec., "
			WESTLAND DISTRICT.					
				s. d.				
1 April, 1901 ..	E. J. Gosling	Ngahere	814 silver-pine	3 0	Ngahere	1 April, 1901 ..	814	1 April, 1901.
24 Sept., 1900 ..	H. Hunt	Totara Flat	1,000 ditto	3 0	Totara Flat	24 Dec., 1900 ..	1,000	1 April, "
2 April, 1901 ..	H. Hunt	"	926 "	3 0	"	2 April, 1901 ..	926	2 April, "
29 May, " ..	H. Hunt	"	1,000 "	3 3	"	29 Aug., " ..	1,000	3 Feb., 1902.
2 July, 1900 ..	J. Dixon	Fox's	500 "	3 0	..	3 Oct., 1900 ..	500	2 April, 1901.
2 April, 1901 ..	J. Dixon	"	776 "	3 0	..	2 April, 1901 ..	776	2 April, "
23 Mar., " ..	J. Martyn	Kawhaka	600 "	3 0	Kaihinu Siding	23 May, " ..	600	2 April, "
26 June, " ..	J. Martyn	"	500 totara	3 3	"	26 Aug., " ..	500	24 Sept., "
12 Mar., " ..	Isaac Bryan	Ngahere	500 silver-pine	3 0	Ngahere	12 June " ..	500	3 April, "

APPENDIX D—*continued.*

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c.—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
			SOUTH ISLAND—*continued.*					
			WESTLAND DISTRICT—*continued.*					
				s. d.				
3 April, 1901 ..	Isaac Bryan	Ngahere	507 silver-pine	3 0	Ngahere	3 April, 1901 ..	507	3 April, 1901.
27 Aug., „ ..	J. M. Hannah ..	„	500 ditto	3 3	Ikamatua	27 Oct., „ ..	500	27 Aug., „
19 Sept., „ ..	J. M. Hannah ..	„	500 „	3 3	Ngahere	31 Oct., „ ..	500	19 Oct., „
13 July, 1900 ..	W. Punch	Ross	1,000 „	3 0	..	13 Oct., „ ..	200	Balance of order cancelled.
13 July, „ ..	W. Muir	„	800 „	3 0	Hokitika	13 Oct., „ ..	518	Ditto.
23 Jan., 1901 ..	H. Hearn	Hokitika	500 „	3 0	„	23 April, „ ..	500	15 April, 1901.
5 Aug., „ ..	H. Hearn	„	500 „	3 3	Kaihinu Siding	5 Oct., „ ..	500	1 Feb., 1902.
21 Dec., „ ..	R. Lee	Kumara	500 „	3 0	..	21 Mar., „ ..	257	Balance of order cancelled.
25 April, „ ..	Lake Brunner Sawmilling Company	Moana	831 „	3 0	..	25 April, „ ..	831	25 April, 1901.
14 Jan., „ ..	J. W. Patterson ..	Reefton	1,000 „	3 0	..	14 April, „ ..	850	Balance of order cancelled.
25 Feb., „ ..	H. Stewart	Hokitika	1,000 „	3 0	..	25 May, „ ..	496	Ditto.
12 Feb., „ ..	A. A. Stewart ..	Greymouth	500 „	3 0	..	30 April, „ ..	500	15 July, 1901.
30 Jan., „ ..	Rebecca Barrow ..	Nelson Creek ..	2,000 „	3 0	Ngahere	30 April, „ ..	2,000	29 May, „
13 Sept., „ ..	Rebecca Barrow ..	„ ..	500 „	3 3	„	13 Nov., „ ..	500	28 Oct., „
5 Aug., „ ..	Rebecca Barrow ..	„ ..	500 „	3 3	„	5 Oct., „ ..	500	10 Aug., „
2 May, „ ..	Stratford, Blair, and Co.	Greymouth	1,000 totara	3 0	..	2 June, „ ..	716	..
2 May, „ ..	Stratford, Blair, and Co.	„	1,000 silver-pine	3 0	..	2 June, „ ..	1,000	17 Sept., 1901.
2 May, „ ..	J. Marshall	Totara Flat	5,000 ditto	3 0	Totara Flat	2 July, „ ..	5,000	5 July, „
25 Sept., „ ..	J. Marshall	„	500 „	3 3	„	31 Oct., „ ..	500	1 Oct., „
15 April, „ ..	Baxter Brothers ..	Kokiri	5,000 „	3 0	„	15 June, „ ..	5,000	13 May, „
6 May, „ ..	J. Craig	Craig's Siding ..	500 „	3 0	..	6 Aug., „ ..	500	14 May, „
6 June, „ ..	J. Craig	„ ..	500 „	3 3	..	6 Aug., „ ..	500	17 July, „
23 Mar., „ ..	Geo. Stanton	Ahaura	2,000 totara	3 0	Ngahere Railway-siding ..	23 May, „ ..	1,604	Balance of order cancelled.
7 Mar., „ ..	W. H. Frankpitt ..	Ngahere	500 silver-pine	3 0	..	7 June, „ ..	77	Ditto.
11 Mar., „ ..	Kettle Bros.	Greymouth	5,000 black-pine	2 6	Mairai	2 June, „ ..	1,479	„
20 May, „ ..	Kettle Bros.	Greymouth	500 silver-pine	3 3	Ikamatua	20 July, „ ..	500	19 June, 1901.
10 April, „ ..	Bowater and Bryan ..	Reefton	3,500 totara	3 0	..	10 June, „ ..	3,500	27 Aug., „
4 June, „ ..	C. Dobson	Kotuku	500 silver-pine	3 3	Craig's Siding	4 June, „ ..	500	4 June, „
26 June, „ ..	R. Andrews	Marsden	500 ditto	3 3	Kumara Railway-station ..	26 Sept., „ ..	500	28 Aug., „
29 May, „ ..	J. Hunt	Totara Flat ..	2,000 „ ..	3 3	Totara Flat	29 Nov., „ ..	2,000	27 Mar., 1902.

APPENDIX D—*continued.*

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c.—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
				s. d.				
SOUTH ISLAND—*continued.*								
WESTLAND DISTRICT—*continued.*								
6 June, 1901	W. H. Hunt	Nelson Creek	2,000 silver-pine	3 3	Ngahere	6 Aug., 1901	2,000	1 Nov., 1901.
30 Jan., "	G. H. Gibson	Kumara	1,000 ditto	3 0		30 April, "	936	Balance of order cancelled.
26 June, "	G. H. Gibson	"	1,000 "	3 3		26 Aug., "	1,000	31 Dec., 1901.
24 Sept., "	N. Mortensen	Kotuku	1,000 "	3 0	Kotuku	24 Dec., "	912	Balance of order cancelled.
13 July, 1900	T. Saunders	Kokiri	500 "	3 0		13 Oct., 1900	500	5 Aug., 1901.
2 Mar., 1901	T. Saunders	"	2,000 "	3 0		2 June, 1901	2,000	14 June, "
16 July, "	T. Saunders	"	2,000 "	3 3		16 Oct., "	2,000	31 Oct., "
6 June, "	Lausten and Weir	No Town	1,100 "	3 3	No Town Road	6 Aug., "	1,100	4 Nov., "
12 June, "	R. Gilmer	Raupo	500 "	3 3	Raupo Siding	12 Aug., "	500	7 Dec., "
5 Aug., "	R. Gilmer	Totara Flat	500 "	3 3	Ahaura Siding	5 Oct., "	500	7 Dec., "
6 June, "	J. Molloy	Nelson Creek	1,500 "	3 3	Ngahere	6 Aug., "	1,434	..
6 May, "	S. R. Harris	Greenstone	2,000 "	3 0	Kumara Station	6 Sept., "	1,863	..
30 April, "	P. Mordaunt	Kumara	500 "	3 0	"	30 June, "	500	1 July, 1901.
30 April, "	D. O'Brien	Ngahere	800 "	3 0	Ngahere	30 June, "	682	..
2 May, "	W. Weir	Twelve Mile	1,000 totara	3 0	..	..	..	Order cancelled.
7 Aug., 1900	T. O'Brien	Ngahere	550 silver-pine	3 0	..	7 Nov., 1900	470	Balance of order cancelled.
3 April, 1901	Butler Bros.	Kokiri	500 ditto	3 0	Kokiri	3 June, 1901	500	4 July, 1901.
12 Mar., "	E. J. Gale	Hokitika	500 "	3 0	Kaihinu Siding	12 June, "	481	Balance of order cancelled.
15 April, "	G. H. Grant	Kumara	500 "	3 0	Kumara Station	15 June, "	180	Ditto.
26 June, "	D. Pyne	"	500 "	3 3	Stafford Siding	12 July, "	500	2 Jan., 1902.
26 June, "	R. A. Stewart	Greymouth	500 "	3 3	Teremakau Station	15 July, "	428	Balance of order cancelled.
16 July, "	J. W. Easson	"	500 "	3 3	Raupo Siding	16 Oct., "	467	Ditto.
20 May, "	J. McMahon	Cronadun	600 "	3 3	Reefton Station	20 Aug., "	600	26 July, 1901.
19 Nov., 1900	C. W. Murtha	Kumara	500 "	3 0	..	19 Feb., "	500	24 July, "
7 Mar., 1901	"	"	500 "	3 0	..	7 June, "	339	Balance of order cancelled.
13 Sept., "	J. W. Easson	Greymouth	500 totara	3 3	Totara Flat	13 Nov., "	279	..
1 Sept., 1900	J. Deehan	Okarito	2,000 silver-pine	3 0	..	28 Oct., 1900	824	Balance of order cancelled.
6 June, 1901	W. Fletcher	Ngahere	1,000 ditto	3 3	Ngahere	6 Aug., 1901	1,000	19 Oct., 1901.
24 Sept., 1900	W. Fisher	Nelson Creek	500 "	3 0	"	7 Nov., 1900	500	30 July, "
5 Aug., 1901	W. Fisher	"	500 "	3 3	"	5 Oct., 1901	500	9 Aug., "

APPENDIX D—*continued.*

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c.—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
				s. d.				
SOUTH ISLAND—*continued.*								
WESTLAND DISTRICT—*continued.*								
21 Jan., 1901 ..	C. W. Fisher	Hatter's Terrace ..	1,000 silver-pine	3 0	Ngahere	21 April, 1901..	826	..
30 Jan., „ ..	C. W. Fisher	„ ..	1,000 ditto	3 0	„	30 April, „ ..	..	Order cancelled.
12 Mar., „ ..	J. Gale	Hokitika	500 „	3 0	..	12 June, „ ..	426	Balance of order cancelled.
21 Nov., 1900 ..	S. R. Honey	Callaghan's ..	1,500 „	3 0	..	22 Feb., „ ..	1,338	Ditto.
16 July, 1901 ..	F. Perrin	Reefton	500 „	3 3	Reefton Station	16 Oct., „ ..	446	„
12 June, „ ..	E. Denia	Ross	1,000 „	3 3	Hokitika	12 Aug., „ ..	965	..
2 Mar., „ ..	J. O'Flaherty.. ..	Dillmanstown ..	1,500 „	3 0	..	2 June, „ ..	350	Balance of order cancelled.¶
5 Aug., „ ..	T. Jacobs	Ikamatua	500 „	3 3	Ikamatua Siding	5 Oct., „ ..	500	27 Aug., 1901.
5 Aug., „ ..	J. Jay	Greymouth	500 „	3 3	Butler's Siding	5 Oct., „ ..	500	7 Oct., „
29 May, „ ..	G. Balemi	Kokiri	1,000 „	3 3	Kokiri	29 June, „ ..	1,000	23 Aug., „
7 Aug., 1900 ..	G. F. Stewart.. ..	Greymouth	500 „	3 0	..	8 Dec., 1900 ..	500	28 Aug., „
3 April, 1901 ..	G. F. Stewart.. ..	„	500 „	3 0	..	3 June, 1901..	38	..
20 Oct., „ ..	W. G. Stuart	Kumara	1,000 „	3 0	Kumara	..	1,000	28 Aug., 1901.
29 May, „ ..	W. Cunningham ..	Kokiri	3,000 „	3 3	Kokiri	29 June, 1901..	3,000	27 Sept., „
6 June, „ ..	J. Wiseman	Craig's Siding ..	500 „	3 3	Craig's Siding	6 Aug., „ ..	500	5 Sept., „
27 Aug., „ ..	S. Dixon	Fox's	500 „	3 3	Ho Ho „	27 Oct., „ ..	420	..
27 Aug., „ ..	A. Blair	Greymouth	500 „	3 3	Butler's „	27 Oct., „ ..	500	7 Oct., 1901.
16 July, „ ..	S. Dean	Ngahere	500 totara	3 3	Ngahere	16 Oct., „ ..	495	Balance of order cancelled.
27 Aug., „ ..	S. H. Henderson ..	Fox's	500 silver-pine	3 3	Kaihinu Siding	27 Oct., „ ..	500	11 Nov., 1901.
12 June, „ ..	T. Mears	Nelson Creek ..	700 ditto	3 3	Ngahere	12 Aug., „ ..	678	..
13 Sept., „ ..	J. H. Morris	Kanieri	500 „	3 3	Hokitika	13 Nov., „ ..	500	24 March, 1902.
27 Aug., „ ..	F. Denia	Ross	500 „	3 3	Hokitika Wharf	27 Oct., „ ..	500	26 Sept., 1901.
12 Mar., „ ..	Sadler and Molloy ..	Ngahere	1,500 „	3 0	..	12 June, „ ..	449	Balance of order cancelled.
21 Jan., „ ..	W. Peacock	Goldsborough ..	600 „	3 0	Stafford	21 April, „ ..	497	Ditto.
20 May, „ ..	W. Peacock	„ ..	500 „	3 3	„	20 July, „ ..	500	3 Jan., 1901.
13 Sept., „ ..	T. King	Ross	500 „	3 3	Hokitika	13 Nov., „ ..	500	8 Oct., „
4 Oct., „ ..	P. Weenick	Kokiri	500 „	3 3	Kokiri	31 Oct., „ ..	500	12 Oct., „
4 Oct., „ ..	J. Cowan	Dobson	500 „	3 3	Dobson	31 Oct., „ ..	500	14 Oct., „
13 Sept., „ ..	T. Jacobs	Ikamatua	500 „	3 3	Ikamatua	13 Nov., „ ..	500	25 Oct., „
5 Aug., „ ..	W. Mason	Ross	500 „	3 3	Hokitika Wharf	5 Oct., „ ..	500	15 Oct., „
16 July, „ ..	G. Musson	Greymouth	500 totara	3 3	Ngahere Station	16 Oct., „ ..	500	24 Dec., „
13 Sept., „ ..	E. A. Muller	Fox's	500 silver-pine	3 3	Ho Ho	13 Nov., „ ..	480	..

APPENDIX D—*continued.*

STATEMENT of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c.—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
				s. d.				
SOUTH ISLAND—*continued.*								
WESTLAND DISTRICT—*continued.*								
20 May, 1901 ..	J. Burley	Reefton	500 silver-pine	3 3	Reefton Station	20 Aug., 1901 ..	500	25 Oct., 1901.
13 Sept., „ ..	D. Ross	Ikamatua	500 ditto	3 3	Ikamatua	13 Nov., „ ..	500	22 Nov., „
27 Aug., „ ..	T. Magee	Ngahere	500 „	3 3	Ngahere	27 Oct., „ ..	500	24 Dec., „
3 Mar., „ ..	M. McLoughlin ..	„	600 „	3 0	„	3 July, „ ..	439	..
4 Oct., „ ..	J. O'Flaherty ..	Dillmanstown ..	500 „	3 3	Kumara	30 Nov., „ ..	500	12 Nov., 1901.
29 May, „ ..	A. Johnston	Te Kinga	1,000 „	3 3	Te Kinga	29 Aug., „ ..	1,000	7 Feb., „
27 Aug., „ ..	J. Maloney	Woodstock	500 „	3 3	Hokitika Wharf	27 Oct., „ ..	500	20 Dec., „
13 Sept., „ ..	A. Greig	Kotuka	500 „	3 3	Craig's Siding	13 Nov., „ ..	500	27 Nov., „
5 Aug., „ ..	J. Craig	Craig's Siding ..	500 „	3 3	„	5 Oct., „ ..	500	27 Nov., „
20 May, „ ..	H. Haste	Kotuku	600 „	3 3	„	20 Aug., „ ..	600	27 Nov., „
16 July, „ ..	W. Maloney	Greenstone	500 totara	3 3	Kumara Station	16 Oct., „ ..	287	..
5 Aug., „ ..	J. Bell	Moana	500 silver-pine	3 3	Moana Siding	5 Oct., „ ..	500	10 Dec., 1901.
14 Dec., „ ..	W. Smith	Hokitika	500 ditto	..	Hokitika	14 Dec., „ ..	500	14 Dec., „
27 Aug., „ ..	A. Hamilton	Kaihinu	500 „	3 3	Kaihinu Siding	27 Oct., „ ..	500	23 Dec., „
27 Aug., „ ..	J. Gilmer	Totara Flat	500 „	3 3	Ahaura	27 Oct., „ ..	500	1 March, 1902.
27 Aug., „ ..	J. Hyndman	Healey's Gully ..	500 „	3 3	Ngahere	27 Oct., „ ..	500	3 Jan., „
3 April, „ ..	S. Havill	Hokitika	500 „	3 0	..	3 June, „ ..	500	1 Feb., „
26 June, „ ..	P. Kealey	Kumara	500 „	3 3	Railway-line at Acre Creek ..	26 Aug., „ ..	500	3 Jan., „
27 Aug., „ ..	C. E. Fellows	Ross	500 „	3 3	Hokitika Wharf	27 Oct., „ ..	500	24 March, „
23 Mar., „ ..	D. O'Hara	Kumara	500 „	3 0	..	23 May, „ ..	202	..
..	J. M. Hannah ..	Ngahere	5,000 totara	3 0	Ngahere	..	5,000	27 Aug., 1901.
..	Bebecca Barrow ..	Nelson Creek ..	3,000 silver-pine	3 3	„	..	3,000	2 Aug., „
..	Lake Brunner Sawmilling Co.	Moana	5,000 ditto	3 3	..	..	5,000	30 Oct., „
..	Baxter Bros.	Kokiri	5,000 „	3 3	..	..	5,000	31 July, „
..	Bowater and Bryan ..	Reefton	6,000 totara	3 3	..	..	6,000	28 Feb., 1902.
Various* ..	Sundry small contractors	Various	3,571 silver-pine	3 0	Various	Various ..	3,200	Orders for 371 cancelled.
„ ..	„	„	10,247 ditto	3 3	„	„ ..	10,216	..
„ ..	„	„	576 totara	3 3	„	„ ..	576	..

* Contracts entered into for supply of sleepers in lots of less than 500.

APPENDIX D—*continued.*

SCHEDULE of SLEEPER CONTRACTS CURRENT on 1st April, 1901, and CONTRACTS ENTERED INTO by the Public Works Department, &c.—*continued.*

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Date for Completion.	Total delivered to Date.	Date of Completion.
			SOUTH ISLAND—*continued.*					
			OTAGO DISTRICT.					
				s. d.				
2 Oct., 1900 ..	F. Henry	Otatara	1,000 totara	3 4	Invercargill	30 Oct., 1900 ..	1,000	5 Oct., 1901.
15 Dec., „ ..	Jack Bros.	Forest Hill	2,000 black-pine	2 6	Brown's	31 Jan., 1901 ..	2,000	25 July, „
11 Feb., 1901 ..	Jack Bros.	„	2,000 ditto	2 9	Brown's	31 Mar., „ ..	576	..
11 Feb., „ ..	G. T. Queale	Ryal Bush	4,000 „	2 6	Hedgehope	31 Mar., „ ..	4,000	9 Sept., 1901.
9 April, „ ..	Timpany Bros. ..	Invercargill	1,000 „	2 5	Pahia	9 May, „ ..	1,000	18 June, „
26 Feb., „ ..	Hogg and Co. (Limited)	Dunedin	3,000 blue-gum	2 10½	Dunedin	9 May, „ ..	3,049	23 May, „
14 May, „ ..	John Hannan	Koromiko	3,000 totara	3 6	Orepuki	31 Dec., „ ..	1,748	..
14 May, „ ..	Henry Knowler ..	„	1,000 totara	3 6	Koromiko	31 Dec., „ ..	1,000 totara	31 Dec., 1901.
				3 6	„	31 Dec., „ ..	343 black-pine	
28 Jan., „ ..	Thomas Scully ..	Te Tua ..	385 black-pine	2 6	„	31 Dec., „ ..	385 black-pine	27 June, „
			40 totara	3 6	„	31 Dec., „ ..	40 totara	
Nov., „ ..	J. Stalker	„ ..	97 black-pine	2 6	Orepuki	30 Nov., „ ..	97	30 Nov., „
			26 totara	3 6	„	30 Nov., „ ..	26	
14 May, „ ..	A. Austin	Papatotara	2,000 „	3 6	Smalls	31 Dec., „ ..	200	..
14 May, „ ..	F. J. Bennett	Waiau	2,000 „	3 6	Koromiko	31 Dec., „ ..	..	..
3 June, „ ..	John Keith	Te Tua	3,000 „	3 3	„	31 Dec., „ ..	..	..
26 July, „ ..	W. St. George	Orepuki ..	750 „	3 6	36 m. 24 ch., Orepuki ..	31 July, 1902 ..	215	..
			750 black-pine	2 10	38 m. 32 ch., „ ..	..	27	..
5 Aug., „ ..	J. Hodgetts	„	500 totara	3 6	36 m. 24 ch., „ ..	..	213	..

APPENDIX E.

ANNUAL REPORT ON PUBLIC WORKS BY THE ENGINEER-IN-CHIEF.

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

SIR,— Public Works Office, Wellington, 1st July, 1902.

I have the honour to submit the following report on the various works completed and in progress throughout the colony during the past year.

RAILWAYS.

ABSTRACT.

The following table shows the expenditure and liabilities on Government railways in New Zealand up to the 31st March, 1902:—

Name of Railway.	Total Length of Railway or Section.	Open for Traffic.	Expenditure to 31st March, 1902.	Liabilities on 31st March, 1902.
	M. ch.	M. ch.	£ s. d.	£ s. d.
Kaihu Valley	19 40	17 21	55,043 10 7	1 0 6
Kawakawa-Grahamtown—				
Opua Wharf–Hukerenui	34 1	7 41	101,770 17 0	308 7 5
Hukerenui–Grahamtown	25 20	22 52	147,397 7 10	261 4 11
Helensville Northwards to Kaipara Flats	56 5	13 66	131,367 5 8	1,227 19 6
Kaipara–Waikato, with Branches	151 1	151 1	1,244,581 8 1	..
Waikato–Thames, with Branches	75 18	62 58	361,263 2 4	9,716 2 7
Thames Valley—Rotorua	69 33	59 33	354,313 15 5	..
Gisborne–Karaka	18 0	..	59,950 10 1	960 0 7
Wellington–Napier and Palmerston North (including Te Aro Extension and Greytown Branch)	233 12	233 12	2,014,917 7 2	41 4 1
Wellington–Foxton	..	..	42,116 3 4	..
Foxton–New Plymouth, with Branches	296 49	195 49	1,404,578 8 9	625 0 5
North Island Main Trunk	210 4	69 40	993,765 0 7	29,092 17 5
Nelson–Roundell	22 73	22 73	164,146 10 1	..
Midland Railway*	243 55	93 58	246,064 8 4	12,123 5 5
Greymouth–Nelson Creek	7 51	7 51	166,471 11 11	..
Greymouth–Hokitika and Ross	39 37	24 37	191,229 17 2	37 19 6
Westport–Ngakawau	19 56	19 56	187,512 15 7	..
Westport–Ngakawau Extension to Mokihinui†	7 12	7 12	..	..
Mokihinui Colliery Line‡	3 69	3 69	..	..
Ngahere–Blackball	2 40	..	116 12 11	147 0 2
Picton–Waipara—				
Picton–McKenzie	138 15	20 42	322,231 4 1	720 8 1
Waipara–McKenzie	35 0	..	61,664 2 1	4,549 13 5
Hurunui–Waitaki, with Branches	483 72	443 08	2,230,487 13 6	..
Canterbury Interior Main Line—Oxford–Temuka	83 0	11 44	59,343 9 2	..
Waitaki–Bluff, with Branches	561 48	468 34	3,422,757 19 11	410 3 1
Otago Central	182 56	98 18	987,123 2 1	5,869 17 8
Invercargill–Kingston, with Mararoa Branch	117 4	97 44	308,057 15 9	..
Forest Hill Railway—Winton–Hedgehope§	12 40	12 40	22,525 4 2	..
Western Railways	71 6	57 56	239,790 7 7	875 18 5
Preliminary surveys	..	..	62,912 19 9	24 6 0
Miscellaneous	..	..	10,336 19 11	..
Stock of permanent-way on hand	..	..	58,257 18 8	6,376 11 6
Value of permanent-way in hands of Railway Department	..	..	25,000 0 0	..
Rolling-stock	..	..	2,819,896 0 9	40,168 7 6
Total		2,231 55	18,496,991 10 3	113,537 8 2
PROVINCIAL GOVERNMENT LINES, ETC.				
Canterbury (lengths included above)	..	..	731,759 0 0	..
Otago	..	..	372,522 2 5	..
Gisborne to Ormond Tramway	..	..	4,975 1 7	..
Grand total		2,231 55	19,606,247 14 3	113,537 8 2

* The amount shown as expenditure represents the net amount charged against the colony.
† The funds for this extension—namely, £35,501 2s. 11d.—were provided by the Westport Harbour Board.
‡ The funds for purchase of this line, £15,745, were provided by the Westport Harbour Board.
§ The expenditure on this line as a tramway was made by the Lands Department.

During the year a total length of 12 miles 24 chains was opened for traffic. The following table contains particulars of same:—

Railway.	Section.	Length.	Date opened for Traffic.
		M. ch.	
Otago Central	Wedderburn–Ida Valley ...	12 24	2nd Dec., 1901.

Appended hereto is a coloured diagram showing the length of railway opened each year since the commencement of the public works.

KAWAKAWA–GRAHAMTOWN.

Section 7 m. 10 ch. to 15 m.

The formation on the extension of this line from Kawakawa has been completed up to 11 m. 60 ch., and the rails have been laid up to the same point. The formation up to 14 m. 10 ch. is nearly finished, and a considerable amount of earthwork has been done between this point and 15 m.

A ballast-pit line, starting from 11 m. 60 ch., has been surveyed for a distance of a mile and three-quarters to a scoria hill. The formation is nearly finished.

Two bridges have yet to be finished at 13 m. 47½ ch. and 13 m. 71 ch.

A start has been made with the earthworks of the extension from Opau Wharf to Grahamtown.

A proposed deviation of this line by Otaika, Rabbit Island, and ending on Limestone Island, was examined and found unsuitable.

A contract was let in April last for the bridge over the Whangarei River, but no work has been done on it yet.

HELENSVILLE NORTHWARDS.

Komokoriki Section (49 m. 54 ch. to 56 m. 30 ch.; length, 6 miles 56 chains).—The formation has been finished up to the first tunnel at 50 m. 30 ch. This tunnel, 456 yards long, is pierced, and it is expected the lining will be finished next month. The formation is practically finished for about two miles beyond the tunnel. From about 52½ m. to Ahuroa the formation is partially completed. The rails are laid up to the first tunnel, and the line is partly ballasted to this point. No fencing has been done. A considerable number of slips have occurred in the cuttings. A contract for the supply of a million bricks is about finished. Contracts have been let for the supply of ironbark.

PAEROA–WAIHI.

Length, 12 miles 40 chains.—The culverts, formation, and fencing have been practically finished to Karangahake, and the rails have been laid to the beginning of the station-yard.

The west end of the tunnel is now driven 844 ft. full size (top heading 72 ft. further), and lined 742 ft. from the face. At the east end it is driven 607 ft., and the lining is done for 72 ft. from the face. The top heading is driven to 640 ft. from the face.

A ballast-pit has been opened at 2 m. 30 ch., and a stone-crusher has been erected.

The contractors for the Ohinemuri Bridge are about to start its erection.

The formation from the tunnel to about 6 m. 15 ch. is about half done. Heavy rains caused some slips and wash-outs.

GISBORNE–KARAKA.

The line has been formed to 12 m. 40 ch. and the rails laid. A line has been laid from 12 m. 40 ch. to the ballast-pit. From 12 m. 40 ch. to 12 m. 70 ch. the formation is well advanced. Considerable subsidence took place in the banks.

Contracts for the station buildings have been completed.

The line was sufficiently completed to Ormond to be opened for traffic on the 26th ultimo.

A contract for the erection of the Waipaoa Bridge is ready for advertising.

NORTH ISLAND MAIN TRUNK.

North End.

Mokau–Poro-o-tarao Section (34 m. 43 ch. to 49 m. 19 ch.; length, 12 miles 43 chains).—The line has been maintained from the north end of the tunnel to 49 m. 19 ch. during the year.

Ohinemoa Section (49 m. 19 ch. to 62 m. 48 ch.; length, 13 miles 29 chains).—The whole of this section is now completed to Ongarue Station, at 62 m. 40 ch. Some heavy slips have occurred, and a part of the line in the Ohinemoa Valley will doubtless give trouble for some time. Two stone-crushers were erected in a rhyolite quarry. The line has been ballasted with coarse pumice covered with crushed rhyolite. A station and one cottage has been erected at Waimiha Station, and at Ongarue Station a station building, engine-shed, goods-shed, and some cottages have been built, and a water-supply has been provided.

Ongarue Section (62 m. 48 ch. to 76 m. 55 ch.; length, 14 miles 7 chains).—The formation is done to 68 m. 70 ch., and the rails are laid to this point, but no ballasting has yet been done on the section. The earthworks are about half done, from 69 m. to the end of the section, and are likely to be finished in a few months. Two small bridges at 66 m. 60 ch. and 70 m. 40 ch. are finished, but there is delay in getting the steel-work for the Ongarue bridges from the contractor; the contract time expires on the 17th instant. A temporary bridge for staging and ballasting traffic has been put over the first crossing of the Ongarue. The piers are built ready to receive the steel

girders. At the second crossing of the Ongarue the bridge-piers are in course of construction, and a start is being made with the pile-driving for the piers of the third bridge.

Taumaranui Section (76 m. 55 ch. to 83 m. 23 ch.; length, 6 miles 48 chains).—Considerable progress has been made with the culverts and earthworks. Some difficulty has been experienced in maintaining the service-road. A telephone-line has been carried to Taumaranui and Piriaka.

The contractors for the Taumaranui Bridge over the Wanganui River have not yet started the erection, but the steelwork is being manufactured.

Whakapapa Section.—This section begins at the junction of the surveys, 83 miles 23 chains from Te Awamutu and 129 miles from Marton. Only a small amount of work has been done in forming service-roads.

South End.

Makohine Section (22 m. 40 ch. to 33 m. 40 ch.; length, 11 miles).—The earthworks have been nearly completed. Wet weather latterly hindered work very much, and delayed the completion of the Mangaweka and Ohingaiti Stations. There is some trimming-work to be done, which could not be undertaken because of the wet. The rails have been laid up to the northern end of Mangaweka Station yard, the sidings have been laid in the Ohingaiti Station yard, and the greater part of the ballasting has been done. A loop line is being constructed around the Makohine workshops to allow of the uninterrupted manufacture of the Mangaweka Viaduct and other bridge-work. A start has been made with the erection of the station buildings at Mangaweka.

Makohine Viaduct.—Staging for this superstructure was erected and the main girders finished during the year. On the 9th instant the first train, consisting of an L engine and twelve loaded ballast-wagons, was taken over the viaduct, and ballast-trains have been running over it ever since. The hand-railings and footways have yet to be finished, and some secondary bracing on the main braces of the piers. A large amount of painting remains to be done as weather permits.

Mangaweka Section (33 m. 40 ch. to 40 m. 40 ch.; length, 7 miles).—The earthworks are finished, with the exception of two small pieces of cutting and some slips. Two of the tunnels on the section have been finished. Some heavy lining and wing walls have been put in at the tunnel entrance at 36 m. 71 ch., and the slipping ground removed. Forty-one chains of excavation to full size and lining and five tunnel-fronts have yet to be done to complete the tunnel-work on the section. All the concrete blocks for arching have been made.

Mangaweka Viaduct.—The concrete-work is nearly finished, abutment A being the only work in hand. The road-diversion to take the road between the first abutment and the first pier has been finished. All the 33 ft. pier-head girders and the 80 ft. span girders have been drilled and are ready for riveting together. All the column-bases are drilled, and a number fitted together. A number of the channels for the columns have been drilled, and a considerable amount of work has been done on the sleeve-nuts for the diagonal bracing.

Paengaroa Section (40 m. 40 ch. to 50 m. 70 ch.; length, 10 miles 30 chains).—The earthworks are nearly completed to Taihape, excepting the heavy banks at 43 m. 50 ch. and 44 m. 23 ch., which are to be partly made up from materials from the adjacent tunnels. The earthworks on the section beyond Taihape are well advanced. Parties have again started to drive the headings of the tunnel from 44 m. to 44 m. 21 ch. No work was done on the section from the end of December till the beginning of May.

Turangarere Section (50 m. 70 ch. to 61 m. 40–50 ch.; length, 10 miles 50½ chains).—Service-roads have been constructed along most of this section, and some spoil-cuttings have been excavated. No culverts have yet been put in owing to the stoppage of work for a time. A cottage for overseer has been built at 58 m. 47 ch.

STRATFORD–WHANGAMOMONA.

The work on this section has been so far completed that a goods-train was run to Toko on the 25th ultimo. There is still some ballasting and metalling to do, and the station buildings are not complete. A contract for their erection is well advanced towards completion.

MIDLAND.

Tadmor Section (30 m. 58 ch. to 41 m. 5 ch.; length, 10 miles 27 chains).—The earthwork has been nearly completed for a length of 7 m. 1 ch. Some of the concrete culverts have yet to be done. 4 miles 55 chains of fencing have been erected. Tenders were called for the erection of platelayers' cottages, but, being too high, all were declined. Tenders for the erection of a combined road and railway bridge over the Motueka River were called for in August of last year, but all were declined as being too high. Fresh tenders were invited on the 13th June for a shorter bridge.

Otira Gorge.—No works were done during the year at this end of the line, except a short service line for the repairs of protective works beyond the opened line.

Mount Torlesse Section (6 m. to 18 m.; length, 12 miles).—The earthworks have been nearly completed on the first three miles and three-quarters of the section. The first two tunnels beyond Patterson's Creek and the tunnel next Staircase are finished, and three others are well advanced. Heavy rains in March last did some damage to an abutment and one pier of Patterson's Creek Viaduct, and necessitated some heavy protective and drainage works being done. No erection work has yet been done on Patterson's Creek Viaduct superstructure contract. The shop-work is completed, and some of the steel-work has been delivered at the site. A considerable amount of earthwork and masonry-work in culverts has been done between 10 m. 10 ch. and 10 m. 50 ch., and about 6½ chains of heading in No. 7 Tunnel has been driven.

Service-roads have been formed up to 13 m. 20 ch., with a break at Broken River.

Picton–Waipara.

North End.

Awatere Section (28 m. 38 ch. to 33 m. 60 ch.; length, 5 miles 22 chains).—The formation, platelaying, and ballasting have been completed up to 33 m. 45 ch., and nearly all the fencing has been done. The contractors—Messrs. Scott Bros.—for the Awatere Bridge finished their contract early in the year, and the road approaches have been finished. All the materials for a wind-screen have been procured.

A considerable amount of work has been done in trimming cuttings and making up banks on the older sections of the line between Blenheim and the beginning of the Awatere Section.

A sixth-class shelter-shed has been erected at Dumgree, and a contract for the erection of the station buildings at Seddon is in progress.

South End.

Omihi Section (0 m. to 15 m.; length, 15 miles).—The formation and bridges have been finished up to 12 m. 60 ch., and the rails have been laid up to 11 m. 76 ch.; with the exception of one cutting, the earthworks are nearly finished to Scargill Station, at 14 m. 40 ch. About one-third of the formation-works in Scargill Station yard have been done. Some work has been required to make good the excessive settlement of banks. The ballasting on the section has been about half done. Platelaying will be recommenced shortly. A contract has been advertised for the erection of the Omihi and Scargill Station buildings, and also a contract for the supply of timber for sheep and cattle yards, &c. The fencing of the line has been done for ten miles. The erection of two platelayers' cottages at Waipara is nearly complete. The concrete walls for platforms at Omihi and Scargill Stations are being put in.

Hokitika–Ross.

Plans for the Hokitika Bridge have been prepared, and tenders were invited for the erection on 27th May last.

Otago Central.

Ida Valley Section (85 m. 60 ch. to 98 m. 4 ch.; length, 12 miles 24 chains) was completed and handed over to the Working Railways Department in December last.

Poolburn Section (98 m. 4 ch. to 105 m. 43 ch.; length, 7 miles 39 chains).—The earthworks on the first four miles are nearly completed, and on the remaining length they are well advanced; all the culverts are completed. At present only No. 1 Tunnel is being excavated; the whole of the heading has been driven, and only half a chain of the tunnel remains to be completed; the rock is standing well without lining, and it is not expected that lining will be required beyond a short length at the ends. No. 1 Tunnel is 10 chains long. As soon as this tunnel is finished work on No. 2 Tunnel will be resumed; this tunnel is 11 chains long; 7 chains have been excavated, and 4·7 chains have been lined. The masonry of Poolburn Viaduct has been well advanced; one large pier is finished, and another nearly so. The cylinders for one pier of the Manuherikia Bridge are finished, and those for the second pier are being sunk. Some of the steel-work for the Poolburn Viaduct has been delivered by the contractors, Messrs. J. and A. Anderson, who are supplying the steel-work for the Poolburn Viaduct and Manuherikia Bridges.

Spottis Section (105 m. 43 ch. to 114 m. 18 ch.; length, 8 miles 55 chains).—A considerable amount of work has been done on this section.

Catlin's River Railway Extension.

This section of line, three miles and a half long, has been in hand during the year, but owing to the small number of men employed the formation-works are not yet completed.

Waipahi–Heriot Extension.

On this extension, three miles and a half long, the formation-works have made slow progress during the year owing to the small number of men employed. The earthworks are nearly completed for about two miles and a quarter.

Orepuki–Waiau.

All the culverts are finished on the first four miles and a half; also all the cattle-stops and gates and most of the fencing. The earthworks are well advanced. The works were stopped during part of the year. A considerable amount of work has been done in bushfelling and clearing, extending over the first eleven miles of the section. The finishing of the first four miles and a half is now in hand.

Surveys of New Lines, Land-plans, etc.

A land-plan survey of eight miles of the Kawakawa–Grahamtown Railway was completed during the year.

The survey for the permanent line has been extended for a distance of seven miles southward, starting from the fifteen-mile peg from Kawakawa towards Hukerenui.

A resurvey of the Whangarei Extension from Opau Wharf to Grahamtown was made during the year, and also a land-plan survey.

The permanent survey of the Helensville Northwards line has been extended eight miles during the year, and follows the original trial survey.

A land-plan survey for the Paeroa–Waihi line was completed during the year.

The land-plan survey of the North Island Main Trunk line, north end, has been completed up to 83 m.

The permanent survey of the Gisborne–Karaka Railway has been extended about four miles during the year.

The survey of the Stratford–Whangamomona line has been continued up to 22 miles 55 chains from Stratford, and a trial line to connect with the Ngaire route. This survey goes *viâ* Huiroa, but further survey may give a shorter line.

A trial survey for 7 miles of the Wainuiomata route for the Rimutaka deviation of the Wellington–Woodville Railway was made during the year, also a reconnaissance survey of the proposed coast route. The length, Petone to Carterton, *viâ* Gollan's Valley, coast, and Martinborough, is about 70 miles.

A reconnaissance survey has been made of possible routes of railway from Masterton to Dannevirke *viâ* Rakanui, Pongaroa, and Weber; also of alternative lines—one, starting from Mauriceville, passes through Alfredton and joins the first at 36½ miles from Masterton; the other starts from Pahiatua, passes through Makuri, and joins the first line just north of Pongaroa.

An extension of the permanent survey of the Midland Railway from Reefton to Inangahua is in progress. The survey has been finished to 55 m. 60 ch., a length of 16½ miles from the end of the Reefton contract. Several trial surveys were made along routes proposed to bring the railway into Reefton, but these all proved unsatisfactory, and the original direct route was adopted.

A permanent survey was made of the proposed Ngahere–Blackball branch line.

The survey of the Hokitika–Ross Railway was started in December last. After a very full examination of the river the line was located on the most direct route leading from the Hokitika Railway-station. The permanent survey has been extended to 30 m., and the trial survey to the Totara River.

The Coal Creek Railway has been repegged.

The surveys for the long tunnel at Arthur's Pass were stopped in August last. In January last Mr. V. G. Bogue visited the pass, and reported on various alternative routes. A start has been made with the surveys suggested by Mr. Bogue.

A land-plan survey of the Otago Central from 79 m. to 105½ m. is partially completed. A contract for the land-plan survey for the Catlin's River Railway Extension has been satisfactorily completed.

Alternative surveys have been made of the extension of the Seaward Bush Railway from Waimahaka. One *viâ* Tokonui is sixteen miles long, and joins the first trial line at Bogle's Creek. Another trial line has been run to the same point by a route only about thirteen miles long.

A trial line for a light railway was made from Anderson's Bay to near Portobello, a length of about 12 miles 27 chains.

Sleepers.

A large number of contracts and agreements for the supply of sleepers were current during the year ending the 31st March last, and the deliveries made in the districts from which they were obtained were as follows:—

Auckland District—27,595 totara, 5,974 puriri, 2,707 matai; Stratford District—8,991 rimu; Hunterville District—60,086 totara; Nelson District—1,000 matai, 100 birch; Westport District—4,939 totara, 36,752 silver-pine; Westland District—1,501 totara, 100,976 silver-pine; Otago District—3,700 totara, 7,322 matai, 3,049 blue-gum.

Details of contracts current during the year ending 31st March last will be found in Appendix D.

ROADS, BRIDGES, ETC.

Westport District.—Two short contracts are in progress on the Westport–Waimangaroa Road. Denniston Hill Road was widened and metalled for a length of 1 mile 50 chains. The Karamea Bridge was finished in February last. New beacons were erected and rocks blasted in the Little Wanganui River, and also some snagging done. A road to the Little Wanganui Wharf was surveyed. Reports for the Mines Department were furnished on: Road, Long Tunnel to Addison's Flat; road, Coalbrookdale to Cedar Creek; Millerton Road; road, Deadman's Creek to Brighton; Nile Suspension Bridge; road, Bradshaw's Terrace; road, Wilson's Lead; road, Lyell Bridge to Ryan's; road, Eight-mile to Lyell; road, Charleston to Brighton; road, Millerton to Mine Creek; on removal Warrigal Islands, Mokihinui River; road, Brighton, Grey County; road, Little Wanganui Wharf to Beach; road, Granity Creek South; road, Addison's to Buller (loop-line road); road, Mokihinui to Westport; road, Mokihinui to Ngakawau; road, Lyell to Cedar Creek; road, Fairdown to Waimangaroa; road, Waimangaroa to Buckfield; pack-track, Mullocky Creek to Karamea; Oparara Road; Fenian Creek Road; Orawaiti Bridge; Bradshaw's Lead Road; road, Karamea Mud-flat; road, Land of Promise; road, Caroline Terrace; road, Stony Creek to Waimangaroa; road, Cascade Creek; road, Addison's; road, Costello's Hill; road, Fairdown to Waimangaroa.

Greymouth District.—An additional 2 miles 25 chains of the Great South Road was widened and metalled; this joins the previously widened portion of the road. A heavy slip on the road at Mount Hercules has been removed. Some repairs at the Forks–Waiho end have been made. Two small co-operative contracts have been let for renewals of bridges. The piers of the Taylorville Suspension Bridge have been renewed in ironbark, the cables tarred, and the bridge put in an efficient state. The Clarke River Track was repaired during the year by day labour. The Ahaura road-bridge repairs were finished during the year, and the works on the Potts Creek Bridge finished. Repairs to works on Lake Hochstetter Track were done during the year, consisting of replacing a horse-bridge, repairing culverts, and clearing drains. A small co-operative contract for repairs to the Ahaura–Orwell Creek Road has been carried out. A short length of the Ahaura–Haupiri Road was widened by contract. The Saltwater Creek road-bridge was repaired, and work was finished on the Sawyer's Creek Bridge. Plans were prepared for a horse-bridge over Moonlight Creek.

Some formation-works have been done on the Waipuna Road. A tourist-track has been formed up Cobden Hill and a clearing made on top. A tourist-track has been formed to the waterfall on Coal Creek. A tourist-track over Point Elizabeth is in course of construction. The construction of the Haupiri–Amuri Road from Fox's was started in November, and the work in hand was finished in May, no further progress being possible owing to dispute about taking the road through certain land. A report on a dispute about Doughboy's Track was furnished. Surveys were made and a report made on the river-encroachments above the Main Grey. Alternative routes for a road on Ross Flat were surveyed and reported on. A contract has been let for work on the Haupiri–Hot Springs Track. The Seven-mile Beach Track has been completed as far as vote admits. A survey has been made and some work let on the Clarke River Track.

A contract has been let for the erection of a road-bridge over the Waitaha River.

Reports have been furnished to the Mines and Lands Departments, and inspections, &c., made on: Lamplough Track; Styx River Track; Taipo–Seven-mile Track; Granville–Grey River Road and Mosquito Road; track, Murray Creek to Waitaha River; track, Blackwater to Big River; track, Big River to St. George's; Nelson Creek–Bell Hill Road; Healey's Gully Track; Blackball Bridge; Cape Terrace Road; Waipuna Road; Kotaku–Brown's Terrace Road; bridge, Eight-mile Creek, Dunganville Road; road, Barrytown to Paparoa; road, Paroa to Teremakau; bridge, Maori Gully Road; road, Seven-mile to Nine-mile Bluff; Upper Kokatahi Road; Blackball Foot-bridge; flood damage, Waitaha River.

PUBLIC BUILDINGS.

Auckland District.

Government House.—The building and grounds have been kept in good order and prepared as required for His Excellency's visits to Auckland. The small stable built for the Royal visit has been converted into a hot-house.

Admiralty House.—The contract let by the Harbour Board for a new building is approaching completion. The old building has been let at a reduced rate; it badly needs repairs.

Departmental Buildings, Auckland.—Some alterations to accommodate the Roads Department were made. All necessary repairs, &c., have been attended to. An allotment adjoining the buildings has been taken by Proclamation to enable an extension being built.

Departmental Buildings, Thames.—Some galvanised-iron lining was fixed to keep out the drift of easterly gales, and various repairs done.

Departmental Buildings, Tauranga.—Various small repairs have been done.

Courthouses.

Supreme Court, Auckland.—The slates have required much attention; they require renailing throughout. Repairs to gas and water services have been made. The Public Works Stores shed has been removed.

Stipendiary Magistrate's Court, Auckland.—Ordinary repairs have been attended to. The zinc slate-nails are perished; it will be necessary to strip roof and renail the slates with copper nails. The renovation of the caretaker's cottage has been done, and a bath-room has been added to it.

Ngaruawahia.—The old post-office has been converted into a Courthouse and suitably furnished.

Te Awamutu.—The maintenance of the new building has been duly provided for by the contractor. The old building has been sold.

Cambridge.—A dividing-fence has been erected between the grounds of the Courthouse and police-station.

Whakatane.—Some fittings and furniture have been provided for the new room built last year.

Waihi.—A new Courthouse has been built and supplied with fittings and furniture.

Wairoa.—A contract for alterations, additions, repairs, and painting has been completed.

Police-stations.

Kaitaia.—A lock-up has been built.

Aratapu.—A lock-up has been built and some repairs and painting done.

Ongarue.—A constable's cottage and cells have been built.

Pahi.—Ordinary repairs have been done.

Auckland.—A matron's quarters and lock-up have been built at the new station. Various repairs have been attended to. A fire damaged the stable in March last; the building has since been repaired. A new coach-house has just been completed.

Ponsonby.—An estimate has been made of the cost of putting a top story on the building.

Onehunga.—A site for sergeant's residence has been reported on.

Newton.—Some repairs have been done.

Mercer.—A new wash-house and porch have been built.

Otahuhu.—Some repairs and painting have been completed.

Pukekohe.—A new wash-house has been built.

Cambridge.—The drainage has been put right.

Gisborne.—Some minor works have been done during the year.

Mercury Bay.—Repairs and painting of this station are in hand.

Port Awanui.—A contract for additions, repairs, painting, &c., is in hand.

Paeroa.—Some painting and paperhanging have been done.

Waihi.—Some minor repairs, &c., have been done.

Kawhia.—A contract for additions, repairs, painting, &c., has just been started.

Hamilton West.—The contractor's maintenance of the building erected has been duly performed.

Post and Telegraph.

Te Kopuru.—An estimate of cost of repairs has been made.

Paparoa.—Tenders have been called for the erection of building.

Aratapu.—A new building has been erected by contract and furnished.

Dargaville.—Tenders were called for the erection of a post-office in brick, but were declined, as the foundation was deemed to be unsuitable for brickwork. Tenders have been again called for a building in wood.

Pahi.—The building has been examined, and an estimate of cost of repairs, &c., made.

Waiwera.—The buildings have been repaired and painted.

Whangarei.—Some additional furniture has been provided.

Kamo.—Repairs and painting are in progress.

Auckland Chief Post-office.—The extensive alterations in progress last year have been continued. Every branch has now increased accommodation, and independent entrances to the various offices have been obtained. Some further alterations are projected. Some fittings have been provided. The building has been painted inside and out, and the lighting of the centre space has been improved. A contract for the erection of a caretaker's cottage in Princes Street has been completed.

Newton.—Alterations in the public room have been made, also some repairs to wash-house and drains have been done.

Onehunga.—The erection of the new building has been completed.

Otahuhu.—A contract for additions has been completed.

Mercer.—Some furniture and fittings have been supplied.

Manukau Heads.—The foundations have been repaired and some painting done.

Paeroa.—The buildings have been painted.

Waihi.—A contract to enlarge the mail-room and build additions to the residence is nearly completed.

Te Aroha.—Some furniture and linoleum have been provided.

Hamilton.—A new brick building has been erected to replace the one destroyed by fire; furniture and fittings have been supplied. Rooms for the Agricultural Department have been provided in the building.

Rotorua.—Some work has been done on the residence and drainage.

Te Puke.—A tender for the erection of a new building has been accepted.

Coromandel.—A shed was built for store and stable and some repairs done.

Kawhia.—A new building has been erected by contract and supplied with fittings and furniture.

Tolaga Bay.—A contract for the erection of a new building has been finished; fittings and furniture have been supplied.

Ongarue.—A small temporary post-office has been built.

Gisborne.—The erection of the new brick building has progressed slowly, but it is now well advanced, and should be finished in a few months.

Wairoa.—A contract has been let for additions and alterations.

Native Schools.

Te Ahuahu.—The roof has been covered with iron and the building painted.

Kerepehi.—A contract for the erection of a separate school and residence has been completed.

Ahipara.—Tenders are to be called for the removal of this school as soon as good weather sets in.

Whareponga.—The erection of the school has been finished, and maintenance has been duly carried out.

Parawera.—A contract for the erection of a separate school and residence has been completed.

Takahiwai.—A contract for the removal of the combined school from Taiharuru to Takahiwai was completed in January.

Motiti.—Tenders were received for removing a school from Judea and re-erecting it at Motiti, but were declined. Nothing further has been done.

Te Waetu.—A petty contract for additions, repairs, and painting has been completed.

Whangara.—A contract for the erection of school is in progress; it was somewhat delayed in deciding about position of site.

Mangonui.—A contract for the erection of school is progressing very slowly.

Torere.—A contract has been let for the erection of school, and the materials have arrived on ground.

Omaio.—A contract has been let for erection of school, and some of the material is now on the ground.

Te Kahe.—Tenders were received for erection of school, but were declined.

Gaols.

Mount Eden Gaol, Auckland.—Considerable progress has been made with this building. The concrete first floor has been laid; a large quantity of building-stone is ready. The work on the chapel has been stopped at present. A contract has been let for the manufacture of steel doors. A design for Gaoler's residence has been prepared.

Gisborne Gaol.—Some additions and alterations to the Gaoler's residence have been completed.

Auckland Asylum.

The contract for additions to the male wing has been completed. Some small repairs have been done. Some work has been done for the better ventilation of the old female wing. Plans have been prepared for a new wash-house and drying-closet, and for converting old wash-house into a dormitory. The erection of the drying-closet has been started by the Asylum staff.

Cable-station, Doubtless Bay.

A contract was let in December for the erection of the buildings. The cable hut and office were ready for the landing of the cable on the 24th March by the "Anglia." The contract was completed on the 17th ultimo, and the buildings handed over to the Telegraph authorities. A water-supply is now being laid on.

Miscellaneous.

Mount Albert Industrial School.—A water-supply was laid on from the Asylum reservoir. An iron fire-escape has been fixed at the front of verandah. Some work on additions and repairs has been done. Plans and specifications have been prepared for an extensive addition, including a large dining-room.

Ponsonby Hall.—Letting was not very successful this year. Repapering has been authorised, and will be done soon

Motuihi Quarantine Station—Work on repairs, new drainage, and painting is in progress.

An office has been fitted up for the Tourist Department in Queen Street.

Tenders have been called for erection of Harbourmaster's office on the Onehunga Wharf.

A European school at Poro-o-tarao has been removed to Ongarue.

Some painting was done in the saloon of the s.s. "Hinemoa."

An office for the Public Health Department has been fitted up in the old police quarters in Chancery Lane.

An office for the Agricultural Department has been fitted up at Cambridge.

Arrangements were made for the illumination of the Departmental Buildings and the Chief Post-office, Auckland; the Post-office, Onehunga; the Post-office and Departmental Buildings, Thames; and the Post-office, Gisborne.

New Plymouth, Wanganui, and Hawke's Bay Districts.

New Plymouth Departmental Buildings.—A contract for alterations to the offices for the Lands and Survey Department was let and completed during the year; also a contract for new drainage was satisfactorily completed.

Courthouses.

New Plymouth.—A contract has been let for painting the Courthouse, and is completed.

Stratford.—Electric light has been installed in the Courthouse.

Opunake.—A contract for the erection of a Courthouse has been let.

Hawera.—A contract for painting the Courthouse has been completed.

Patea.—A contract for additions is in progress.

Hunterville.—A contract for painting has been completed.

Feilding.—A contract for painting the Courthouse has been finished.

Palmerston North.—A contract for painting the Courthouse has been completed.

Waipawa.—A contract for repairs and painting the Courthouse has been completed during the year.

Napier.—A contract for painting and renovating the Courthouse has been completed, and also a contract for renovating the furniture.

Gaols.

A shelter-shed in the Napier Gaol yard has been built during the year, and a contract has been let for a fire service.

Police-stations.

Waitara.—A contract for alterations, additions, and repairs was carried out during the year.

New Plymouth.—A contract has been let for the erection of a sergeant's residence.

Stratford.—A small contract for painting and repairs to the police-station was completed.

Opunake.—Some small additions have been made to the police quarters.

Manaia.—A new stable and lock-up have been built during the year.

Hawera.—A four-cell lock-up has been built.

Patea.—Tenders were obtained for additions and repairs, but declined, being too high. Nothing further has been done.

Waitotara.—Tenders for additions, &c., to the police-station were received, but declined, as being too high.

Wanganui.—The police buildings have been painted.

Taihape.—A contract for erection of buildings has been let.

Kimbolton.—A new stable and lock-up have been built.

Foxton.—A contract for additions to the police buildings has been let.

Waipawa.—A contract for the erection of a constable's residence has been completed during the year, and the sergeant's house has been painted.

Ormondville.—A contract has been let for the erection of buildings.

Napier.—A contract for painting, &c., is nearly completed.

Post and Telegraph Offices.

Inglewood.—The erection of a brick post and telegraph office has been completed.

Toko.—A new building has been erected during the year.

Opunake.—A new post and telegraph office has been built in brick, and the old buildings have been converted into a Postmaster's residence.

Manaia.—Tenders for additions to the postal buildings were received, but declined. Fresh tenders have been invited.

Hawera.—A combined drainage scheme for various public buildings has been carried out. A sound-proof telephone-box and other alterations made in the post-office.

Wanganui.—Very satisfactory progress is being made with the erection of this building. It was found necessary to sink deeper than was at first intended to get good foundations. The coke-breeze-concrete floors are laid. The dome of the tower is finished. The ceilings are finished. All the doors are hung, and most of the internal woodwork is fixed. Good progress is being made with the fittings.

Foxton.—A contract for additions, alterations, and repairs has been completed during the year.

Dannevirke.—A contract for additions, alterations, and repairs has been completed.

Weber.—A new post and telegraph office has been built.

Hastings.—A contract for painting the buildings has been let.

Tarawera.—A lineman's residence has been built.

Customhouse.

Wanganui.—A contract for additions in brick to the Customhouse, to give accommodation to the Lands and Road Departments, has been completed.

Native Schools.

Pariroa.—A contract for the removal of the school buildings from Mawhitiwhiti and re-erect them at Pariroa is nearly completed. Only part of the painting remains to be done.

Tangoio.—Buildings are being erected, and good progress is being made.

Preparations were made for decorating and illuminating various public buildings, in honour of the coronation of His Majesty King Edward VII., at New Plymouth, Stratford, Hawera, Wanganui, Feilding, Palmerston North, Dannevirke, Masterton, Hastings, and Napier.

WELLINGTON DISTRICT.

Porirua Asylum.—A new boiler, engine, dynamo, and switch-board have been provided, and are now working. The water-supply has been extended. The hot-water service enlarged. A clerk's cottage has been built. The attendants' mess-room has been enlarged. Alterations have been made in the bath-rooms, female wing. Additions have been made to the engineer's cottage. Some window-shutters have been provided. The scullery has been enlarged, and its fittings, &c., improved. Improvements and repairs to the kitchen-fittings are being made. Fittings have been supplied for the pathological room. A large amount of painting has been done.

Mount View Asylum.—Various works have been executed during the year. A defective drain under the building has been replaced by a new one, and all the lavatories, &c., have been properly connected, trapped, and ventilated. Some additions and alterations to doctor's residence are in progress. Sundry repairs to boiler-fittings have been made.

The fire at the Wairarapa Farmers' Co-operative buildings entailed a large amount of work in fitting up temporary offices for the various Departments located there, and also in reinstating all the offices again when the building had been repaired.

Departmental Buildings.—A house of seven rooms has been built at the back of the Departmental Buildings. Many rooms in the Buildings have had additional fittings and renovating-work done. Improved ventilation has been provided for the Income-tax offices and the Agricultural and Defence offices.

Mount Cook Barracks.—A temporary stable has been built. A commandant's office has been provided and fitted up. Some excavation has been done for a permanent stable and for a parade-ground. A new approach road is being formed. New outbuildings are being erected. A mobilisation store has been built. Some trouble has been experienced with the drains choking. Extra accommodation has been provided for the Storekeeper's clerks, and new furniture.

Terrace Gaol.—A Gaoler's residence is nearly completed. Additions have been made to a warder's cottage. A new approach road is being constructed. Some repairs and alterations to south wing have been done, and also to the fencing.

Some small additions, repairs, &c., have been made to the Mount Cook Police-station.

Borings have been made to test the foundations for the proposed Public Trust Offices.

Some repairs and renewals have been done to the Kaiwarra magazine, and also to the caretaker's house.

Many alterations have been made in the General Post Office. A new parcel-room has been thereby provided. Additional private letter-boxes and new fittings have been provided. Extra cellar accommodation has been provided by excavation. The foundations of the building were repaired and strengthened in many places during the execution of this work.

The building in Lambton Quay formerly occupied by the Bank of New Zealand has been rented as a Post-Office Savings-bank and money-order office.

Fittings for many country post-offices have been made in the workshops.

A new office in brick has been built at the Manners Street Police-station, and new stables in the rear of the Central Police-station and a clothes-store built.

Fire-escapes have been fixed at the Ministerial residences and various minor works done. The galvanised-iron fence has been extended round the back of the grounds of the Premier's residence.

Some detail work has been done at Government House, and fire-escapes fixed. Some ground drains have been provided.

Many small repairs and improvements have been done to Parliament Buildings, including kerbing round pavement-lights, additional shelving in library, renovating custodian's dwelling, improving ventilation in Postmaster-General's office, &c.

Some new furniture has been provided for the Tourist Department Office in Brandon Street.

Museum House has been fitted up as offices for the Public Health Department, and a new fumigation-shed has been built in the Museum grounds.

A small post-office has been built at Alfredton.

New drains and sanitary conveniences have been provided at the Masterton Post-office, and connections made with the borough drainage system, and similar work has been done at the police-station and Courthouse.

A small post-office building—combined office and living-rooms—has been built at Pongaroa.

Additions have been made to the Martinborough Police-station.

The Carterton Courthouse is being removed, and additions and alterations are being made.

A large amount of work was done in connection with the despatch of three contingents to South Africa—in repairs to troopship, shipping horses, and work at drill-shed.

Preparation for illumination and decoration of public buildings in Wellington in honour of the coronation of His Majesty King Edward VII. involved a large amount of work.

Marlborough District.

Blenheim Departmental Buildings.—Considerable alterations have been made in order to give increased accommodation to the Postal Department. Some improvements have been made in the drainage of the buildings, and a wash-house built for the custodian.

Two additional rooms have been added to the Postmaster's house at Renwicktown, and a report and estimate furnished for renewals to the Postmaster's house at Havelock.

The constable's quarters at Havelock were inspected, and the erection of a new building recommended.

The Wairau Native School has been repainted inside and out. Two rooms have been repapered, and some other minor repairs, &c., done.

Coronation decorations for the Government Building, Blenheim, were prepared.

Nelson District.

Nelson Lunatic Asylum.—A new porch has been erected at the front entrance of the Auxiliary Asylum. An electric fire-alarm system is now being installed in the buildings. Various maintenance-works have been carried out during the year. Tenders for the construction of a storage reservoir were called for, but declined. Tenders have been received for the erection of out-buildings.

The erection of a new post and telegraph office at Motueka has been completed.

A contract for additions, repairs, and painting to the post and telegraph office at Collingwood has been completed.

West Coast Districts.

Westport.—The following buildings were completed during the year: Post and telegraph office, Denniston; Gaoler's house, Westport; signalman's house, Karamea. Repairs have been done to the Westport Courthouse; bedroom repapered and a range added to the police quarters, Westport; repairs and shelving, painting and paperhanging, have been done in the Westport Post-office, and additions made to the night-mail room, and also some gravelling has been done; a verandah has been built round the Denniston Post and Telegraph Office; at the District Surveyor's house, Westport, repairs, painting, plumbing-work, and fencing have been done; some sanitary work was done at the Westport Public Buildings by the Westport Borough; repairs were carried out at the Lyell Courthouse; repairs to the Magistrate's house and Warden's Clerk's residence, Westport, have been finished; additions and repairs to the Lyell Post-office are in progress; and also additions and repairs to the Westport Post and Telegraph Office.

Greymouth.—A new gas-service has been provided for the post-office, and the drainage system connected to the new town sewer. Some renovation-work has been done to the Chief Postmaster's house.

Hokitika.—A contract has been finished for the erection of a new office and strong-room at the Warden's Court. The ceilings of the post-office have been repaired, and some repairs to the flooring is partly done. It was found that the floor and wall-plates were in a worse condition than expected. Repairs to the police-station buildings in progress last year have been finished. Considerable renewals have been made at the gaol matron's cottage. Plans have been prepared and materials have been provided for the erection of quarters for male attendants at the gaol; the work will be started shortly.

Reefton.—An additional cottage for constable's quarters has been built. Some repairs to the sergeant's house has been done. Some repairs to and the painting of the Courthouse are nearly finished, having been delayed by wet weather.

Brunner.—The Courthouse has been repaired and painted.

Kumara.—The Clerk of Court's house has been altered, repaired, and painted. Some repairs, painting, and fencing have been done at the Courthouse. Some repairs, additions, and painting were done at the police quarters. Some new outbuildings were provided for the post-office, and repairs and painting done.

Ross.—Some improvements have been made in the police quarters.

Ahaura.—Some repairs to the Courthouse have been done, and some furniture provided. The building has been painted.

Decorations were prepared for various public buildings at Westport, Reefton, Greymouth, and Hokitika, in honour of the coronation of His Majesty King Edward VII.

Canterbury District.

Departmental Buildings, Christchurch.—Covers for the seats and chairs have been provided. A strong-room, with fittings, has been built for Lands Department.

Courthouses.

Christchurch.—The crier's cottage, Supreme Court, has been repainted, and some paperhanging done. General repairs to roof of Stipendiary Magistrate's Court have been made.

Kaiapoi.—The whole of the Courthouse, outbuildings, stable, fences, &c., have been renovated and painted.

Oxford.—A porch has been added to the Courthouse and some minor alterations made. Renovations and painting are in progress.

Waimate.—Tenders have been received for renovations, repairs, and erection of fencing. Some repairs to roof and outbuildings have been done, and a new boundary-fence erected.

Ashburton.—The roof of the Courthouse has been partially renewed. Two rooms have been repapered and renovated, and some other improvements done. The exterior of the building and the fence have been repainted.

Police-stations.

Christchurch.—An iron fence has been erected and a wash-house built, and clothes-presses have been provided in men's quarters.

Phillipstown.—A contract for new iron fence, additions to buildings, renovating, and painting has been finished.

Rangiora.—The house has been thoroughly overhauled, renovated, and painted.

St. Albans.—Some renovation and drainage work has been done by petty contract.

Papanui.—The building has been painted and renovated.

Lyttelton.—The sergeant's house has been renovated and painted.

Coalgate.—A petty contract for repairs and painting has been completed.

Southbridge.—The section has been fenced, the buildings have been painted, the stable has been roofed with iron, and the floor concreted.

Cheviot.—Tenders have been asked for repairs, painting, and erection of new fence. The chimneys were rebuilt after the earthquake and the roof repaired.

Ashburton.—The guttering and spouting of the Courthouse were renewed or repaired and a new wash-house built.

Timaru.—New sergeant's quarters have been erected; also a new outhouse.

Little River.—Tenders have been called for repairs and painting, but no offers received.

Fairlie Creek.—The office has been lined and papered and minor repairs done. The yard has been asphalted, fencing repaired, and the front fence painted.

Gaols.

Lyttelton.—A gang of prisoners has been engaged at Sticking Point sea-wall. Two warders' cottages are being built. One is well advanced; the site for the other is being prepared. Most of the work is being done by prison labour.

Post and Telegraph Offices.

Christchurch.—The ventilation of the telegraph operating-room has been improved and a lavatory provided. Cowls have been fixed on several of the chimneys. The slate roof has been extensively repaired. A bicycle-stand roofed with iron has been erected.

Amberley.—A contract for reroofing and papering lineman's cottage and supply of new tank is in progress.

Papanui.—A new artesian well has been sunk, windmill and high-level tank provided, and water-supply to houses laid on.

Cheviot.—A contract for painting and renovating the Postmaster's house is in progress. After the earthquake the chimneys were rebuilt and the house made habitable.

Lyttelton.—Extensive alterations and additions have been carried out and considerable improvements made. A flag-pole has been erected.

Akaroa.—The office has been thoroughly renovated, a shed built, and various improvements made.

Hanmer Springs.—A new post and telegraph office has been built in wood and furnished.

Waiau.—The chimneys were rebuilt and the roof repaired in the post-office after the earthquakes.

Kaikoura.—A new residence in wood for the Postmaster has been built and the ground fenced.

Ashburton.—A new post and telegraph office, in brick, has been built and supplied with fittings and furniture. A bicycle-stand and horse-rail have been provided. The building was opened in November last.

Timaru.—The grounds have been filled in, levelled, terraced, and planted. The roadway has been graded. Pipes and stand-pipes have been provided. Some improvements have been made in the clock tower, and sundry repairs to the building, water-service, drains, and fencing done.

Temuka.—The building of a new post and telegraph office is nearly completed. Some drains and some fencing have yet to be done. Furniture and fittings have been provided.

Lunatic Asylum.

Sunnyside.—A new earthenware storm-water drain was laid from the Lincoln Road main entrance to the Heathcote River.

Industrial and Training Schools.

Burnham.—A new drying-room has been completed and provided with fittings, &c. Four fire hand-pumps have been provided. Some slow-combustion and laundry stoves have been provided. The teacher's cottage has been reroofed, and considerable repairs have been done during the year.

Te Oranga Home, Burwood.—A number of improvements have been made. Two cells and a stall milking-shed have been erected. The detaining-yard has been enclosed by a high galvanised-iron fence. The erection of the new wing is making good progress.

Sumner Deaf-mutes Institute.—A tender for the installation of May's fire-alarm system has been accepted, but no work has been done.

A building has been leased for offices for the Tourist Department. It has been fitted up and furnished.

Buildings for a magnetic observing-station have been built in the Christchurch Domain and fenced in.

A mobilisation store in brick has been built in the Christchurch Drill-shed grounds.

Preparations were made for the illumination of the Post-offices at Christchurch, Lyttelton, Ashburton, and Timaru in honour of the coronation of His Majesty King Edward VII.

Otago District.

Courthouses.

The contract for the erection of the new law-courts, Dunedin, has been finished, and the buildings were officially opened on the 23rd of last month. The building is now being furnished.

A contract for building a strong-room and providing fittings in library has been finished.

A new Courthouse has been built at Gore.

A petty contract for renovating the Oamaru Courthouse has been completed.

A contract for the erection of a new Courthouse at Outram was completed in September last.

Police-stations.

A contract for the erection of new police buildings at Roxburgh was completed in September last.

A contract for additions to the police buildings at Ophir was completed in September last.

A contract for the erection of a new police-station at Outram was completed in July.

A petty contract for erection of stable and repairs to police residence, Riverton, was completed in May.

A petty contract for renovating and painting the Kaitangata Police-station has been completed.

A petty contract for renovating the Kurow Police-station is in progress.

Post and Telegraph Offices.

A contract for additions to the Dunedin Post and Telegraph Office has been delayed in completion by bad weather.

A contract for the erection of a new post and telegraph office at Caversham was finished in August last.

A contract for additions to the South Dunedin Post-office was finished in November.

A petty contract for repairing the fences at the Oamaru Gaol was completed in January.

A contract for the electric lighting of Seacliff Asylum is nearly completed. A contract for a boiler-house in connection with the electric lighting was completed in July last.

The old portion of the Industrial School, Caversham, has been ventilated and new linoleum laid.

The roofs of the light-keepers' houses at Cape Saunders have been thoroughly repaired.

A great amount of maintenance-work has been done in connection with the numerous buildings in the district, and a large number of fittings have been supplied.

Preparations were made for illuminations of various public buildings in Dunedin, Invercargill, Gore, Port Chalmers, and Oamaru to celebrate the coronation of His Majesty King Edward VII.

MARINE.

The Sticking Point reclamation-works have been progressing slowly.

Repairs to Quail Island Wharf, Lyttelton Harbour, were completed in August last.

Some rocks in the Little Wanganui River have been removed.

The Okarito Wharf extension has been finished. Tenders are now being invited for the erection of a shed on the wharf.

All the materials for the Kahurangi Lighthouse tower and keepers' dwellings have been obtained, and a start has been made with the erection.

The iron frame for the Wigham light on the Jackson's Head beacon has been constructed.

Plans are being prepared for a new cast-iron tower for Cape Campbell Lighthouse.

Drawings for beacons at Havelock were prepared. These beacons have since been erected by the Marine Department.

Many places and proposals for harbour and marine works in various parts of the colony have been examined and reported on during the year.

DEFENCES.

Auckland.

At one fort an electric cable to a directing-station has been laid, gas has been laid on to the engine-shed, an electric-light emplacement has been erected, sheds have been built for quartermaster's stores and Maxim gun, the fort has been drained, repairs to officers' quarters are in hand, &c. At another fort an obstacle fence has been built, and an artificer's shop and laboratory erected, fitted up, and a water-supply laid on. The cliff in front of electric-light station has been strengthened and better protection provided. A new camping-ground has been levelled and sown in grass. An old emplacement has been cleared away, and a start made with other emplacements for more modern guns. A large quantity of stone has been broken for concrete at various forts.

At the Submarine depot a boat-shed and slip have been in progress. A concrete apron has been formed at the jetty to protect the wharf-approach from wave-action. Guard rails have been fixed on the wharf and a tram-line laid.

At another fort a retaining-wall was built and filling done to provide some level ground. A site has been cut for an electric-light emplacement. The concrete walls for an engine-shed have been partially completed, but have been stopped by slips during the winter weather.

A steamer was chartered as a launch, but the service has not been continuous, and the arrangements are not satisfactory.

A tender has been accepted for the erection of a drill-shed and gun-hall. A good start was made in January last, but delays have since occurred through wet weather. The building has now been closed in, and the internal work is being done.

Various works were done as required for the despatch of the Eighth and Ninth Contingents.

Wellington.

An emplacement and magazine for a large gun are being constructed at one fort; also, at a submarine-mining station a water-service is being provided, and is well advanced.

A Volunteer barracks has been built and fitted up at one fort. Repairs to the gun-mountings in another fort are in progress.

The road from Shelly Bay to Kilbirnie has been repaired as required.

A contract has been let for an extension of the Shelly Bay Wharf.

Canterbury.

A new rifle range has been constructed at Sumner.

Lyttelton.—One searchlight has been lowered. A sea-wall has been built in front of an electric-light-engine house, and a new fire commander's station has been built by prison labour. A contract for iron shutters has been let. The repairs to Ripa Island Wharf were completed in August last.

Dunedin.

A considerable amount of work was done by prison labour at a gun-emplacement at one of the forts, but work was stopped, and the emplacement is to be made in another place.

At another fort an emplacement for a gun has been finished, also a magazine and a range-finder's station completed. A searchlight-emplacement is in course of construction; the works are heavy, and will take some time to complete. Heavy slips have occurred on one of the roads leading to this fort, and have been removed.

I have, &c.,

W. H. Hales,

Engineer-in-Chief.

The Hon. the Minister for Public Works.

Enclosure to Appendix E.

TABLE of LENGTHS of GOVERNMENT LINES AUTHORISED, CONSTRUCTED, and SURVEYED up to 31st March, 1902.

NORTH ISLAND.

Appropriation.	Division.	Mileage.	Section.	Main Line.	Sidings.	Total.	Surveyed.	Under Formation.	Under Platelaying.	Date.
1	2	3 M. chs.	4	5 M. chs.	6 M. chs.	7 M. chs.	8 M. chs.	9 M. chs.	10 M. chs.	11
Kawakawa-Grahamtown	Kawakawa ..	7 41	Opua Wharf-Taumarere	5 11	0 57	8 18	..	..	..	7 April, 1884
			Taumarere-Kawakawa	2 30						22 Feb., 1877
	Kawakawa southwards	8 0	Kawakawa-Kopuru ..	8 0	..	8 0	..	3 0	5 0	..
	Kopuru-Hukerenui ..	18 40	Kopuru-Hukerenui ..	18 40	..	18 40	18 40	estim.	..	
	Whangarei-Kamo Extension	16 0	Hukerenui-Waiotu ..	1 26	0 40	1 66	..	..	..	1 Mar., 1901
			Waiotu-Whakapara	3 29	2 69	17 43	..	..	..	21 Dec., 1898
			Whakapara-Hikurangi	3 25						2 Nov., 1896
			Hikurangi-Kamo ..	8 0						2 July, 1894
	Kamo-Whangarei	9 20	Kamo-Whangarei ..	4 50	2 27	8 79	..	..		28 Oct., 1880
			Whangarei-Opau Wharf	2 2						30 Nov., 1882
			Opau Wharf-Grahamtown	2 48	..	2 48	..	2 48	..	..
Kaihu Valley	Kaihu Valley ..	19 40	Dargaville-Opanake	16 46	0 75	18 16	..	..	..	27 July, 1891*
			Opanake-Booms ..	0 55						21 Oct., 1896
			Booms-Waima ..	2 19	..	2 19	..	2 19	..	..
Helensville Northwards	Helensville Northwards	110 0	Extension ..	77 73	estim.	77 73	77 73	estim.	..	..
			Welsford Road to Komokoriki	11 75	..	11 75	11 75	Prelim.	..	
			Komokoriki-Tahakeroa	6 26	..	6 26	1 46	3 20	1 40	..
			Tahakeroa-Makarau	3 18	0 10	3 28	..	..	..	19 Dec., 1900
			Makarau-Kanohi ..	3 6	1 50	12 18	..	..	..	16 June, 1897
			Kanohi-Helensville Terminus	7 42						3 May, 1889
Kaipara-Waikato	Kaipara-Auckland ..	35 73	Helensville Terminus,—Helensville	0 43	6 66	42 59	..	..	..	18 Sept., 1880
			Helensville-Kumeu	12 79						29 Oct., 1875
			Kumeu-Henderson ..	11 0						18 July, 1881
			Henderson-Waikomiti	1 50						21 Dec., 1880
			Waikomiti-Newmarket	9 61						29 Mar., 1880
	Onehunga Branch ..	2 73	Penrose-Onehunga ..	2 53	1 70	4 63	..	..	..	24 Dec., 1873
			Onehunga Wharf ..	0 20						28 Nov., 1878
	Auckland-Waikato ..	100 13	Auckland Wharf	..	0 55	0 55	..	..	..	..
			Auckland Station ..	0 15	16 11	116 24	..	..	..	30 Nov., 1885
			Auckland-Mercer	42 72						20 May, 1875
			Mercer-Newcastle ..	31 2						13 Aug., 1877
			Newcastle-Hamilton	10 33						19 Dec., 1877
			Hamilton-Ohaupo ..	9 27						4 June, 1878
			Ohaupo-Te Awamutu	6 24						1 July, 1880
	Auckland-Penrose—Deviation viâ Beach	6 50	Deviation viâ Beach	6 50	..	6 50	6 50	..	..	..
	Auckland City Branch—Kingsland Station to Auckland Station viâ Western Park and Freeman's Bay	2 60	Auckland City Branch	2 60	..	2 60	2 60	Prelim.	..	..
Surveys, new lines	Pukekohe-Waiuku ..	12 5	Paerata-Waiuku ..	12 5	..	12 5	12 5	..	..	..
Waikato-Thames	Waikato-Thames ..	62 58	Frankton Junction,—Hamilton	1 1	10 17	72 75	..	..	..	20 Oct., 1879
			Hamilton-Morrinsville	16 79						1 Oct., 1884
			Morrinsville-Te Aroha	12 55						1 Mar., 1886
			Te Aroha-Paeroa ..	12 63						20 Dec., 1895
			Paeroa-Thames ..	19 20						19 Dec., 1898
Paeroa-Waihi	Paeroa-Waihi ..	12 40	Paeroa-Waihi ..	12 40	..	12 40	5 40	7 0	..	..
Hamilton-Cambridge	Hamilton-Cambridge	12 2	Ruakura Junction, Cambridge	12 2	3 14	15 16	..	..	..	8 Oct., 1884
Thames Valley-Rotorua	Thames Valley-Rotorua	69 33	Morrinsville-Oxford ..	30 60	5 27	74 60	..	..	..	8 Mar., 1886
			Oxford-Putaruru ..	6 77						21 June, 1886
			Ngatira Contract ..	8 0						24 Nov., 1893
			Kaponga Contract ..	10 23						
			Tarukenga Contract	4 62						
				0 8						8 Dec., 1894
			Rotorua Contract ..	8 43						
Gisborne-Karaka	Gisborne-Karaka ..	18 0	Gisborne-Ormond ..	10 0	2 45	12 45	..	..	10 0	..
			Ormond-Waipaoa ..	3 0	..	3 0	..	..	3 0	..
			Surveyed ..	5 0	..	5 0	5 0	Prelim.	..	..
New survey	Napier-Gisborne ..	120 0	Napier-Wairoa River	58 0	..	58 0	58 0	Prelim.	..	..
			Wairoa River-Gisborne	62 0	..	62 0	62 0	Prelim.	..	..
Napier-Woodville and Palmerston North	Napier-Woodville ..	96 65	Spit-Napier ..	2 16	15 05	111 70	..	..	..	25 Nov., 1874
			Napier-Hastings ..	11 64						12 Oct., 1874
			Hastings-Pakipaki ..	4 27						1 Jan., 1875
			Pakipaki-Te Aute ..	10 17						17 Feb., 1876
			Te Aute-Waipawa ..	12 53						28 Aug., 1876
			Waipawa-Waipukurau	4 49						1 Sept., 1876
			Waipukurau-Takapau	12 79						12 Mar., 1877
			Takapau-Kopua ..	5 63						25 Jan., 1878
			Kopua-Makotuku ..	5 22						9 Aug., 1880
			Makotuku-Matamau	4 22						23 June, 1884
			Matamau-Tahoraite	7 43						1 Dec., 1884
			Tahoraite-Woodville	15 10						22 Mar., 1887
	Woodville-Palmerston North	17 21	Woodville-Palmerston North	17 21	0 51	17 72	..	..	..	9 Mar., 1891
Wellington-Woodville	Woodville-Wellington	115 79	Woodville-Mangatainoka	5 76	21 73	137 72	..	..	..	11 Dec., 1897
			Mangatainoka-Pahiatua	3 30						2 Aug., 1897
			Pahiatua-Newman ..	15 24						3 May, 1897
			Newman-Eketahuna	2 4						16 Mar., 1896
			Eketahuna-Mangamahoe	6 15						8 April, 1889
			Mangamahoe-Mauriceville	4 7						10 Jan., 1887
			Mauriceville-Masterton	12 8						14 June, 1886
			Masterton-Woodside	16 22						1 Nov., 1880
			Woodside-Featherston	4 19						14 May, 1880
			Featherston-Kaitoke	17 48						12 Oct., 1878
			Kaitoke-Upper Hutt	7 47						1 Jan., 1878
			Upper Hutt-Silverstream	3 35						1 Feb., 1876
			Silverstream-Lower Hutt	8 0						15 Dec., 1875
			Lower Hutt-Pipitea	8 2						14 April, 1874
			Pipitea-Wellington ..	0 47						1 Nov., 1880
			Te Aro Extension ..	1 15						29 Mar., 1893
	Greytown Branch ..	3 7	Woodside-Greytown	3 7	0 64	3 71	..	..	..	14 May, 1880
Rimutaka Incline Deviation Surveys	Coach-road Route ..	9 0	Kaitoke-Featherston	9 0	..	9 0	9 0	Prelim.	..	..
	Tauherenikau Route	21 30	Upper Hutt Woodside	21 30	..	21 30	21 30	..	..	..
	Wainui-o-mata Route	31 40	Petone-Pigeon Bush	31 40	..	31 40	31 40	†	..	..
	Coast Route ..	52 0	Petone-Pigeon Bush	52 0	..	52 0	52 0	†	..	..
	Coast Route ..	70 0	Petone-Carterton, viâ Martinborough	70 0	..	70 0	70 0	†	..	..
Foxton-New Plymouth	Foxton-Patea ..	120 44	Foxton-Palmerston ..	23 39	14 75	135 39	..	..	..	27 April, 1876
			Palmerston-Feilding	11 28						20 Oct., 1876
			Feilding-Halcombe ..	7 76						22 April, 1878
			Halcombe-Marton ..	10 49						20 May, 1878
			Marton-Turakina ..	9 10						4 Feb., 1878
			Turakina-Aramoho ..	20 25						17 May, 1877
			Aramoho-Kai Iwi ..	9 31						28 June, 1879
			Kai Iwi-Waitotara ..	13 2						20 Sept., 1880
			Waitotara-Waverley	6 73						23 Mar., 1881
			Waverley-Patea ..	8 31						28 Aug., 1883
	Route Improvement Surveys	26 07	Turakina-Matarawa	11 67	..	11 67	11 67	..	..	..
			Aramoho-Goat Valley Tunnel	7 40	..	7 40	7 40	..	..	..
			Kai Iwi-Okehu ..	3 60	..	3 60	3 60	..	..	..
			Nukumaru-Waitotara	3 0	..	3 0	3 0	Prelim.	..	..
	Patea-Waitara ..	71 56	Patea-Manutahi ..	8 57	11 52	83 28	..	..	..	28 Aug., 1883
			Manutahi-Hawera ..	9 24						23 Mar., 1885
			Hawera-Normanby ..	3 35						20 Oct., 1881
			Normanby-Eltham ..	8 32						18 June, 1881
			Eltham-Ngaire ..	2 60						7 Feb., 1881
			Ngaire-Stratford ..	3 20						27 Sept., 1880
			Stratford-Inglewood	13 40						17 Dec., 1879
			Inglewood-Sentry Hill	8 60						30 Nov., 1877
			Waitara-N. Plymouth	11 13						14 Oct., 1875
			N. Plymouth-Moturoa	2 35						28 April, 1886
			Moturoa-Breakwater	..	0 53	0 53	..	..	..	..
	Bull's Branch ..	3 79	Bull's Branch ..	3 79	..	3 79	3 79	Prelim.	..	..
	Wanganui Branch ..	3 29	Aramoho Loop ..	0 10	2 13	5 42	..	..	..	21 Jan., 1878
			Aramoho-Wanganui	3 19						21 Jan., 1878
	Stratford-Kawakawa	101 0	Toko Section ..	6 30	..	6 30	..	..	6 30	..
			Surveyed ..	94 50	..	94 50	94 50	..	..	..
	Opunake-Mountain Road	23 10	Opunake-Eltham ..	23 10	..	23 10	23 10	Prelim.	..	..
North Island Main Trunk Railway	Marton-Te Awamutu	210 04	Marton Junction,—Rangatira	18 53	3 41	26 04	..	..	..	2 June, 1888
			Mangaonoho Contract	3 70						1 May, 1893
			Makohine Section ..	11 0	..	11 0	..	9 04	1 76	..
			Mangaweka Section	7 0	..	7 0	..	7 0	..	..
			Paengaroa Section ..	10 30	..	10 30	..	10 30	..	..
			Turangarere Section	10 50	..	10 50	..	10 50	..	..
			Waiouru Section ..	7 40	..	7 40	7 40	..	..	..
			Murimutu Section ..	13 70	..	13 70	13 70	..	..	..
			Raetihi Section ..	8 60	..	8 60	8 60	..	..	..
			Waimarino Section ..	12 30	..	12 30	12 30	..	..	..
			Makaretu Section ..	7 0	..	7 0	7 0	..	..	..
			Ohongo Section ..	8 0	..	8 0	8 0	..	..	..
			Whakapapa Section	10 0	..	10 0	10 0	..	..	..
			Taumaranui Section	6 48	..	6 48	..	6 48	..	..
			Ongarue Section ..	14 7	..	14 7	..	12 40	1 47	..
			Ohinemoa Section	13 29	0 65	14 14	..	..	13 29	
			Poro-o-tarao Tunnel Contract	1 34	3 50	50 47	..	..	..	21 Dec., 1896
			Mokau Section ..	11 9						
			Waiteti Contract ..	8 53						8 May, 1889
			Te Kuiti Contract ..	11 41						2 Dec., 1887
			Waipa Contract ..	14 20						9 Mar., 1887
	Central Route—Deviation Surveys	30 0	Ohakune to Mokau-Retaruke Divide	30 0	..	30 0	30 0	Prelim.	..	..
		34 0	Makatote Gorge-Marae Kowhai	34 0	..	34 0	34 0	Prelim.	..	..
		20 0	Marae-Kowhai-Ohura Valley	20 0	..	20 0	20 0	Explor.	..	..
	Ngaire-Ongaruhe ..	103 58	Ngaire Section ..	38 73	..	38 73	38 73	..	..	..
			Tangarakau Section	26 0	..	26 0	26 0	..	..	..
			Heao Section ..	10 70	..	10 70	10 70	..	..	..
			Ohura Section ..	27 75	..	27 75	27 75	..	..	..
	Waitara-Tangarakau	46 75	Waitara Section ..	46 75	..	46 75	46 75	..	..	..
	Urenui Route ..	12 0	Urenui to Tangitu River	12 0	..	12 0	12 0	Prelim.	..	..
	Hastings-Te Awamutu	170 0	Hastings-Te Awamutu	170 0		170 0	170 0	Prelim.	..	..
Total ..		2087 32	..	2037 32	131 55	2169 7	1077 58	74 19	42 62	..

State of Line. — Opened.

Section	1873–4	1874–5	1875–6	1876–7	1877–8	1878–9	1879–80	1880–1	1881–2	1882–3	1883–4	1884–5	1885–6	1886–7	1887–8	1888–9	1889–90	1890–1	1891–2	1892–3	1893–4	1894–5	1895–6	1896–7	1897–8	1898–9	1899–1900	1900–1	1901–2	Total.
4	12 M. chs.	13 M. chs.	14 M. chs.	15 M. chs.	16 M. chs.	17 M. chs.	18 M. chs.	19 M. chs.	20 M. chs.	21 M. chs.	22 M. chs.	23 M. chs.	24 M. chs.	25 M. chs.	26 M. chs.	27 M. chs.	28 M. chs.	29 M. chs.	30 M. chs.	31 M. chs.	32 M. chs.	33 M. chs.	34 M. chs.	35 M. chs.	36 M. chs.	37 M. chs.	38 M. chs.	39 M. chs.	40 M. chs.	41 M. chs.
Opua Wharf-Taumarere	..	..	..	..	..	..	..	..	..	..	..	5 11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7 41
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Kumeu-Henderson	..	..	..	..	..	..	..	..	11 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
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Onehunga Wharf	..	..	..	..	..	0 20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
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Te Aroha-Paeroa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12 63	..	..	..	..	..	..	
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Featherston-Kaitoke	..	..	..	..	..	17 48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Kaitoke-Upper Hutt	..	..	..	..	7 47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Upper Hutt-Silverstream	..	..	3 35	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Silverstream-Lower Hutt	..	..	8 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Lower Hutt-Pipitea	8 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Pipitea-Wellington	..	..	..	..	..	..	..	0 47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Te Aro Extension	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1 15	..	..	..	..	..	..	..	..	..	
Woodside-Greytown	..	..	..	..	..	..	..	3 7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3 7
Kaitoke-Featherston	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Upper Hutt Woodside	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Petone-Pigeon Bush	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Petone-Pigeon Bush	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Petone-Carterton, viâ Martinborough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Foxton-Palmerston	..	..	23 39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Palmerston-Feilding	..	..	..	11 28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Feilding-Halcombe	..	..	..	..	7 76	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Halcombe-Marton	..	..	..	..	10 49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Marton-Turakina	..	..	..	..	9 10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	120 44
Turakina-Aramoho	..	..	..	20 25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Aramoho-Kai Iwi	..	..	..	..	..	9 31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Kai Iwi-Waitotara	..	..	..	..	..	..	..	13 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Waitotara-Waverley	..	..	..	..	..	..	..	6 73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Waverley-Patea	..	..	..	..	..	..	..	..	..	..	8 31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Turakina-Matarawa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aramoho-Goat Valley Tunnel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kai Iwi-Okehu	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nukumaru-Waitotara	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Patea-Manutahi	..	..	..	..	..	..	..	..	..	..	8 57	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Manutahi-Hawera	..	..	..	..	..	..	..	..	..	..	..	9 24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Hawera-Normanby	..	..	..	..	..	..	..	..	3 35	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Normanby-Eltham	..	..	..	..	..	..	..	..	8 32	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Eltham-Ngaire	..	..	..	..	..	..	..	2 60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Ngaire-Stratford	..	..	..	..	..	..	..	3 20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	71 56
Stratford-Inglewood	..	..	..	..	..	..	13 40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Inglewood-Sentry Hill	..	..	..	..	8 60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Waitara-N. Plymouth	..	..	11 13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
N. Plymouth-Moturoa	..	..	..	..	..	..	..	..	..	..	..	..	..	2 35	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Moturoa-Breakwater	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bull's Branch	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aramoho Loop	..	..	..	..	0 10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3 29
Aramoho-Wanganui	..	..	..	..	3 19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Toko Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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Opunake-Eltham	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Marton Junction,—Rangatira	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	18 53	..	..	..	..	..	..	..	..	..	..	..	..	..	22 43
Mangaonoho Contract	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3 70	..	..	..	..	..	..	..	..	
Makohine Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mangaweka Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paengaroa Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Turangarere Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waiouru Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murimutu Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Raetihi Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waimarino Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Makaretu Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ohongo Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whakapapa Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taumaranui Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ongarue Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ohinemoa Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poro-o-tarao Tunnel Contract	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1 34	..	..	..	..	..	
Mokau Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11 9	..	..	..	..	..	46 77
Waiteti Contract	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8 53	..	..	..	..	..	..	..	..	..	..	..	..	
Te Kuiti Contract	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11 41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Waipa Contract	..	..	..	..	..	..	..	..	..	..	..	..	..	14 20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Ohakune to Mokau-Retaruke Divide	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Makatote Gorge-Marae Kowhai	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Marae-Kowhai-Ohura Valley	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ngaire Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tangarakau Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Heao Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ohura Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waitara Section	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urenui to Tangitu River	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings-Te Awamutu	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	10 55	61 19	69 23	64 24	103 76	27 19	24 22	68 39	22 67	2 2	17 8	55 21	‡43 50	§54 77	11 41	18 53	22 30	17 21	16 46	1 15	26 75	16 51	14 67	16 43	27 56	22 49	..	4 44	..	842 53

* In this case the date given is the date on which the railway was taken over by the Government.
† Reconnaissance only.
‡ This comprises 12m. 70ch. of railway constructed by Government, and 30m. 60ch. of line constructed by private company under the District Railways Act and afterwards purchased by the Government.
§ This comprises 48m. of railway constructed by Government, and 11m. of line constructed by private company under the District Railways Act and afterwards purchased by the Government.

NOTE.—Taonui and Lichfield Branches not mentioned above, as the rails have been taken up.

TABLE of LENGTHS of GOVERNMENT LINES AUTHORISED, CONSTRUCTED, and SURVEYED up to 31st March, 1902—*continued*.

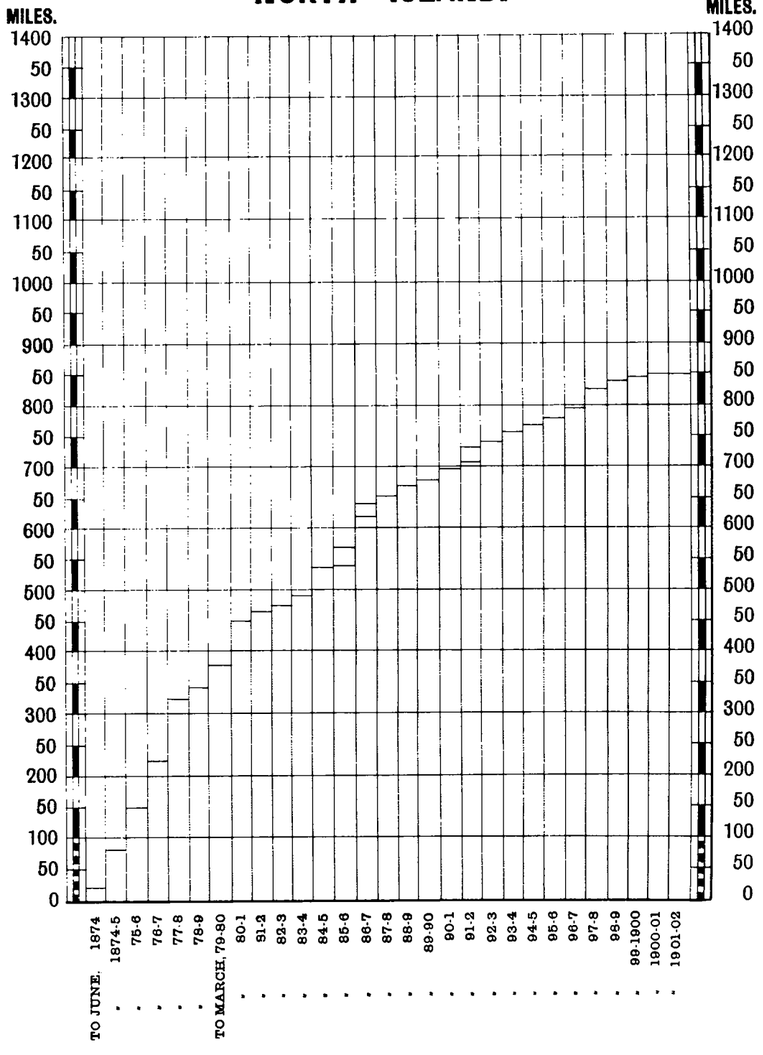
SOUTH ISLAND.

Appropriation.	Division.	Mileage.	Section.	Main Line.	Sidings.	Total.	Surveyed.	Under Formation.	Under Plate-laying.	Date.	State of Line. Opened. To June, 1872.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	Total.
1		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Nelson-Roundell	Nelson-Belgrove	22 73	Port Extension	1 0	2 52	25 45				17 May, 1880										1 0																						22 73
			Nelson-Foxhill	18 73						31 Jan., 1876					18 73																											
			Foxhill-Belgrove	8 0						25 July, 1881											8 0																					
Midland Railway	Stillwater - Belgrove (viâ Tadmor)	148 6	Stillwater - Reefton	37 9	4 79	42 8				21 July, 1900 ††																														37 9		
			Reefton-Tadmor	91 16		91 16	91 16																																			
			Tadmor-Motupiko	10 17		10 17		10 17																																		
			Motupiko-Belgrove	9 44	0 62	10 26				21 July, 1900 ††																														9 44		
	Brunner - Springfield	95 49	Brunner-Jackson's	32 15	2 68	45 15				21 July, 1900 ††																														32 15		93 58
			Jackson's-Otira	10 12						13 Nov., 1900																														10 12		
			Otira-Avoca	37 22		37 22	37 22																																			
			Avoca-Otarama	11 22		11 22	2 60	7 52	0 70																																	
			Otarama-Springfield	4 58	0 16	4 74				21 July, 1900 ††																														4 58		
Ngahere-Blackball	Ngahere-Blackball	2 40	Ngahere-Blackball	2 40		2 40	2 40	Prelim.																																		
Greymouth-Nelson Creek	Greymouth - Nelson Creek	7 51	Greymouth-Brunnerton	7 32						7 April, 1876					7 32																											7 51
			Extension	0	6 18	13 69				1 Feb., 1881										0 5																						
			Stillwater (portion)	0 4						14 Mar., 1881										0 4																						
			,, ,,	0 10						1 Sept., 1885															0 10																	
Westport-Ngakawau	Westport - Ngakawau	19 19	Station	0 29						17 Dec., 1878								0 29																								19 19
			Westport-Waimangaroa	10 0	6 44	25 63				5 Aug., 1876						10 0																										
			Waimangaroa-Ngakawau	8 70						26 Sept., 1877							8 70																									
		0 37	Extension to Coal Company's Line	0 37		0 37				31 Mar., 1890																			0 37													0 37
Westport-Ngakawau Extension	Ngakawau-Mokihinui	7 12	Ngakawau-Mokihinui	7 12	1 21	8 33				8 Aug., 1893																							7 12									7 12
	Mokihinui Colliery Line	3 69	Mokihinui to coal-mine	3 69	0 21	4 10				25 Feb., 1895 *																								3 69								3 69
Greymouth-Hokitika	Greymouth-Hokitika	24 37	Greymouth-Hokitika	24 37	2 10	26 47				20 Dec., 1893																							24 37									24 37
Kumara Branch	Kumara Branch	4 10	Kumara Branch	4 10		4 10	4 10																																			
Hokitika-Ross	Hokitika-Ross	15 0	Hokitika-Ross	15 0		15 0	15 0†																																			
Picton-Waipara	Picton-Kahautara	108 30	Picton-Blenheim	16 57	3 26	23 68				18 Nov., 1875					16 57																											20 42
			Blenheim	1 22						24 May, 1880										1 22																						
			Omaka Contract	2 43						18 April, 1893																							2 43									
			Vernon Contract	1 75		1 75			1 75																																	
			Dashwood Contract	3 38		3 38			3 38																																	
			Utawai Contract	2 39		2 39			2 39																																	
			Awatere Section	5 7	0 43	5 50			5 7																																	
			Surveyed (location)	4 75		4 75	4 75																																			
			,, (trial)	64 74		64 74	64 74																																			
	Kahautara - Mackenzie	34 65	Kahautara-Mackenzie	34 65		34 65	34 65	Prelim.																																		
	Mackenzie-Waipara	35 0	Surveyed	11 26		11 26	11 26																																			
			Waikari Section	8 54		8 54		8 54																																		
			Omihi Section	15 0	1 2	16 2		3 0	12 0																																	
Hurunui-Waitaki, with Branches	Main Line	206 7	Culverden-Hurunui	9 50						9 Feb., 1886															9 50																	206 7
			Hurunui-Medbury	1 14						9 Feb., 1886															1 14																	
			Medbury-Waikari	8 40						28 Oct., 1884														8 40																		
			Waikari-Waipara	9 10						17 April, 1882												9 10																				
			Waipara-Amberley	6 77						6 Oct., 1880										6 77																						
			Amberley-Ashley (part)	3 63						9 Feb., 1876					3 63																											
			,, ,,	7 64						3 Nov., 1875					7 64																											
			Ashley-Rangiora	1 71						17 April, 1875				1 71																												
			Rangiora-Southbrook	1 63						5 Nov., 1872		1 63																														
			Southbrook-Kaiapoi	5 1						2 Sept., 1872		5 1																														
			Kaiapoi-Addington	11 68						1 April, 1872	11 68																															
			Christchurch-Selwyn	22 43						2 Oct., 1867	22 43																															
			Selwyn-Dunsandel	1 77	64 68	270 75				15 Feb., 1873		1 77																														
			Dunsandel-Rakaia	10 66						29 May, 1873		10 66																														
			Rakaia-Ashburton	17 7						4 Aug., 1874				17 7																												
			Ashburton-Ealing	19 29						31 May, 1875				19 29																												
			Ealing-Woodbridge	2 59						24 Aug., 1875					2 59																											
			Woodbridge-Temuka	13 65						4 Feb., 1876					13 65																											
			Temuka-Timaru	11 15						22 Oct., 1875					11 15																											
			Timaru-St. Andrews	10 28						1 July, 1876						10 28																										
			St. Andrews-Otaio	3 66						1 Sept., 1876						3 66																										
			Otaio-Makikihi	3 61						30 Oct., 1876						3 61																										
			Makikihi-Hook	3 36						1 Feb., 1877						3 36																										
			Hook-North Waitaki	16 14						1 Feb., 1877						16 14																										
			North Waitaki-South Waitaki	1 40						17 April, 1876					1 40																											
	Branches,—																																									
	Rangiora-Oxford	21 76	Rangiora-Cust	11 77	2 36	24 32				1 Dec., 1874				11 77																												21 76
			Cust-Carlton	5 53						6 April, 1875				5 53																												
			Carlton-Oxford West	4 26						21 June, 1875				4 26																												
	Eyreton (from Main Line)	20 7	Main Line - West Eyreton	14 25	1 61	21 68				27 Dec., 1875					14 25																											20 7
			Eyreton-Bennett's	5 62						1 Feb., 1878							5 62																									
	Lyttelton	6 26	Lyttelton - Christchurch	6 26		6 26				9 Dec., 1867	6 26																															6 26
	Southbridge	25 31	Hornby-Ellesmere	14 62	3 17	28 48				26 April, 1875				14 62																												25 31
			Ellesmere - Southbridge	10 49						30 July, 1875					10 49																											
	Little River-Akaroa	42 10	Lincoln-Birdling's Flat	17 8	2 5	24 51				7 June, 1882												17 8																				22 46
			Birdling's Flat-Little River	5 38						16 Mar., 1886															5 38																	
			Reconnaissance	19 44		19 44	19 44	Prelim.																																		
	Springfield	30 60	Rolleston-Sheffield	24 4	3 7	33 67				1 Dec., 1874				24 4																												30 60
			Sheffield-Springfield	5 59						3 Jan., 1880									5 59																							
			Springfield-Coalmine	0 77						10 Feb., 1880									0 77																							
	Whitecliffs	11 38	Darfield-Whitecliffs	11 33	1 53	13 11				3 Nov., 1875					11 33																											11 38
			Whitecliffs to Bridge	0 5						27 June, 1886																0 5																
	Rakaia-Ashburton Forks	22 20	Rakaia-Methven	22 20	2 65	25 5				1 April, 1885 *															22 20																	22 20
	Ashburton	29 46	Tinwald-Westerfield	10 47	1 52	29 1				8 April, 1880										10 47																						27 29
			Westerfield-Anama	8 39						7 Oct., 1882												8 39																				
			Anama-Cavendish	2 47						1 Mar., 1884													2 47																			
			Cavendish-Mt. Somers	1 48						4 Oct., 1886																1 48																
			Mt. Somers-Springburn	4 8						9 Sept., 1889																			4 8													
			Extension	2 17		2 17	2 17																																			
	Opawa and Albury to Fairlie Creek and Burke's Pass	55 8	Washdyke - Pleasant Point	8 67	2 45	36 50				24 Dec., 1875					8 67																											36 5
			Pleasant Point-Albury	16 61						1 Jan., 1877						16 61																										
			Albury-Winscombe	7 7						22 Aug., 1883													7 7																			
			Winscombe-Eversley	3 30						30 Jan., 1884													3 30																			
			Preliminary survey	19 3		19 3	19 3	Prelim.																																		
	Waimate	4 42	Studholme-Waimate	4 42	1 3	5 45				19 Mar., 1877						4 42																										4 42
	Waimate Gorge	8 21	Waimate-Waihao Downs	8 21	0 54	8 75				1 April, 1885 *															8 21																	8 21
Waitaki-Bluff and Branches	Main Line	246 69	South Waitaki - Oamaru	13 8						25 Sept., 1875					13 8																											246 69
			Oamaru-Hillgrove	24 52						4 Nov., 1876						24 52																										
			Hillgrove-Palmerston	12 68						22 May, 1878							12 68																									
			Palmerston - Waikouaiti	9 3						6 Sept., 1878								9 3																								
			Waikouaiti-Waitati	14 33						7 May, 1878							14 33																									
			Waitati-Glendermid	9 77						20 Dec., 1877							9 77																									
			Glendermid-Dunedin	7 6						9 April, 1873		7 6																														
			Dunedin-Abbotsford	5 7						1 July, 1874				5 7																												
			Abbotsford - Clutha River	46 36	59 13	306 2				1 Sept., 1875					46 36																											
			Clutha River - Balclutha	0 60						22 Jan., 1878							0 60																									
			Balclutha-Clinton	20 76						22 Jan., 1879								20 76																								
			Clinton-Waipahi	9 62						1 Nov., 1877							9 62																									
			Waipahi-Gore	16 11						21 June, 1877						16 11																										
			Gore-Mataura	7 40						30 Aug., 1875					7 40																											
			Mataura-Woodlands	20 68						7 June, 1875				20 68																												
			Woodlands-Invercargill	11 21						11 Feb., 1874			11 21																													
			Invercargill-Bluff	17 1						5 Feb., 1867	17 1																															
	Branches,—																																									
	Duntroon	21 75	Pukeuri-Marawhenua	21 29	1 35	23 30				1 Dec., 1875					21 29																											21 75
			Marawhenua - Duntroon	0 46						11 July, 1881											0 46																					
	Duntroon-Hakateramea	15 38	Duntroon-Hakateramea	15 38	1 5	16 43				1 April, 1885 *															15 38																	15 38
	Ngapara	14 76	Waiareka-Ngapara	14 76	1 31	16 27				2 April, 1877						14 76																										14 76
	Livingstone	16 40	Windsor-Livingstone	12 0	0 50	12 50		0 5		12 Aug., 1887																	11 75															11 75
			Survey (trial)	4 40		4 40	4 40	Prelim.																																		
	Palmerston-Waihemo	9 40	Palmerston-Dunback (part)	1 58	0 54	9 29				30 July, 1882												1 58																				8 55
			Palmerston-Dunback (part)	6 77						1 Oct., 1885															6 77																	
			Surveyed	0 65		0 65	0 65																																			
	Inch Valley Railway	2 29	Inch Valley - Lime Quarry	2 29	0 23	2 52				11 June, 1900																														2 29		2 29
	Port Chalmers	1 9	Glendermid - Port Chalmers	1 9	3 40	4 49				9 April, 1873		1 9																														1 9
	Green Island	2 44	Burnside-Walton Park	1 74	0 52	3 16				1 July, 1874				1 74																												2 44
			Walton Park - Saddle Hill	0 50						4 Sept., 1879									0 50																							
	Green Island to Brighton	4 65	Surveyed	4 65		4 65	4 65																																			
	Fernhill Colliery Line	1 60	Abbotsford to Fernhill Colliery	1 60	0 24	2 4				19 Dec., 1895 *																									1 60							1 60
	Kaikorai Valley Railway	2 60	Surveyed	2 60		2 60	2 60																																			
	Outram	8 78	Mosgiel-Outram	8 78	0 68	9 66				1 Oct., 1877							8 78																									8 78
	Lawrence	21 76	Clarksville-Waitahuna	15 4	2 2	23 78				22 Jan., 1877						15 4																										21 76
			Waitahuna-Lawrence	6 72						2 April, 1877						6 72																										
	Lawrence-Roxburgh	38 25	Preliminary survey	38 25		38 25	38 25	Prelim.																																		
	Catlin's River	19 20	Balclutha-Romahapa	7 62						15 Dec., 1885															7 62																	19 20
			Romahapa-Glenomaru	6 18						9 July, 1891																					6 18											
			Catlin's Tunnel Sec.	0 46	1 63	21 3				4 Mar., 1895																								0 46								
			Hunt's Road Sec. (part)	3 48						16 Dec., 1895																									3 48							
			Hunt's Road Sec. (part)	1 6						22 June, 1896																										1 6						
	Waipahi - Heriot Burn	20 3	Waipahi-Kelso	15 27	2 3	22 6				1 Dec., 1880										15 27																						20 3
			Kelso-Heriot	4 56						1 April, 1884														4 56																		
	Heriot Railway Extension	6 20	Heriot-Eadie's	6 20		6 20	3 20		3 0																																	
	Extension to Roxburgh, viâ Rae's Junction and Ettrick	28 10	Surveyed	28 10		28 10	28 10	Prelim.																																		
	Viâ Spylaw	25 70	Surveyed	25 70		25 70	25 70	Prelim.																																		
	Waimea Plains District Ry.	36 39	Gore-Lumsden	36 39	1 34	37 73				1 April, 1886 *																36 39																36 39
	Kelso-Gore	24 0	Surveyed	9 58		9 58	9 58																																			
			Preliminary survey	14 22		14 22	14 22	Prelim.																																		
	Riversdale-Switzers	18 70	Riversdale Section	7 0		7 0		5 0	2 0																																	
			Surveyed	6 70		6 70	6 70																																			
	Edendale-Toitois	19 30	Edendale-Wyndham	4 0	0 72	10 28				9 Oct., 1882												4 0																				9 36
			Wyndham-Glenham	5 36						1 May, 1890																				5 36												
			Surveyed	9 74		9 74	9 74																																			
	Seaward Bush	24 52	Appleby-Waimatua	5 40	1 50	26 22				9 July, 1886																5 40																24 52
			Waimatua-Mokotua	5 58						16 Jan., 1888																	5 58															
			Waituna Sec. (portion)	6 62						6 Mar., 1895																								6 62								
			Waituna Sec. (portion)	1 40						8 June, 1899																													1 40			
			Tiuroa and Waimahaka Sections	5 12																																			5 12			
Catlin's-Seaward Bush	Catlin's - Seaward Bush	57 60	Owaka Catlin's River Bridge	4 0		4 0	0 50	3 30																																		
			Reconnaissance	40 32		40 32	40 32	Prelim.																																		
			Tokanui-Waimahaka	13 28		13 28	13 28																																			
Canterbury Interior Main Line	Oxford-Temuka	83 0	Oxford-Sheffield	11 44	0 27	11 71				7 Aug., 1884														11 44																		11 44
			Surveyed	21 7		21 7	21 7																																			
			Reconnaissance	50 29		50 29	50 29	Prelim.																																		
Otago Central	Waitaki Bluff Main Line to Lake Hawea	182 56	Wingatui Jct.-Hindon	16 67						24 Oct., 1889																			16 67													95 18
			Hindon Section (part)	2 48																																						
			Deep Stream Section	4 22																																						
			Nenthorn Section	9 0						9 April, 1891																					23 21											
			Middlemarch Section	7 31	4 60	90 54																																				
			Middlemarch-Hyde	16 12						12 July, 1894																								16 12								
			Hyde-Kokonga	10 0						1 Oct., 1897																											10 0					
			Kokonga-Ranfurly	11 25						14 Dec., 1898																												11 25				
			Ranfurly-Wedderburn	8 29						1 June, 1900																														8 29		
			Wedderburn-Ida Valley	12 24	1 02	13 26				2 Dec., 1901																															12 24	
			Ida Valley-Manuherikia	7 30		7 30		7 30																																		
			Manuherikia-Spottis	8 50		8 50		8 50																																		
			Surveyed	68 38		68 38	68 38																																			
Invercargill-Kingston and Branch, Lumsden-Mararoa	Invercargill-Kingston	87 4	Invercargill-Winton	18 58	5 15	92 19				22 Feb., 1871	18 58																															87 4
			Winton-Caroline	22 10						20 Oct., 1875					22 10																											
			Caroline-Elbow	8 27						7 Feb., 1876					8 27																											
			Elbow-Lowther	5 76						15 Jan., 1877						5 76																										
			Lowther-Athol	13 18						28 Jan., 1878							13 18																									
			Athol-Fairlight	10 10						29 April, 1878							10 10																									
			Fairlight-Kingston	8 35						10 July, 1878								8 35																								
			Kingston Wharf	0 10						14 Dec., 1878								0 10																								
	Lumsden-Mararoa	30 0	Lumsden-Castle Rock	2 21	1 0	11 40				1 April, 1881											2 21																					10 40
			Castle Rock - Murray Creek	4 9						13 Mar., 1886															4 9																	
			Murray Creek-Mossburn	4 10						22 Jan., 1887																4 10																
			Surveyed	8 20		8 20	8 20																																			
			Reconnaissance	11 20		11 20	11 20	Prelim.																																		
Forest Hill Railway	Winton to Hedgehope	12 40	Winton - Hedgehope Station	**12 40	0 65	13 25				17 July, 1899																													12 40			12 40
Western Railways	Wallacetown Branch	17 53	Makarewa Junction-Riverton	17 53	6 37	64 18				9 June, 1879								17 53																								17 53
	Otautau Branch	11 40	Thornbury (Aparima Junc.) to Otautau	11 40						15 Dec., 1879									11 40																							11 40
	Otautau-Nightcaps	10 55	Otautau-Wairio	10 55						3 Mar., 1882											10 55																					10 55
	Orepuki Branch	17 68	Riverton-Oraki	6 3						25 July, 1881											6 3																					17 68
			Oraki-Colac	1 30						24 Sept., 1883													1 30																			
			Colac-Orepuki	10 35						5 May, 1885															10 35																	
Orepuki-Waiau River	Orepuki-Waiau	13 30	Orepuki-Waihoaka	4 40		4 40		4 40																																		
			Waihoaka - Camp Creek	5 60		5 60		5 60																																		
			Camp Creek-Waiau	3 10		3 10	3 10																																			
	Totals	2159 74		2159 74	220 39	2379 63	675 65	64 18	30 69		76 36	27 62	11 21	126 78	247 72	152 39	94 58	56 46	18 66	35 2	22 45	40 35	14 34	24 60	‡91 54	§47 62	17 53		21 32	5 36	29 39		34 12	‖27 29	†5 28	1 6	10 0	11 25	19 12	*104 36	12 24	1,389 02

* In these cases the dates given are the dates on which the railways became the property of the Government.
† This comprises 3m. 48ch. of railways constructed by the Government, and 1m. 60ch. of lines constructed by private company and afterwards purchased by the Government.
‡ This comprises 45m. 55ch. of railways constructed by the Government, and 45m. 79ch. of lines constructed by private companies under the District Railways Act and afterwards purchased by the Government.
§ This comprises 11m. 28ch. of railways constructed by the Government, and 36m. 39ch. of lines constructed by private companies under the District Railways Act and afterwards purchased by the Government.
‖ This comprises 23m. 40ch. of railways constructed by the Government, and 3m. 69ch. of lines constructed by private company and afterwards purchased by the Government.
** 9 miles 76 chains formerly returned as opened tramway.
†† In these cases the dates given are the dates on which the title to the railway was actually vested in the Government. Possession was taken of the railway by Government on 25th May, 1895.
* This comprises 20m. 70ch. constructed by Government, and 74m. 2ch. constructed by New Zealand Midland Railway Company, and 9m. 44ch. partly constructed by New Zealand Midland Railway Company and finished by Government.

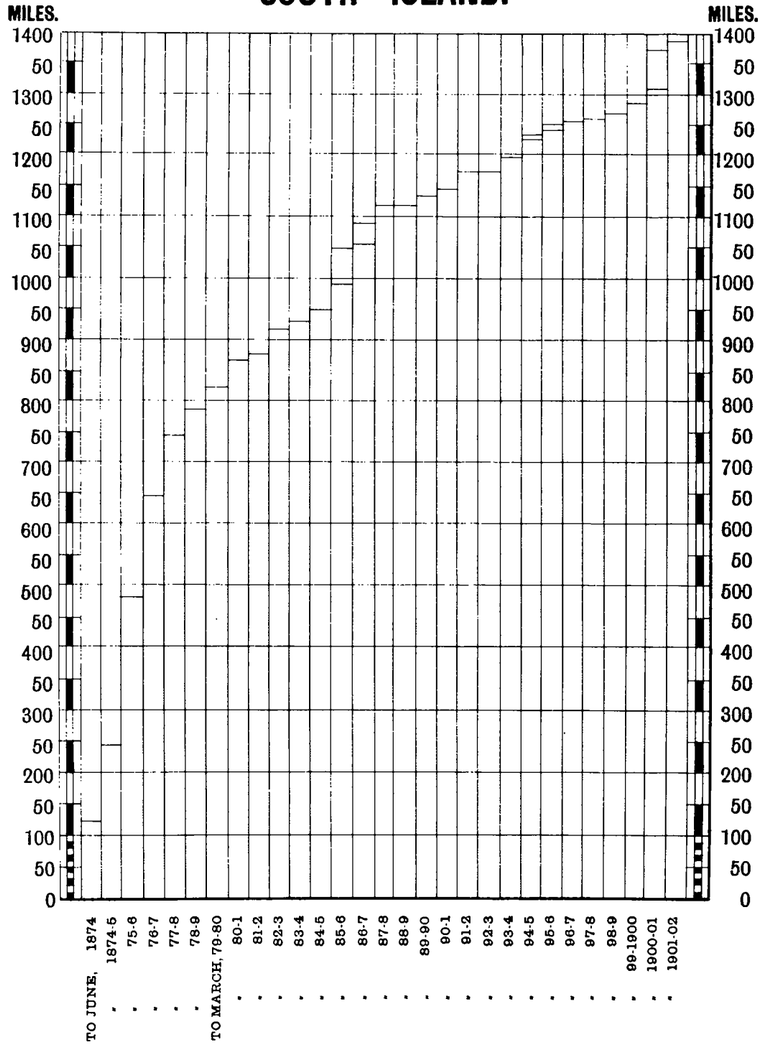
Number of Miles open of Government Lines.

NORTH ISLAND.



Number of Miles open of Government Lines.

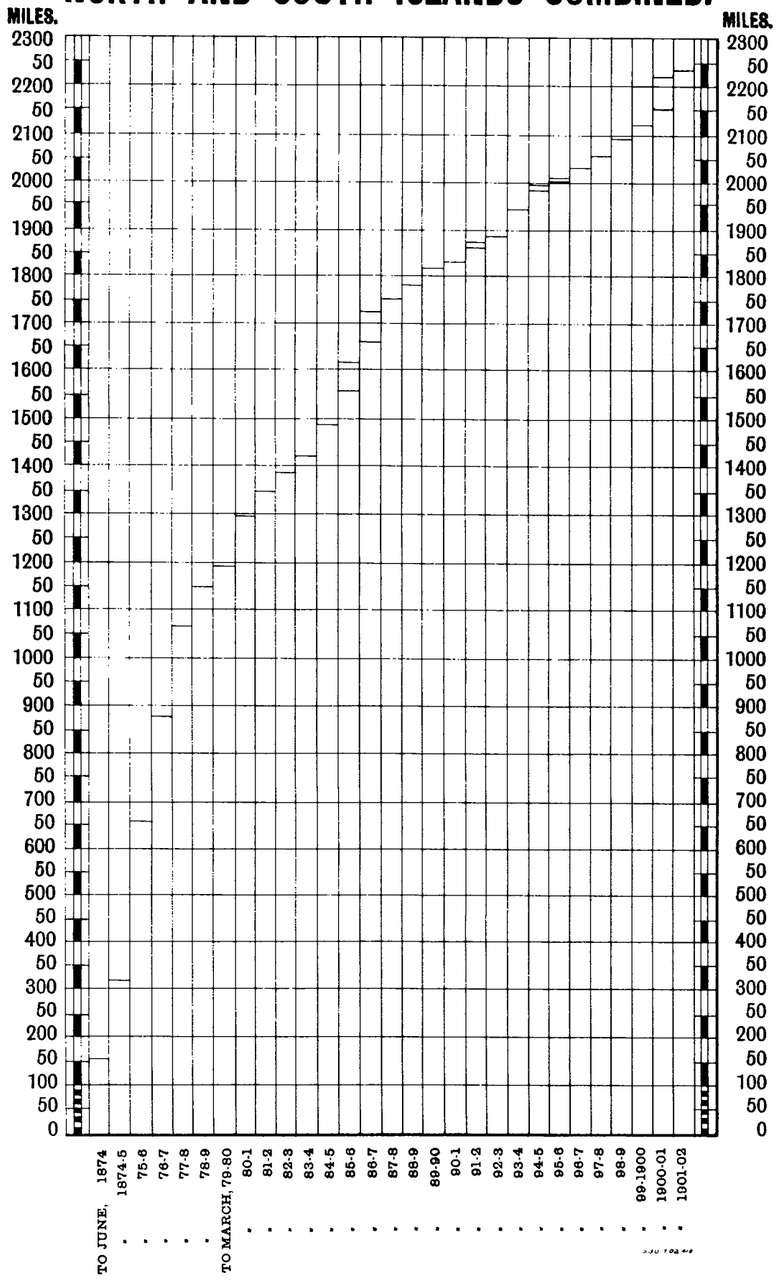
SOUTH ISLAND.



PRIVATE RAILWAYS PURCHASED BY THE GOVERNMENT SHOWN ▭

Number of Miles open of Government Lines.

NORTH AND SOUTH ISLANDS COMBINED.



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PUBLIC WORKS
Chief Engineer's Department
NEW ZEALAND

WILLIAM H. HALES
ENGINEER-IN-CHIEF

PUBLIC WORKS MAP
SHOWING THE RAILWAYS
NORTH ISLAND
OF
NEW ZEALAND
1902

Scale of Miles

10 0 10 20 30 40 50 60 70 80

REFERENCE

GOVERNMENT RAILWAYS.

OPENED
UNDER CONSTRUCTION
PROPOSED
EXPLORED

PRIVATE RAILWAYS ACQUIRED BY GOVERNMENT.

OPENED
UNDER CONSTRUCTION

PRIVATE RAILWAYS.

OPENED
PROPOSED

A. KOCH DEL.

DISTANCES BY RAILWAY BETWEEN PRINCIPAL PLACES.

	Miles.	Miles.
WELLINGTON TO PALMERSTON NORTH	88	
PALMERSTON NORTH TO WANGANUI (ARAMOHO JUNCTION)	89	
WANGANUI TO NEW PLYMOUTH	106	
WELLINGTON TO NEW PLYMOUTH		**253**
WELLINGTON TO PALMERSTON NORTH	88	
PALMERSTON NORTH TO WOODVILLE	18	
WOODVILLE TO NAPIER (SPIT)	97	
WELLINGTON TO NAPIER VIA MANAWATU		**204**
WELLINGTON (TE ARO) TO WOODVILLE	116	
WOODVILLE TO NAPIER (SPIT)	97	
WELLINGTON TO NAPIER VIA WAIRARAPA		**213**
AUCKLAND TO ONEHUNGA		**8**
AUCKLAND TO HAMILTON (FRANKTON JUNCTION)	85	
HAMILTON TO MOKAU	50	
MOKAU TO PORO-O-TARAO	12	
AUCKLAND TO PORO-O-TARAO		**147**
AUCKLAND TO HAMILTON (FRANKTON JUNCTION)	85	
HAMILTON TO TE ARIRA	31	
TE AROHA TO THAMES	32	
AUCKLAND TO THAMES		**148**
AUCKLAND TO ROTORUA		**171**
AUCKLAND TO TAHEKEROA (KAUKAPAKAPA VALLEY)		**52**
DARGAVILLE TO KAIHU		**17**
OPAU TO WAIOTU (VIA WHANGAREI)		**17**

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PUBLIC WORKS
Engineer's Department
NEW ZEALAND

WILLIAM H. HALES
ENGINEER-IN-CHIEF

PUBLIC WORKS MAP
SHOWING THE RAILWAYS
SOUTH ISLAND
OF
NEW ZEALAND
1902

Scale of Miles

10 0 10 20 30 40 50 60 70 80

REFERENCE

GOVERNMENT RAILWAYS.

OPENED
UNDER CONSTRUCTION
PROPOSED
EXPLORED

PRIVATE RAILWAYS ACQUIRED BY GOVERNMENT.

OPENED
UNDER CONSTRUCTION
PROPOSED

PRIVATE RAILWAYS.

OPENED

A. KOCH DEL.

C. Farewell
GOLDEN BAY
D'Urville Id
French Pass
TASMAN BAY
COOK STRAIT
WELLINGTON
CLOUDY BAY
Karamea R.
KARAMEA BIGHT
Mokikinui R.
C. Campbell
Buller River
C. Foulwind
Clarence R.
Kaikoura Peninsula
Pt Elizabeth
Amuri Pass
Conway R.
Arahura R.
Hokitika
Waiau-ua R.
Hurunui R.
Arthur's Pass
Abut Hd
Ashley R.
PEGASUS BAY
Waimakariri R.
Banks Peninsula
Mt Cook
12349ft
Mt Sefton
10950ft
Mt. Harper
Haast R.
JACKSON'S BAY
L. Tekapo
Rakaia R.
Ashburton R.
Hinds R.
Rangitata R.
Pukaki L.
L. Ohau
CANTERBURY BIGHT
L. Wanaka
L. Hawea
Milford Sound
Waitaki R.
L. Wakatipu
L. Te Anau
Manapori L.
Monowai L.
Hauroto L.
Shag Point
C. Saunders
Taieri R.
Clutha R.
FOVEAUX STRAIT
NEWHAVEN BAY
SOLANDER Id
The Bluff
RUAPUKE Id
MASON BAY
STEWART Id
Port William
East Head
S.W. Cape
Port Pegasus
TASMAN SEA
PACIFIC OCEAN
SOUTH

DISTANCES BY RAILWAY BETWEEN PRINCIPAL PLACES.

	Miles	Miles
BLUFF TO INVERCARGILL	17	
INVERCARGILL TO LUMSDEN	66	
LUMSDEN TO KINGSTON	37	
BLUFF TO KINGSTON		104
INVERCARGILL TO GORE	39	
GORE TO BALCLUTHA	47	
BALCLUTHA TO MILTON	17	
MILTON TO DUNEDIN	36	
INVERCARGILL TO DUNEDIN		139
INVERCARGILL TO OREPUKI		43
INVERCARGILL TO WAIMAHAKA		26
BALCLUTHA TO OWAKA		19
DUNEDIN TO IDA VALLEY		106
DUNEDIN TO PORT CHALMERS		8
GORE TO LUMSDEN		37
MILTON TO LAWRENCE		24
DUNEDIN TO OAMARU	71	
OAMARU TO TIMARU	53	
TIMARU TO ASHBURTON	47	
ASHBURTON TO ROLLESTON	38	
ROLLESTON TO CHRISTCHURCH	14	
DUNEDIN TO CHRISTCHURCH		230
CHRISTCHURCH TO LYTTELTON		7
OAMARU TO HAKATARAMEA		43
TIMARU TO FAIRLIE CREEK		39
ROLLESTON TO SPRINGFIELD		30
CHRISTCHURCH TO LITTLE RIVER		36
CHRISTCHURCH TO CULVERDEN		69
PICTON TO BLENHEIM		18
NELSON TO MOTUPIKO		33
GREYMOUTH TO REEFTON		47
GREYMOUTH TO HOKITIKA		24
GREYMOUTH TO OTIRA		51
WESPORT TO MOKIHINUI COLLIERY		31

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1530-6 02 398

APPENDIX F.

MIDLAND RAILWAY. — REPORT on the proposed Arthur's Pass Route by Mr. V. G. Bogue, C.E.

SIR,— Wellington, 17th February, 1902.

I have concluded the investigations of the Arthur's Pass Railway problem, in accordance with the commission I had the honour to receive from you, and beg to submit below my report and conclusions relative thereto.

ARTHUR'S PASS.

The reports of the reconnaissances and surveys made across various passes of the Southern Alps, for the purpose of determining which would be the best route for a railway connecting the West Coast with Canterbury, are quite complete and satisfactory. A study of them leaves no doubt in my mind that Arthur's Pass, all things considered, is the best, and that its selection as such was not only wise, but was practically necessary in view of the data obtained by the surveys. The range presents difficulties of somewhat exceptional character, especially as relates to the great rainfall, said to be 120 in. or more per annum, which produces heavy and sudden floods, and also with respect to parts where the slopes are unstable. The large streams shift from year to year from one side to the other of the valleys, seldom having well-defined channels for any distance—at one time narrow and insignificant, at another flooding all the bottom lands, and carrying large deposits of shingle towards the sea. Near the divide the slopes are steep and crooked, cut up by sharp ravines and gullies, and often present cliff-like spurs, formidable obstacles to railway-construction.

In such a range we are fortunate if we find the shortest line has comparatively easy approaches and grades towards the summit, and that the greater difficulties are concentrated at or near the divide. These are practically the conditions presented by the Arthur's Pass route. It is true that at and near Staircase Gully, thirty odd miles east of the pass, there are several tunnels and two important bridges; but as a whole the approach from Canterbury is not difficult, but, on the contrary, is fairly easy.

On the west slope the railway has already been built from Greymouth to Otira, between which point and the summit there are but seven miles by the coach-road. The topographical features of the country along these seven miles constitute serious obstacles to construction, and present in themselves the principal reason why there is a railway problem at Arthur's Pass.

At the summit the elevation is 3,000 ft. This is not a great height when we consider the altitudes attained by many railways in various parts of the world. One in Peru, for instance, crossing the Andes at an elevation of 15,645 ft.; many in America reaching 5,000 ft. to 10,000 ft.; while in the Alps of Europe the elevation of grade at Mount Cenis Tunnel is 3,900 ft., and that at St. Gothard 3,600 ft.

The Otira River, which heads in Rolleston Glacier, on the high divide south of the pass, takes a sharp bend a little west of the summit, and flows westwards for a few hundred feet along Pegleg Flat to the so-called moraine, whence it plunges in cascades into the narrow depths of Otira Gorge. The fall from the summit to the entrance of the Gorge near Dyer's, a distance of 3·6 miles, is 1,540 ft., about 430 ft. per mile.

While the general direction of Otira Gorge is quite straight, its slopes are crooked and very steep, almost vertical in many places, and are cut up by steep though narrow ravines. At Dyer's, Rolleston Creek, an important stream, comes in from the south, and it is at the end of Rolleston Spur, which lies in the angle formed by the Otira and the Rolleston, that the entrance to the gorge is located. Below this point the valley is wider, and the fall thence to Otira Station, nearly two miles, only about 205 ft.

On the Bealey side the fall of the Bealey River is 210 ft. per mile to a point 3·2 miles in a direct line from the summit, and is therefore much more gradual than that of the Otira River. If the fall of the Bealey River was more rapid and approximate to that of the Otira the problem of the pass would be less difficult, since a summit tunnel at any given elevation would then be much shorter than it can be under actual conditions.

It must be evident from the above that any line approaching the pass from the west, having a short tunnel in view, must lie upon the slopes of Otira Gorge at least for some distance. As to the northerly slopes, it may as well be stated now that they are so broken by ravines and by the moraine that it would be impracticable to find supporting-ground for a railway upon them except at prohibitive cost. The southerly slopes of the gorge, however, although rugged and somewhat cut up, present much more favourable conditions, and have the merit of being solid and free from slips, while the valley or gorge of Rolleston Creek lends opportunity for developing a line which may reach any altitude upon them.

The geology of the pass is described in a memorandum of the Government Geologist, prepared at my request, of which the following is a copy:—

"SIR,— "Wellington, 15th February, 1902.

"At the request of Mr. V. G. Bogue, C.E., I have the honour to forward you for his information some account of the geology of Arthur's Pass and the mountains through which the Otira Gorge has been cut.

"Approaching Arthur's Pass from the east, the rocks are alternations of sandstones and shales that are either of Permian or Carboniferous age.

"The general dip is to the north-west, and, apart from surface-slips (which are not common), I anticipate they will form good standing-ground on being mined or tunnelled into.

"On Arthur's Pass the dip changes to the south-east, and there is also some change in the character of the rock, the bare sandstone expanding to a much greater thickness than what shows along the Bealey River. There is an absence of deep sagging slips, and from the Bealey to the Otira the rock should prove sound and safe driving-ground, at even an inconsiderable depth from the surface. The principal rock is a hard grey or greenish-grey sandstone, with which is associated bands and thick masses of dark slaty shales, and there is an absence of the greyish, drossy, and pulverent thin-bedded shales and sandstones which have proved so troublesome (as running ground) in the neighbourhood of Wellington and in the Rimutaka and Ruahine Ranges. At the upper end of the Otira Gorge the rocks revert to the thinner-bedded sandstones and shales, but continue to be good standing country, as proved by the siding at the road at Cape Horn, in the deeper part of the gorge. The same character of rock continues to the west end of the Otira Gorge and the junction of Rolleston Creek with the Otira.

"On the crest of Hill's Peak a fissure of great depth has been formed, and this is by some regarded as an extended earthquake fissure. Whatever it may be, for I have not examined it, there is no indication of its being continued in depth to the level of the Otira above the zigzag, nor continued in the mountains on the west side of the gorge and upper valley of the Otira. At the time of examining the district I had discovered most of the great fault-lines that run to great distances along both flanks of the Southern Alps, and had there been any such signs on Arthur's Pass, or along the Otira Gorge, I had not been slow to detect and note the same.

"As the rocks of Otira Gorge and Arthur's Pass are the same in age and character as the auriferous Maitai rocks of Reefton, the opinion of some of the mine-managers might be sought with respect to the standing quality of the rock in which they carry on mining operations.

"In Kelly's Ridge there is a change to a preponderance of black, slaty rocks, the sandstones being less abundant than farther to the east. Up Kelly's Creek these form high vertical bluffs that exhibit the characteristics of good standing country.

"Alex. McKay, Government Geologist.

"Hon. the Minister of Mines."

Surveys.

In past years two surveys have been made through Arthur's Pass—one on 1-in-50 grades, which began near Jackson's, eleven miles below Otira, and which required a summit tunnel about three miles long; and another on 1-in-15 grades, designed for an Abt line. In connection with the 1-in-50 line a survey was made for a rope-traction project. The Abt and rope-traction projects were both designed to go over the pass, no summit tunnel being required.

Recently a survey has been made for a west approach of a six-mile-tunnel project.

The railway having been built to Otira, the 1-in-50 line can no longer be considered as an element of the question. But, even if this were not the case, the 1-in-50 project had numerous undesirable features that would have made it costly to build, and, for years at least, expensive to maintain. In locating a railway across a difficult range it is best, in almost every case, to keep along the margins of the streams, where construction-cost is at a minimum, and as far into the mountains as reasonably practicable, concentrating the heavy grades and difficulties at and near the divide. The result of this method is that nearly the whole line of a mountain railway can often be on substantially easy ruling grades, and a heavy train-load can be hauled over it, with the exception of a short mountain section, where assistant engines may be required. The construction of the line from Jackson's to Otira along the river conformed to this practice, and was, in my opinion, quite justifiable. In any event, there are no conditions which would now warrant the abandonment of any portion of the line to Otira, although possibly some readjustment of the Otira Station-yard may ultimately be desirable.

The Problem.

The problem as it now stands may be stated as follows: Of several lines that suggest themselves, which is the best upon which to build from a common point at the east switch at Otira to a common point on the Bealey, about half a mile east of the east end of the proposed six-mile tunnel.

The Abt System.

The Abt rack railway is unquestionably serviceable in some localities, where grades of 6 ft. to 8 ft. in 100 ft. will enable the engineer to so locate the line as to avoid slopes upon which it might be more or less impracticable to build, either on account of their instability or on the score of cost. We have such a case on the Transandine Railway, which has been building for years, and which will connect the Argentine Republic with Chili, South America. The pass through which this line is being built has a summit elevation of 12,800 ft., the elevation of grade in the summit tunnel being 10,000 ft. The approaches to the pass on both sides are difficult, and it was found that, in order to place the line near the streams on ground where the cost would be within reasonable limits and the line comparatively safe, it would be necessary to use grades as steep as 8 ft. in 100 ft. for short distances. So it has been wherever the Abt system has been used. It is a device to reduce the first cost of construction. Now, if the fall of the Otira River was comparatively uniform in its course westwards from Arthur's Pass to the entrance to the gorge near Dyer's, and if the slopes adjacent to the stream were smooth, we might find in either the Abt or Fell system a method of avoiding a large part of the cost of building a traction-line. But such are not the conditions. The fall of the Otira is far from uniform, and the features are such that in locating an Abt line down the gorge the top of the cascade at Pegleg Flat, which is nearly a mile and a half west of the summit, becomes a controlling factor, and the main descent is from that point rather than from the summit proper. The result is that the line must keep high up on the slopes below Pegleg Flat, where it finds supporting-ground, and it thus meets conditions similar to those which are obstacles

to the location of any traction-line which is designed to have a short summit tunnel or go over the pass. This means that there can be no great economy in the first cost of building the Abt line. Its advocates claimed that it could be built for £380,000, but it would doubtless have cost more; while it will be seen further on that a traction-line on a comparatively easy grade can be built for £480,000, and on a grade of 1 in 20 for £400,000. The conclusion of the committee of engineers (see their report of the 27th August, 1900), that the cost of operating either the Abt or Fell system at Arthur's Pass would be extremely high, meets my entire approval. As the Abt and Fell systems do not present any escape from the bulk of first cost, and would be extravagantly expensive in operation, we may dismiss them from consideration. Absolutely no advantage could be gained by the use of either system, and it is fortunate that action on the subject has been confined to survey and discussion only.

Report of the Committee of Engineers.

This report, already referred to, was principally devoted to a comparison of various traction-lines, as follows: One with a grade of 1 in 37; one with a grade of 1 in 37 (electric traction); five with a grade of 1 in 40; one with a grade of 1 in 44; one with a grade of 1 in 50; one with a grade of 1 in 60.

The report and conclusions are ably set forth, and meet my own views in most respects. There is no doubt that any line connecting Otira and Bealey on the grades considered would be costly to build, but the effect of steeper traction-grades such as are used in other mountain regions of the world—in localities too numerous to mention—has not, to my knowledge, up to the present time been outlined in any report. It is the consideration of lines with such grades to which I have directed most of my attention, believing, as indicated, that the subject of easier mountain grades had already been well studied and was substantially exhausted.

It is often profitable to conform as nearly as possible to the obstacles of nature, and endeavour to wrest from them a practicable and reasonable solution, rather than attempt to carry an easy grade through a mountain-range, either by means of a long tunnel, or by a line which may begin at some point many miles from the pass and gain the summit by keeping high upon the slopes, amid cliffs, ravines, and spurs. We cannot avoid all obstacles at Arthur's Pass by any line, but the one which avoids most of them should be the best, provided it has a reasonably workable grade.

The Work of this Report.

As already described, two surveys have been made entirely through the pass. At my request the topographical sketches of these surveys have been joined, so as to form a continuous map, upon which, under my direction, the several lines which suggested themselves have been drawn, so that some idea of their position upon the slopes could be obtained, and their length, grades, and curvature approximately determined. This was done after a careful study of the situation in the field of ten days' duration, during which I gained a good knowledge of its topographical features, and of its various conditions and obstacles to railway-construction. It is proper to note here, however, that the results obtained by such work are not so complete or definite as those of instrumental surveys would be. The map as prepared gives many heights and distances which have been of great service in laying down the lines mentioned, but it is in no sense a contour map, and the data so obtained can only be considered valuable as an aid in a comparison which may eliminate or render unnecessary the consideration of most of the suggested lines referred to, leaving but one or two to which further attention may be given.

To avoid confusion the lines have been designated as line A, line B, &c., up to line F, following each other in order, line A being the original six-mile-tunnel route, while line F would pass over the summit on a maximum grade of 1 in 20.

Description of Lines.

In reading the following descriptions it should be remembered that the summit of the railway-grade is east of any summit tunnel, and therefore east of the summit of the pass proper.

Line A.

This, as previously mentioned, is the original six-mile-tunnel project. It crosses the Otira not far above Otira Station, from the south to the north side of the river; thence passes by Dyer's and enters the gorge, which it follows for about 20 chains, where it reaches the point selected as the west end of the proposed summit tunnel. Thence it is entirely on the north side of the Otira Gorge to its proposed east end on the Bealey, about 37 chains west of the Bealey common point, which is gained by keeping along the north margin of the stream. The following are the physical characteristics of this line:—

Length of east approach	0 m. 37 ch.
Length of west approach	8 m. 6 ch.
Total length of line	8 m. 43 ch.
Maximum grade, west approach	1 in 37.
Maximum grade, east approach	1 in 40.
Grade in summit tunnel	1 in 37.
Minimum radius curve	12 ch.
Total degrees of curvature	372.
Percentage of line curved	20.
Length of summit tunnel	31,837 ft.
Total length of tunnels outside of summit tunnel	600 ft.
Total length of bridges	820 ft.
Elevation of grade at summit	2,392 ft.
Estimated cost of construction	£566,000.

Line B.

This line keeps to the south side of the Otira from Otira Station, ascends Rolleston Creek, along or near the foot of the slope, to a convenient locality, where it crosses the creek and doubles back along the slope of Rolleston Spur, tunnels the spur at a suitable place, and thence follows the south slope of the Otira, which is here comparatively smooth. Just below Hodge's Creek it crosses the Otira to the north side thereof, formation-level being 70 ft. to 80 ft. above the stream, and finds entrance to proposed tunnel nearly opposite Hodge's Creek on the face of the bluff above the coach-road. Thence the line keeps substantially in the gorge and pass to its proposed east end, located on the north side of Bealey River, nearly opposite the mouth of McGrath's Creek. From this point it descends the Bealey on easy ground, but crosses the stream twice before it reaches the Bealey common point. The following are the physical characteristics of this line:—

Length of east approach	1 m. 68 ch.
Length of west approach	7 m. 76 ch.
Total length of line	9 m. 64 ch.
Maximum grade, east approach	1 in 50.
Maximum grade, west approach	1 in 32.
Grade in summit tunnel	1 in 32.
Minimum radius of curve	8 ch.
Total degrees of curvature	754.
Percentage of line curved	20.
Length of summit tunnel	20,328 ft.
Total length of tunnels outside summit tunnel	1,848 ft.
Total length of bridges	1,412 ft.
Elevation of grade at summit	2,508 ft.
Estimated cost of construction	£480,000.

Lines C and C1.

Line C keeps to the slopes along the south side of the Otira, ascending on a grade of 1 in 25 to a convenient place in the Rolleston Creek Gorge, where it doubles back and follows the slopes of the Rolleston Spur and the south side of the Otira to Park's Creek, on the west slope of which it finds entrance to the proposed summit tunnel. At a point 528 ft. west of this entrance the grade changes from 1 in 25 to 1 in 29, which grade continues through the tunnel to the summit. The east end of the tunnel is located on the Bealey River, at the junction of its smaller fork, which comes from Arthur's Pass. Thence the line descends along the north slopes of the Bealey River to the Bealey common point. The summit-tunnel line is on the south side of the pass for its entire length.

Line C1 is a mere modification of line C. Instead of keeping to the south side of the Otira, it crosses from the south to the north side a short distance above the Otira Station, thence passes by Dyer's, crosses the Otira at the entrance of the gorge, and follows the slopes of the Rolleston Spur to a suitable place, where it crosses Rolleston Creek and forms a junction with line C. It is a feasible line, but its cost would be greater than that of line C. These lines are therefore common to each other from a point west of Rolleston Creek to Bealey Station.

The following are the physical characteristics of these lines:—

	Line C.	Line C1.
Length of east approach	2 m. 57 ch.	2 m. 57 ch.
Length of west approach	7 m. 68 ch.	8 m. 11 ch.
Total length of line	10 m. 45 ch.	10 m. 69 ch.
Maximum grade, east approach	1 in 30	1 in 30.
Maximum grade, west approach	1 in 25	1 in 25.
Grade in summit tunnel	1 in 28	1 in 28.
Minimum radius of curve	8 ch.	8 ch.
Total degrees of curvature	950	1,223.
Percentage of line curved	28	34.
Length of summit tunnel	13,662 ft.	13,662 ft.
Total length of tunnels outside summit tunnel	3,950 ft.	4,884 ft.
Total length of bridges	1,840 ft.	3,010 ft.
Elevation of grade at summit	2,754 ft.	2,754 ft.
Estimated cost of construction	£480,000	£493,000.

Lines D, D1, and D2.

Line D, like line C, keeps to the south side of the Otira, ascending from the Otira switch on a maximum grade of 1 in 28 along the southerly slopes, doubling back on Rolleston River and following the slopes of Rolleston Spur and the south side of the Otira to Park's Creek, on the east side of which it finds entrance to proposed summit tunnel. At a point 350 ft. west of Park's Creek the grade changes, and becomes 1 in 33, which is continuous through the summit tunnel to the summit. From the summit the line descends on the northerly slopes of the Bealey to the Bealey common point on maximum grades of 1 in 40.

Line D1 is similar to line C1, but crosses the Otira River not far above the station, thence going by Dyer's, crossing the entrance to the gorge, and gaining line D at the long curve on Rolleston Creek.

Line D2 keeps along the south side of the Otira near the foot of the slope, ascends the Rolleston to a suitable place, where it crosses that stream to gain distance, and, curving back, reaches the long curve of line D, thus crossing the Rolleston three times.

Lines D, D1, and D2 are therefore common to each other from a point on the west side of Rolleston Creek to the Bealey Station. The following are the physical characteristics of these lines :—

	D.	D1.	D2.
Length of east approach ...	2 m. 29 ch.	2 m. 29 ch.	2 m. 29 ch.
Length of west approach ...	7 m. 75 ch.	8 m. 19 ch.	8 m. 5 ch.
Total length of line ...	10 m. 24 ch.	10 m. 48 ch.	10 m. 34 ch.
Maximum grade, east approach	1 in 40	1 in 40	1 in 40.
Maximum grade, west approach	1 in 28	1 in 28	1 in 28.
Grade in summit tunnel ...	1 in 33	1 in 33	1 in 33.
Minimum radius of curve	8 ch.	8 ch.	8 ch.
Total degrees of curvature	1,216	1,442	1,264.
Percentage of line curved	34	38	35.
Length of summit tunnel	15,378 ft.	15,378 ft.	15,378 ft.
Total length of tunnels outside summit tunnel	4,950 ft.	5,300 ft.	4,686 ft.
Total length of bridges ...	1,850 ft.	2,560 ft.	1,950 ft.
Elevation of grade at summit	2,624 ft.	2,624 ft.	2,624 ft.
Estimated cost of construction	£492,000	£498,000	£473,000.

Line E.

This line begins to climb at a point a few chains east of the Otira common point, and keeps to the southerly slopes of the Otira on a maximum grade of 1 in 22, turning in Rolleston Creek Gorge, and thence following the slopes of Rolleston Spur and the southerly slopes of the gorge to the bend of the Otira at the upper end of Pegleg Flat, where it gains entrance to the summit tunnel. The east end of this tunnel is on the slope of the pass on the south side of the creek, which flows east from the pass at a point 31 chains east of the summit of the pass proper. From the east end of the proposed tunnel the line descends along the northerly slopes of the Bealey, by maximum grades of 1 in 26, to the Bealey common point. The following are the physical characteristics of this line :—

Length of east approach ...	2 m. 78 ch.
Length of west approach ...	7 m. 50 ch.
Total length of line ...	10 m. 48 ch.
Maximum grade, east approach	1 in 26.
Maximum grade, west approach	1 in 22.
Grade in summit tunnel ...	1 in 55.
Minimum radius of curve ...	8 ch.
Total degrees of curvature	952.
Percentage of line curved ...	24.
Length of summit tunnel ...	5,788 ft.
Total length of tunnels outside summit tunnel	7,000 ft.
Total length of bridges ...	2,516 ft.
Elevation of grade at summit	2,870 ft.
Estimated cost of construction	£435,000.

Line F.

Line F keeps to the southerly slopes of the Otira, beginning an ascending maximum grade of 1 in 20 a little over half a mile east of the Otira common point. It curves back at Rolleston Creek, and follows the slopes of the Rolleston Spur and the southerly slopes of the gorge, gaining the summit at an elevation of 3,000 ft., no summit tunnel being required. Thence it descends along the northerly slopes of the Bealey River to the Bealey common point on maximum grades of 1 in 24. The following are the physical characteristics of this line :—

Length of east approach ...	3 m. 33 ch.
Length of west approach ...	7 m. 13 ch.
Total length of line ...	10 m. 46 ch.
Maximum grade, east approach	1 in 24.
Maximum grade, west approach	1 in 20.
Minimum radius of curve ...	8 ch.
Total degrees of curvature ...	953.
Percentage of line curved ...	24.
Total length of tunnels ...	6,732 ft.
Total length of bridges ...	2,296 ft.
Elevation of grade at summit	3,000 ft.
Estimated cost of construction ...	£400,000.

In the case of each of the above projects the summit tunnel is straight from end to end, all curvature being outside the summit tunnel.

The above data of the several lines are tabulated for convenience in Table I., which, with lithographic plans showing on a small scale the grades of each line, are attached to this report.

ESTIMATES.

The estimates of cost as to work outside of tunnels practically depend on rates which were determined for substantially similar work on the 1-in-50 grade line, but the estimates of the short tunnels and bridges have been prepared independently, the basis for them in each case being the cost of doing similar work at the present time in New Zealand. The summit tunnel in each case has, of course, been treated separately.

It is proper to say that estimates of cost not based on instrumental surveys are liable to be more or less erroneous, but for purposes of comparing the merits of alternative lines the figures given can, in my judgment, be accepted as reliable, it being assumed, of course, that progress of the work would be regular from year to year until its completion. If the work should be pushed with vigour, the time required to build line A would be seven years; line B, four years and a half; line C or C1, three years; line D, D1, or D2, three years and a half to four years; and line E or line F, say, two years and a half.

TRAFFIC.

It has been established in previous reports that the maximum east-bound revenue traffic would be 150,000 tons, and the west-bound 50,000 tons. The maximum grade of the line from Greymouth to Otira, opposed to the eastward traffic, is 1 in 57½, while that of the line between Bealey Station and Springfield, opposed to the westward traffic, is 1 in 50. Trains ought, therefore, to be well loaded for eastward movement, while many cars and wagons going westward would be empty and the trains light. This will suit very well the arrangement of grades mentioned.

A locomotive of class B is the heaviest now in service on the New Zealand lines. Its total weight is 65 tons, and weight on the drivers 70,112 lb. On grades of 1 in 37 and 1 in 32, the maximum grades of lines A and B, an assistant locomotive in addition to a class B would be required to haul the full load, which one of class B could haul up the 1-in-57½ maximum grade to Otira, but such assistant locomotive could also be one of class B. On steeper grades a heavier assistant locomotive would be required, and for the object we have in view we may assume that a locomotive weighing 85 tons, and having a weight of 100,000 lb. on four pairs of drivers, would be used. In the table below are given the gross and revenue loads which each locomotive mentioned would haul up the several maximum grades of the lines under consideration, it being assumed that one-third the gross load would, on an average, consist of cars and wagons. As many of the wagons would be loaded with lumber or coal, this is probably a fair assumption.

Locomotives: Capacity of Haul.

Name of Line.	Maximum Grade.	Class B Locomotive. (Total draught, 65 tons; weight on driving-wheels, 70,112 lb.)		Assisting Locomotive. (Total weight, 85 tons; weight on drivers, 100,000 lb.)	
		Approximate Gross Load behind Tender.	Approximate Load, exclusive of Weight of Vehicles.	Approximate Gross Load behind Tender.	Approximate Load, exclusive of Weight of Vehicles.
		Tons.	Tons.	Tons.	Tons.
...	1 in 50	238*	159	...	..
...	1 in 57½	278	186	...	...
A	1 in 37	187	112	...	...
B	1 in 32	140	94	...	...
C and C1 ...	1 in 25	98	66	150	100
D, D1, D2 ...	1 in 28	118	79	177	118
E	1 in 22	80	53	122	81
F	1 in 20	67	45	104	70

* At the Dunedin test, 24th September, 1899, on 1-in-50 grade, the gross load was 239 tons.

Up the 1-in-25 grade the class B locomotive and the assistant locomotive suggested could haul 248 tons of gross load, which is 30 tons short of what the former could bring up to Otira. The fact is, however, that a full train-load would not often present itself, cars quite generally not being laden to their full capacity. When a full load did appear one or more cars would be dropped at Otira, to be taken up with the first light train. But this point is not important, because, if necessary, an assistant locomotive, having 4,000 lb. or 5,000 lb. more on the drivers, could be used, her total weight perhaps being 90 tons.

On the grade of 1 in 28 the two locomotives could haul 295 tons, rather more than the class B locomotive would bring up to Otira.

On the 1-in-22 and 1-in-20 grades it would probably be best to detach the class B locomotive and let her take the return train to Greymouth, while two special locomotives of heavy type, each having, say, 105,000 lb. on the drivers, would haul the train through to Bealey Station; or it might be thought best to retain the road-locomotive (class B), and use two lighter assistant locomotives. However, it is needless, in view of all that is being done in New Zealand and all other parts of the world in the matter of assistant locomotives, both on steep and easy grades, to pursue this branch of the subject further. The traction-locomotive, used as an assistant engine, has become one of the most important elements of modern transportation, and has made it possible for the railway to penetrate mountain districts which otherwise would have been partially inaccessible, and to cross difficult ranges, carrying civilisation to desert regions and building up a vast commerce.

It has been seen above that the gross load brought to Otira by the road-locomotive would be 278 tons, of which 186 tons would be revenue load. Attention has also been directed to the fact that the wagons of trains are generally not loaded to their full capacity. Much has been and is being done in America and elsewhere to compel the full loading of cars, and with a large amount of success; but, with the exception of coal, ores, and like heavy commodities, it is of note that,

while the trains may be long, numerous cars are only partially loaded. This, of course, is unavoidable. I am informed that in New Zealand like conditions exist, and it seems certain that, while a great part of the eastward tonnage from Otira will be coal and lumber, it is still doubtful if the average train will have more than 80 per cent. of a full revenue load of 186 tons. (See Table II.). In other words, 149 tons would be the average revenue train-load. If we take this as 150 tons, it would require 1,000 trains per annum, or an average of 3·2 trains per day, for 312 working-days of the year, to handle the 150,000 tons eastward traffic which it has been thought may be attained. It will be fair to assume that an equal number of trains would be operated for the westward traffic, and to return the empty wagons.

When the line is first opened it may have to do a business which will require 500 trains per annum each way. This may grow until 700 trains are necessary, and from time to time an increase may be made until the 1,000 trains each way per annum are running.

For purposes of comparison these numbers of trains per annum have been used as a basis for estimates of working-costs in Table II. attached, which gives an economic comparison of alternative lines.

Inspection of Table II. referred to does not disclose marked differences between several of the lines as to general results. This is natural enough, since a number of them are mere variations of practically the same line. But we find that lines B, C, E, and F are in nearly the same position as to final outcome, and represent lower annual charges than the others, so we may devote our further attention to them and to line A, the six-mile-tunnel project.

Lines E and F.

Attention is first asked to lines E and F, the first of which would have a summit tunnel a little over a mile long, its west end on the slope overlooking Pegleg Flat, while the latter would go over the pass. Either of these lines can be built for less money than any one of the others, but the difference in first cost between either of them and lines B and C is not so great as one would hope to find where grades of 1 in 22 and 1 in 20 are used. This illustrates the point previously alluded to—namely, that the Abt line presents no especial advantage in cost over a traction-line. In planning the Abt project numerous short pieces of level were introduced, probably to show that frequent crossing-places could be provided, and that thus a great number of trains could be daily run over it. The consequence is that lines E and F would occupy ground which, for a considerable distance, is practically the same as that selected for the Abt line, although further on they are generally at some distance therefrom and higher up on the slopes. While a grade of 1 in 20 was used for line F, it seems quite possible that grades of 1 in 21 or 1 in 22 would be found feasible if it was deemed advisable to build upon this line.

The cost of operating either of these lines would be quite heavy, and, while the total annual charges for them compare favourably with those of lines B and C, it does not appear that any aggregate economy can be made by building either of them. The differences in their favour as to first cost are not large enough to overbalance the differences against them arising from their working-charges. While either of them would enable the tourist to get good views of the gorge, Punchbowl Creek, and other points of interest to the lover of beautiful scenery, it does not seem probable that in the long-run either of these lines would be very satisfactory. There is no advantage in either unless a material saving can be made, and, as indicated, it is not apparent that this is possible. If it was necessary to complete the railway at the earliest practicable moment, then one of these lines would offer the best opportunity to do so. Under all conditions, however, it seems best to regard both these lines as eliminated from the discussion.

Lines B and C.

We now come to lines B and C, which offer the best solutions. The difference between them is not so marked that it might not be overbalanced by a heavy increase in the estimated cost of construction of line B, after careful instrumental survey thereof had demonstrated that this was necessary. Of this, however, there is scarcely any probability; on the contrary, such survey would probably result in a material reduction of the length of the summit tunnel.

The summit tunnel as drawn upon the map, as already described, has its west end on the face of the bluff over the coach-road opposite the foot of Hodge's Creek ravine. It crosses the Otira at Cape Horn, probably 60 ft. below the bed of the stream, and again just south of the roadman's hut in the narrow gorge, about 172 ft. below its bed. The last-named depth is correct, the exact height of the bed of the stream being known; but the first depth is not known to be exact, although it is closely approximate to the truth. The rock in that vicinity and along the line of the tunnel is hard, with no open seams, and it is not probable that the tunnel would encounter shingle beneath the bed of the stream at Cape Horn. There is scarcely any doubt that it would be in solid rock. As to the crossing near the roadman's hut there is no doubt whatever. However, seeing that such doubt exists about the bed of the Otira at Cape Horn, and as the data for such a line as line B, especially from Hodge's Creek to Rolleston Creek, are insufficient in several particulars, I recommend that a careful survey be made of the line from the east end of the proposed tunnel to Otira, and that any doubt about the character of the material in the bed of the stream be settled by examination.

Line B1.

In making the survey of line B the cross-sections should cover enough ground to include a summit-tunnel line which would begin at or near the east end of C. Napier Bell's proposed three-mile tunnel, and terminate at a reasonable height above the river-bed at Cape Horn, the west end of such tunnel being just above the foot of Park's Creek ravine. With such a line the character of the material below the bed of the stream at Cape Horn would have no importance. From the west end of the tunnel thus described the line would descend on a 1-in-30 grade, gradually

approaching line B proper, until it overtook it, probably opposite Dyer's. This would be merely a modification of line B, which I believe to be fully practicable; and although it might cross the Otira twice west of the summit tunnel—once at Cape Horn and then back to the south side—it would materially shorten the summit tunnel. The slight increase of length required in getting down around the Rolleston, and gaining the flat below the point opposite Dyer's, would not be of much moment. In any further discussion of the above modified line B in this report it will be referred to as line B1.

The physical characteristics of line B1 do not materially differ from those of line B. It would be 22 ft. higher at the summit, have a few more degrees of curvature, and be a few chains longer, making its total length ten miles. Its maximum grade would be 1 in 30 on the west approach, instead of 1 in 32; while the summit tunnel would be 18,216 ft. long, with a grade of 1 in 32, 2,112 ft. less than that of line B. Its cost of construction would be slightly, though not materially, less than that of line B.

Either of the B lines avoids most of the difficulties west of the summit tunnel, and reaches an elevation sufficiently low at the flat opposite Dyer's to be in embankment, or mostly so, instead of cutting. This is important in view of the opinion that has been expressed that the slope of the mountain above the flat mentioned would be an undesirable place upon which to build.

The slopes along the south side of the Otira, from the west end of the tunnel on either of the proposed B lines, are safe and comparatively smooth; and the same remark applies to the slopes of the Rolleston Spur, through which there would be a short tunnel. The bridge across the Rolleston would be from 15 ft. to 25 ft. high.

In making the survey the situation should be studied with care, so as to get the best out of it; and in this connection I take the liberty of suggesting that the map of the survey—at least, of the part from the summit tunnel to Otira—should be a contour map, on a scale of 100 ft. to an inch. On such a map the effect of slight changes of gradient can be tried, and the best possible location determined. In doing this I can see no reasonable objection to such slight increase of the rate of grade as might lessen the cost of construction, especially between the flat at the point opposite Dyer's and the proposed Rolleston Creek bridge. On the grade of 1 in 30 a slightly heavier locomotive than a class B would be required. Any line at Arthur's Pass will require at least one assistant locomotive. This being the case, there can be no reasonable objection to getting the most out of the matter by using such assistant engine as will make it feasible to adjust the grades to the local situation by such slight increase of the 1-in-30 grade as might effect any material saving in first cost.

In connection with this matter of grades it is proper to direct attention for a moment to what is done in the mountains in other parts of the world. In America, on the Atchison, Topeka, and Santa Fe Railway, the ascent to Raton Tunnel, at the summit of the Raton Mountains, has a maximum grade of 1 in $28\frac{6}{10}$, or 185 ft. per mile. Between Salt Lake City and Denver the ascent to the tunnel at Soldier Summit of the Wahsatch Mountains, on the Denver and Rio Grande Railway, has a maximum grade of 1 in 25, which is practically continuous for seven miles. On the Colorado Midland Railway, another important line, which crosses the Continental Divide at the Hagerman two-mile tunnel, the maximum grade is about 1 in 24. Between San Francisco, California, and Portland, Oregon, the ascent to Siskiyon Tunnel, at the summit of the range, of which Mount Shasta is a part, has many miles of 1-in-30 grade, the curves having a minimum radius of $6\frac{1}{2}$ chains. These are a few of many instances. They are important because of the vast traffic which annually passes over them.

In Mexico there are other numerous instances of the use of such grades, the most notable, perhaps, being that of the Vera Cruz and Mexico City Railway, the English line, upon which the maximum grade is 1 in 25.

In South America there are few, if any, lines of any considerable length where there are not, more or less, maximum grades of from 1 in $33\frac{1}{3}$ to 1 in 25.

In Europe the ascent to Mount Cenis Tunnel has maximum grades of 1 in $33\frac{1}{3}$, while that of St. Gothard is 1 in $38\frac{1}{2}$.

In the effort, therefore, to conform with nature's topographical features rather than to attempt to cut them down to some Procrustean rule, New Zealand will be doing what is done in all other parts of the world.

My view of the whole subject is, as will be gathered from the above, that in line B or line B1, with such modifications of either as actual survey may demonstrate as desirable, we have the best attainable line at Arthur's Pass. While this is so, I am not prepared to say that construction of either of them should begin until such survey has been made, as suggested, and the various details have been worked out.

Next to the B line, line C offers the best solution. This line also can be modified to some advantage by making the grade in the summit tunnel a little steeper from the summit west, and reducing slightly the grade of the west approach. It would be a good plan, however, to have the grade in the tunnel a little easier than that of the west approach.

The summit tunnel of this line is but 2 miles 47 chains (13,662 ft.) long, 4,554 ft. less than that of line B. On both approaches, however, it is more difficult and costly to construct than a B line would be. Between Otira and Rolleston Creek it crosses the slope opposite Dyer's, previously mentioned. I do not share in the views respecting that slope, and should have no hesitation in building along it if there were anything to be gained thereby, and would prefer line C, with its short summit tunnel, to a six-mile-tunnel project. The maximum grade of 1 in 25 (it would probably be a little less) could be worked with entire success, as such grades are worked elsewhere, and the whole project, if completed, would be satisfactory.

In my judgment, artificial ventilation of the summit tunnel of line C would not be required. This tunnel would have an adit near Kea Creek, 2,000 ft. from its west entrance, which would materially aid in the matter of ventilation.

Line A, the Six-mile-tunnel Project.

Of this not much need be said. In view of the foregoing, I regard such a line as unnecessary. It could probably be worked at a somewhat less annual expense than line B, but I doubt even this. The care of a six-mile tunnel would prove more expensive than one of between three and four miles. There are no available data respecting the cost of maintenance of track in tunnels, but the rapid waste of rails in them, and the difficulty of maintaining a good track where men have to work in the glare and flare of lamps, or electric lights, does not suggest that such a long tunnel could be maintained at the same cost per mile that would apply to ordinary outside track. However, admitting that line A could be worked for a percentage less than either lines B or C, the total annual charges, including interest, count against it in a marked degree.

The elevation of grade at the summit of line B is 2,530 ft., while that of line A is 2,392 ft., a difference of 138 ft. in favour of line A; also line B is a mile and a half longer. It amounts to this, therefore: that, to save going over a hill 138 ft. high and a mile and a half of distance, a six-mile-tunnel project is proposed to be built in preference to a 3·6-mile-tunnel project, which can be built with much less money.

With line C the project would be that, in order to avoid a hill 362 ft. high, and making a saving of distance of two miles, it is thought worth while to build a six-mile summit-tunnel project in preference to a $2\frac{2}{5}$-mile summit-tunnel project, which can also be built for much less money. A summit tunnel of such great length as six miles ought to accomplish more.

If it was required to connect a great commercial port on either coast with a vast region beyond the mountains the situation would be different; but even in such case one of the B lines would present a solution which, in my opinion, would be more practicable and more reasonable than line A.

Considering that the summit tunnel of line C would be so much shorter than that of either line A or line B, thus making a great saving in the time required to build, it seems to me desirable that an instrumental survey should also be made of it as well as of the B line, and that its variation, C1, should be included therein.

One line would have to be surveyed in any event, and the extra cost of surveying the other would not amount to much. It is always desirable to get all the information that may have a bearing on such a subject, and have it in view when final determination is being made.

In the last analysis the question is going to arise, what is most reasonable and practicable in view of all the conditions, and what would be best for the country. While I am, in my own mind, quite satisfied that the best solution is in the B line, it would be more satisfactory if my conclusions were confirmed by actual instrumental survey.

As part of the surveys of lines B and B1, it would be a good plan to have, say, two borings made along the line of proposed summit tunnel—one at least on Pegleg Flat—to ascertain the depth to solid rock, and another at some other point which may be selected by the engineer.

It is proper to explain that my study of the B1 line has been going on during the preparation of this report, and that it has not therefore been included in the tables. It is, however, so much like line B that this is not material, especially as the points in which it differs from line B are sufficiently covered in the text.

In view of the possibilities and improvements in the use of liquid fuel, and because I have not with me the required data, the question of electric traction in summit tunnels has not been considered in this report. The working-cost of such a plant, however, where the number of daily trains was small would be comparatively excessive. It is only where heavy business is being done that it can be an economic success.

I concur in the report of the Government Geologist respecting the geology of Arthur's Pass, and also believe that the rock will be found good driving-ground, and comparatively free from water, for any one of the suggested summit tunnels. I much doubt if either of them would require lining, except in localities here and there.

The curvature of the several lines above described would not be excessive in any instance, either as to minimum radius required or percentage of line curved. On the contrary, for a mountain line the amount of curvature is comparatively small in each case.

I am under many obligations to the Engineer-in-Chief and the Superintending Engineer for the aid I have received, both from them and their assistants, and for their uniform courtesy.

I have, &c.,

The Hon. the Minister for Public Works. V. G. Bogue.

TABLE I.—PHYSICAL CHARACTERISTICS OF ALTERNATIVE LINES.

Name of Line.	Length of East Approach.	Maximum Grade, East Approach.	Length of West Approach.	Maximum Grade, West Approach.	Total Length of Line.	Percentage curved.	Total Curvature.	Rise and Fall.	Elevation of Grade at Summit.	Length of Summit Tunnel.	Grade in Summit Tunnel.
	M. ch.		M. ch.		M. ch.		Degrees.	Ft.	Ft.	Ft.	Ft.
A	0 37	1 in 40	8 6	1 in 37	8 43	20	372	1,199	2,392	31,837	1 in 37
B	1 68	1 in 50	7 76	1 in 32	9 64	20	754	1,431	2,508	20,328	1 in 32
C	2 57	1 in 30	7 68	1 in 25	10 45	28	950	1,932	2,754	13,662	1 in 28
C1	2 57	1 in 30	8 11	1 in 25	10 69	34	1,223	1,932	2,754	13,662	1 in 28
D	2 29	1 in 40	7 75	1 in 28	10 24	34	1,216	1,663	2,624	15,378	1 in 33
D1	2 29	1 in 40	8 19	1 in 28	10 48	38	1,442	1,663	2,624	15,378	1 in 33
D2	2 29	1 in 40	8 5	1 in 28	10 34	35	1,264	1,663	2,624	15,378	1 in 33
E	2 78	1 in 26	7 50	1 in 22	10 48	24	953	2,155	2,870	5,788	1 in 55
F	3 33	1 in 24	7 13	1 in 20	10 46	24	953	2,415	3,000	None	...

TABLE II.—ECONOMIC COMPARISON OF ALTERNATIVE LINES.

Name of Line.	Total Length of Line.	Maximum Grade.	Length of Summit Tunnel.	Train-miles, Otira to Bealey.			Cost of Working, Otira to Bealey.			Cost of Construction.	Interest on Construction-cost at 3½ per Cent.	Total Annual Charges.		
				500 Trains each Way per Annum.	700 Trains each Way per Annum.	1,000 Trains each Way per Annum.	500 Trains each Way per Annum.	700 Trains each Way per Annum.	1,000 Trains each Way per Annum.			500 Trains each Way per Annum.	700 Trains each Way per Annum.	1,000 Trains each Way per Annum.
	M. ch.		Ft.				£	£	£	£	£	£	£	£
A	8 43	1 in 37	31,837	8,540	11,956	17,080	4,560	5,450	6,785	566,000	19,810	24,370	25,260	26,595
B	9 64	1 in 32	20,328	9,800	13,720	19,600	5,008	6,028	7,550	480,000	16,800	21,808	22,828	24,350
C	10 45	1 in 25	13,662	10,560	14,784	21,120	5,260	6,475	8,298	480,000	16,800	22,060	23,275	25,098
C1	10 69	1 in 25	13,662	10,850	15,204	21,720	5,338	6,576	8,435	493,000	17,255	22,593	23,831	25,690
D	10 48	1 in 28	15,378	10,300	14,420	20,600	5,792	6,930	8,633	493,000	17,220	23,012	24,150	25,853
D1	10 48	1 in 28	15,378	10,600	14,840	21,200	5,864	7,020	8,753	498,000	17,430	23,294	24,450	26,183
D2	10 34	1 in 28	15,378	10,420	14,588	20,840	5,811	6,953	8,664	473,000	16,555	22,366	23,508	25,219
E	10 48	1 in 22	5,788	10,600	14,840	21,200	6,805	8,098	10,035	435,000	15,225	22,030	23,323	25,260
F	10 46	1 in 20	None	10,570	14,798	21,140	7,092	8,473	10,544	400,000	14,000	21,092	22,473	24,544

Working-cost does not include artificial ventilation of summit tunnels for lines C, C2, E, and F, it not being required.

SUPPLEMENTARY REPORT.

SIR,— New York, 16th May, 1902.

In my report to you of the 17th February of this year there was one matter to which I thought it desirable to give more attention, but which it was not possible to go over in detail without delaying my return to the United States until another steamer. I refer to the working-cost, my estimates of which were made in the rough; and, although the results were substantially correct, it has seemed to me best to make a detailed analysis, based upon the most recent data obtainable, and submit the same in full to you, in order that this branch of the subject may be thoroughly understood. With this end in view I sought, and have obtained, from the Southern Pacific Railway Company and from the Denver and Rio Grande Railway Company recent statistics relating to the working of their heavy grades. These data are attached hereto, and should be considered as part of this supplementary report.

I have no change to make in the recommendations of my report of the 17th February mentioned, further study having fully confirmed me in my position. The analysis of the working-cost is given below.

FUEL AND VENTILATION.

The use of petroleum as fuel for locomotives is growing rapidly in the south-western States of this country. It results in an economy of about 50 per cent. in regions not too far from the oilfields. While improvements will continue to be made, tending to render its use more innocuous, I now regard it as doubtful if it will ever prove to be a better fuel than coal for locomotives operating in a long tunnel.

The Great Northern Railway Company uses coal which contains no sulphur in the locomotives of its Cascade Tunnel, which has a length of a little over three miles, with satisfactory results.

I have little doubt that the summit tunnel of either line A, line B, or line B1, referred to in my report, would require ventilating-apparatus if operated with the ordinary locomotive, provided there was a considerable movement of trains. If the train-movement were confined to, say, two trains per day each way, ventilating-apparatus might not be necessary for the tunnel of either of the B lines, but I have included the annual expense of such a plant in the working-cost of line B, as well as line A, but that of line C does not include such expense.

MAINTENANCE OF TRACK IN TUNNELS.

I do not know of any railway in this country that keeps a special account of track-maintenance of tunnels, but all testimony goes to prove that such cost exceeds that of outside track, both because of rapid deterioration and because men in tunnels receive higher pay.

The Hoosac Tunnel, length about four miles and a quarter, is the longest tunnel in this country. It is on one of the lines of the Boston and Maine Railway, whose chief engineer, in a letter to me, states that the cost of track-maintenance in that tunnel is double that of outside track. I have assumed, however, in the estimate of working-cost, that the cost of maintenance of track in tunnels would be the same as that of outside track. The surveys I have recommended will disclose the aggregate length of tunnels for each line, and a more exact comparison of the maintenance of track between the several lines can then be made.

The statement referred to counts against long-tunnel projects, where traffic, in the nature of things, can never be very heavy. I am satisfied that in mountainous regions of this country line C would be thought somewhat the best, although it might be modified a little as a result of the surveys I have recommended.

Considering the conditions existing in New Zealand, and from a broad point of view, I am still most in favour of line B or line B1, with the reservation, however, that surveys should be made of both lines B and C, in order that the feasibility and data of each may be more correctly determined.

Analysis of Working-costs.

A comparison of the operating costs for the various lines considered will be greatly facilitated by separating the variable items from those that would be practically the same for any line, and then treating these variable items separately with respect to their ratios and amounts as influenced by the characteristics of the several lines.

Of the items which go to make up the total cost of the train mile, those affected by the physical characteristics of the line are motive power, maintenance of way, and carriages and wagons.

Motive Power.

For locomotives of given tractive power, assuming that the train-loads are, as nearly as practicable, made to develop the full economic power of the machine, the cost per engine mile for engines of the same power will not vary materially on any one of the lines considered. The cost per assistant-engine mile would be the same as the cost per road-engine mile if the traffic were sufficient to give the assistant engine all the work that it ought to do. An assistant engine ought to run eighty or one hundred miles per day, but between Otira and Bealey, with 500 trains each way per annum, it would run only about thirty-two miles; with 700 trains, forty-five miles; and with 1,000 trains, sixty-four miles per day. The mileage that it fails to make, less than eighty miles per day, will cost one-tenth of the engine-mile cost, *plus* nine-tenths of the cost of wages per engine mile. Then, if the assistant engine runs m miles per day, the cost per assistant-engine mile run will be the cost per road-engine mile multiplied by $1 + (\frac{80 - m}{m})\ p$, where p = cost standing, divided by the cost per engine mile.

Hauling-capacity, or Locomotive Rating.

The cost per road-engine mile and per assistant-engine mile being known, the motive-power costs for the various lines and given traffic depend upon the capacity of each engine, and how much additional power must be attached to the train hauled up to Otira by the road-engine to get it over the summit of the grade.

The formula adopted to determine the weight of the train any given engine will haul up the various grades has been carefully verified by actual experiments on various railways, and with the results of the work done by engines every day in the year on the heavy grades between Thistle Junction and Helper, on the Denver and Rio Grande Railway.

TABLE I.—GRADE RATINGS OF DENVER AND RIO GRANDE RAILWAY LOCOMOTIVES FROM ACTUAL PRACTICE AND WITH RATINGS BY FORMULA INTERLINED, AND RATINGS BY FORMULA FOR NEW ZEALAND TYPE B AND PROPOSED 85-TON ENGINE.

Grade	Per cent. .. .. / Feet per Mile .. / 1 in x —	Level / 00 / ..	0·5 / 26·4 / 1 in 200	0·8 / 42·3 / 1 in 125	1·0 / 52·8 / 1 in 100	1·5 / 79·2 / 1 in 66·7	1·74 / 91·9 / 1 in 57·5	2·0 / 105·6 / 1 in 50	2·4 / 126·8 / 1 in 41·7	2·7 / 142·6 / 1 in 37	3·0 / 158·4 / 1 in 33·3	3·125 / 165·0 / 1 in 32	3·5 / 184·8 / 1 in 28·6	3·57 / 188·50 / 1 in 28	4·0 / 211·2 / 1 in 25	4·55 / 240·20 / 1 in 22	5·0 / 264·0 / 1 in 20	—
Resistance		6·58	17·77	24·51	29·00	40·2	45·54	51·33	60·30	67·0	73·7	76·5	84·8	86·5	96·1	108·5	118·5	Remarks.
Type.	Total Tons. / Weight on Drivers. / Adhesion.																	
100	91 / 108,600 / 24,420	3,619	1,284	905	752	517	..	385	313	..	241	..	197	..	163	..	..	Formula.
		3,254	1,279	919	767	532	..	397	324	..	248	..	202	..	175	..	..	D. and R.G.
200	110 / 122,200 / 27,500	4,065	1,438	1,010	838	574	..	426	336	..	264	..	214	..	176	..	..	Formula.
		3,417	1,294	949	790	543	..	401	325	..	244	..	196	..	160	..	..	D. and R.G.
300	129 / 166,400 / 37,430	5,551	1,979	1,398	1,161	803	..	600	492	..	379	..	313	..	261	..	..	Formula.
		4,411	1,861	1,338	1,118	776	..	579	477	..	362	..	296	..	240	..	..	D. and R.G.
400	134 / 164,425 / 37,000	5,486	1,946	1,376	1,141	786	..	586	479	..	368	..	302	..	251	..	163	Formula.
		4,858	2,058	1,484	1,242	867	..	651	537	..	412	..	340	..	278	..	190	D. and R.G.
500	107 / 123,300 / 27,750	4,092	1,444	1,024	838	572	..	422	342	..	259	..	209	..	170	..	..	Formula.
		3,598	1,399	999	832	572	..	422	351	..	258	..	207	..	168	..	..	D. and R.G.
600	128 / 168,000 / 37,800	5,622	1,997	1,412	1,173	812	..	607	498	..	385	..	316	..	265	..	..	Formula.
		5,077	1,994	1,434	1,199	835	..	625	512	..	393	..	324	..	267	..	..	D. and R.G.
700	138 / 177,000 / 39,800	6,040	2,102	1,485	1,233	852	..	637	522	..	403	..	331	..	276	..	..	Formula.
		5,192	2,037	1,464	1,224	851	..	636	521	..	400	..	328	..	269	..	..	D. and R.G.
B	65 / 70,112 / 15,790	..	..	..	..	..	278	238	..	187	..	140	..	118	98	80	67	New Zealand.
85-ton	85 / 100,000 / 22,500	..	..	..	..	..	409	353	..	251	..	209	..	177	150	122	104	New Zealand.

The only material differences between the ratings by actual practice and the formula are in type 400, and in these the results by formula are on the safe side.

The above table shows the Denver and Rio Grande Railway locomotive grade ratings based on actual practice, with the corresponding results as computed by formula. It will be seen that the agreement between the formula and actual practice is, as a whole, remarkably close for all engines and for all grades except level. The Denver and Rio Grande rating for level track is no doubt put at a low figure to provide for curves and small irregularities in surface, while the formula assumes a perfectly straight and level track. In the same table is given the rating for the New Zealand engine, type B, and the 85-ton engine proposed for some of these lines, as given on page 6 of my report of February, 1902, calculated by formula.

Train-resistance on Straight and Level Track.

Mr. Chanute says Clark's formula gives results too large for freight-trains at moderate speeds, and too small for passenger-trains at high speeds. Experiments on the Erie Railway with dynamometer, engine and tender excluded, gave 5·25 lb. per short ton of train. Mr. Chanute used 6 lb. for safety.

Train-resistance on Grades.

Experiments by A. J. Cassatt and H. J. Lambert, vice-presidents of the Pennsylvania Railway, give results from which the grade-resistance is calculated at R = 0·38 F for tons of 2,000 lb., and for tons of 2,240 lb. R = 0·4255 F; while I have used R = 0.4240 F, an agreement within four-tenths of 1 per cent. R = train-resistance per ton due to grade alone, and F = rate of grade in feet per mile.

A speed of ten miles an hour going uphill will permit any properly designed engine to develop an adhesion of nine-fortieths of the weight on drivers, and this has been used in the calculations.

From these ratings it will be seen that an engine of type B will haul a train of 278 tons behind the tender up to Otira; while to haul the same train from Otira to Bealey assistant engines will be required, as given in Table II.

TABLE II.

Line A	One assistant engine of type B.
Line B	One assistant engine of type B.
Line C	One assistant engine of 85 tons.
Line E	One assistant engine of type B and one assistant engine of 85 tons.
Line F	Two assistant engines of 85 tons.

Another arrangement of the motive power for line E would be to cut out the type B engine at Otira, and let it return to Greymouth with the west-bound train. Two 90-ton engines could then take the load which it had brought to Otira eastward across the summit to Bealey.

If we assume that an 85-ton road-engine should at some future time be adopted for use on the line between Greymouth and Otira, it will haul a train of about 408 tons behind the tender up the grade to Otira. To haul this train of 408 tons over the summit to Bealey assistant engines will required, as follows: Line A, one assistant engine of type B; line B, one assistant engine of 85 tons; line C, one assistant engine of 85 tons and one assistant engine of type B.

Cost per Engine Mile.

The cost in detail per engine mile for type B, as given by the New Zealand Railways Statement for the year ended the 31st March, 1901, is shown in Table III., in comparison with the same costs for engines of the Denver and Rio Grande Railway working on grades up to 1 in 26, curves not compensated, and of the Southern Pacific system, Dunsmuir to Ashland, on grades up to 1 in 30, curves all compensated. It will be observed from the profiles and schedules attached that these locomotives of the Denver and Rio Grande Railway are doing their maximum work uphill all the time, additional engines being added as the rate of grade increases, and that they are all comparatively modern. Several of the locomotives on the Southern Pacific are old, and therefore not so economical in fuel as locomotives more recently designed and with relatively larger grate area.

The conditions of working the Soldier Summit grades on the Denver and Rio Grande closely approximate those at Arthur's Pass, and therefore the Denver and Rio Grande costs of fuel and repairs per unit of power are used, but the item of wages for the New Zealand type B, as given in the returns for 1901, is accepted as correct for this analysis.

The cost of fuel, repairs, and stores may be taken as proportional to the tractive power without any substantial error, the coal being reduced to a uniform price per ton of 13s. per long ton. The New Zealand railway returns for 1901 give the cost of coal at Greymouth at 11s. Estimating the cost of freight to Otira, fifty-one miles, and handling at 2s. per ton, makes the cost at Otira 13s., or $3.12. The fuel used by the Southern Pacific costs, as shown, a little more than in New Zealand, while that used by the Denver and Rio Grande costs about 7s. per long ton. The second division of Table III. shows the actual cost per 10,000 lb. tractive power.

The Southern Pacific fuel consists of 1,078 cords of wood = 718 tons of coal of 2,000 lb., and 2,671 tons of coal of 2,000 lb.; total coal equivalent, 3,389 tons of coal of 2,000 lb., which costs $13,997 = $4.12 per ton of 2,000 lb., or $4.62 per long ton.

The Denver and Rio Grande fuel is coal, costing $1.68 per ton of 2,240 lb.

Then, if the cost of fuel per 10,000 lb. tractive power, of division 2 of Table III., for the Denver and Rio Grande is multiplied by $\frac{3·12}{1·68}$ and for the Southern Pacific by $\frac{3·12}{4·62}$, the comparison is reduced to equal cost per ton of coal at 13s., shown in division 3 of the same table.

The fourth division of the table shows the largest values of these latter multiplied by the tractive power of the several engines required for the proposed lines. Wages and general expenses are assumed as constant, the New Zealand items being used. The fuel, consumption, and repairs for the Denver and Rio Grande, being for a piece of road which most nearly approximates to the conditions at Arthur's Pass, are also used.

For line A the two type B engines would not work up to their capacity with trains of only 408 gross tons. On this grade of 1 in 37 they could take up trains of a total weight of 504 tons. Therefore the fuel for these engines on line A is reduced in the ratio of 408 to 504.

TABLE III.—COST PER ENGINE MILE IN PENCE.

Railway.	Type.	Tractive Power.	Fuel.	Repairs.	Stores	Wages.	General.	Total Cost per Engine Mile.	—
New Zealand ...	B	15,790	7·30	2·20	0·25	4·18	1 60	19·65	Returns.
Denver and Rio Grande	400	37,000	9·40	8·50	0·40	...	...	...	
Southern Pacific	...	24,900	13·86	3·69	0·14	5·35	1·94	24·98	
New Zealand ...	B	10,000	4·62	1·39	0·16	...			Returns per 10m. adhesion.
Denver and Rio Grande	400	10,000	2·54	2·30	0·11	...			
Southern Pacific	...	10,000	5·57	1·48	0·06	...			
New Zealand ...	B	10,000	4·62	1·39	0·16	...			Ditto, with fuel equated to 13s. per long ton.
Denver and Rio Grande	400	10,000	4·72	2·30	0·11	...			
Southern Pacific	...	10,000	3·76	1·48	0·06	...			
New Zealand Line, A only	B	15,790	6·03	3·60	0·25	4·20	1·60	15·68	Cost for Arthur's Pass lines per engine mile.
New Zealand ...	B	15,790	7·45	3·60	0·25	4·20	1·60	17·10	
	85-ton	22,500	10·61	5·20	0·36	4·20	1·60	21·97	
	90-ton	23,600	11·13	5·45	0·38	4·20	1·60	22·76	

For a check on the fuel-cost of Table III. I have made some calculations based on the indicated horse-power. Not having complete data for New Zealand type B engine, I have used the Denver and Rio Grande, 400 type, the performances of which are shown in Table III.

Data, Denver and Rio Grande 400 type locomotive.

Drivers	51 in. diameter.
Cylinders	22 in. by 28 in.
Working boiler-pressure	180 lb.
Weight on drivers	164,425 lb.
Adhesion, nine-fortieths	37,000 lb.
Average speed in miles per hour uphill on Soldier Summit grades	9½.
Revolutions per minute	62·6.
Piston-speed, feet per minute	290·6.

The mean effective pressure at nine miles and a half per hour, from page 27 of Baldwin's "Pocket-book of Locomotive Data," is 87 per cent. of the boiler-pressure, which gives 156·6 lb. By the formula for horse-power, on page 28 of the same book, there results—

$$\text{I.H.P.} = \frac{156{\cdot}6 \text{ by } 2{\cdot}33 \text{ by } 380 \text{ by } 125{\cdot}2}{33000} = 1041.$$

At nine miles and a half per hour the distance travelled in one minute is 836 ft., which, multiplied by the tractive power of adhesion, 37,000 lb., gives 30,900,000 foot-pounds per minute, equivalent to 937 effective horse-power, which is just 90 per cent. of the indicated horse-power found above, and shows an efficiency of 90 per cent., which is very fair for this type of engine.

With coal at 4½ lb. per horse-power hour (see Wellington), this engine will burn 1,041 by 4½, equals 4,680 lb. per hour, and at nine miles and a half per hour the coal per mile will be 492 lb., equals 0·22 long tons, and the cost of coal per engine mile will be 7s. by 0·22, equals 1s. 6½d.

But, as the coal consumed running downhill with steam shut off is about 10 per cent. of this (see Wellington), or 1·8d. per mile, the average cost of fuel per average engine mile run would be about 10·15d., to which should be added an amount—say, 5 per cent.—for coal used in getting up steam and that left unburned in the fire-box at the end of the run. This gives a total average of 10·65d. per engine mile, while the actual results for all of these engines on the Soldier Summit grades of the Denver and Rio Grande show about 9·40d., and engine No. 401 shows 10·505d.

In the calculations the engines have been assumed to be doing their maximum duty all the time while going uphill, while this condition is not maintained for the entire length of the grades between Thistle Junction and Helper, on the Denver and Rio Grande Railroad. Between Thistle Junction and Tucker the maximum grade is 2 per cent., and between Helper and Kyune it is 2·4 per cent., and these maximum grades determine the weight of the trains behind the tender. When on the maximum grade full power and full coal-consumption are used, but on the stretches of grade less than the maximum less coal is consumed. Therefore the actual coal-consumption for these engines shows a little less, about 10 per cent., than the calculation from full horse-power, as it should. It is probable that engine No. 401, which checks with the calculations to within 1½ per cent., was used as a helper on the 3·8-per-cent. grade between Tucker and Soldier Summit, where the grade is practically uniform and maximum all the way, and most nearly fulfils the conditions assumed for the calculations. This agreement is remarkably close, and proves the accuracy of these calculations.

Table IV. is a comparison which shows: First, the ratio existing between the resistances of lines A, B, and C, a grade of 1 in 200 being taken as a grade of double power (see Wellington); second, the resistances by the formula; third, the fuel needed for the service per train mile, as taken from Tables I., II., and III., with that for the line C prorated to the full weight of train.

TABLE IV.

—	Lines.			Ratios.	
	A.	B.	C. = *a*.	*b*.	*c*.
Feet per mile *plus* 26·4 / 26·4	6·40	7·25	9·00 = 1	1·13	1·41
Resistance by formula	67·00	76·50	96·10 = 1	1·14	1·43
Fuel consumed	12·06	14·90	18·52 = 1	1·235	1·53

These comparisons justify the conclusions as to cost of motive power on these lines, and suggest that line B should, in practice, prove more favourable than shown by these computations.

Cost per Assistant-engine Mile.

The cost of wages, *plus* one-tenth of all the other items that make up the cost of the engine mile, is the cost per mile for the distance not run by the assistant engine (see Wellington), and which is given in Table V. in amount and per cent. of the road-engine mile.

TABLE V.—ASSISTANT-ENGINE COST STANDING WITH STEAM UP FOR DISTANCE NOT RUN, PER MILE.

Type of Engine.	Pence.	Per Cent.	Remarks.
B	5·35	34·1	For line A.
B	5·49	32·1	For other lines.
85-ton	5·98	27·2	
90-ton	6·06	26·6	

The assistant-engine average daily mileage on the several lines will be as shown in Table VI., that for line B being based on an assistant-engine mileage from Otira to the summit and return. For all lines except B the assistant-engine mileage is the same as the train mileage, while for B it is assumed that the assistant engine will be cut out at the summit, returning thence to Otira.

TABLE VI.—AVERAGE DAILY MILEAGE OF ASSISTANT ENGINES.

Annual Trains each way.	Line A.	Line B.	Line C.	Line C1.	Line E.	Line F.
500	27·4	25·6	33·8	34·8	34·0	33·9
700	38·3	35·9	47·4	48·7	47·5	47·4
1,000	54·7	51·3	67·7	69·5	68·0	67·8
340	18·6	17·5	23·0	23·6	23·1	23·0
477	26·1	24·5	32·3	33·2	32·4	32·3
681	37·3	35·0	46·1	47·4	46·3	46·2

Putting the values found in Tables V. and VI. in the formula for cost of assistant engine per train mile, $1 + (\frac{80-m}{m})\,p$, where m is the variable average daily mileage from Table VI., and p is the per cent. or ratio from Table V., the costs in pence of Table VII. result.

TABLE VII.—COST OF ASSISTANT ENGINE PER TRAIN MILE IN PENCE.

Type of Engine.	Trains per Annum.	Line A.	Line B.	Line C.	Line C1.	Line E.	Line F.
B	500	25·9	23·4	...	...	24·5	...
	700	21·5	19·5	...	...	20·8	...
	1,000	18·1	16·5	...	...	18·1	...
	340	35·2	...	30·7	30·2	...	...
	477	28·4	...	25·2	24·8	...	...
	681	23·4	...	21·1	20·9	...	...
85-ton	500	...	...	30·2	29·8	30·0	30·1
	700	...	...	26·1	25·8	26·0	26·1
	1,000	...	...	23·0	22·9	23·0	23·0
	340	...	35·3	36·8	36·2	...	...
	477	...	28·9	30·8	30·4	...	..
	681	...	24·2	26·3	26·1	...	...
90-ton	500	...	...	...	...	30·9	...
	700	...	...	...	...	26·9	...
	1,000	...	...	...	...	23·8	..

If we now take the cost per road-engine mile from the fourth division of Table III., and the costs per assistant-engine mile from Table VII., which correspond to the line and number of trains, using the engines required for each line as given in Table II., and add these together, the results will be as given in Table VIII.

TABLE VIII.—COST OF MOTIVE POWER PER TRAIN MILE IN PENCE.

Line.	Trains per Annum each Way.					
	500.	700.	1,000.	340.	477.	681.
A ...	41·58	37·18	33·78	57·17	50·37	45·37
B ...	40·50	36·60	33·60	57·27	50·87	46·17
C ...	47·30	43·20	40·10	89·47	77·97	69·37
C1 ...	46·90	42·90	40·00	88·37	77·17	68·97
E ...	71·60	63·90	58·20	...	...	...
E* ...	53·66	49·66	46·56	...	...	...
F ...	78·90	70·90	64·70	...	...	...

* Alternate arrangement of motive power, two 90-ton engines.

Multiplying the values of Table VIII. by the annual train mileage for each case, the annual cost of motive power is the result, and is given in Table IX.

TABLE IX.—TOTAL ANNUAL COST OF MOTIVE POWER IN POUNDS.

Line.	Trains per Annum in each Direction.					
	500.	700.	1,000.	340.	477.	681.
A ...	1,479	1,851	2,404	1,374	1,698	2,183
B ...	1,654	2,091	2,744	1,589	1,982	2,568
C ...	2,081	2,662	3,529	2,677	3,272	4,160
C1 ...	2,120	2,717	3,617	2,717	3,328	4,250
E ...	3,162	3,951	5,141	...	...	...
E* ...	2,369	3,071	4,113	...	...	...
F ...	3,477	4,372	5,702	...	...	...

* Alternate arrangement of motive power, two 90-ton engines.

Maintenance of Way.

All available records show that the cost of maintenance of way is nearly proportional to the train miles.

The New Zealand returns show that about 33·4 per cent. of the cost of maintenance of way is made up of renewals, which it will be fair to distribute as follows:—

Rails	13·4 per cent.
Ties	20·0 "
Surfacing and ballast	35·3 "

These are the only items of maintenance of way affected by grades and curves.

Wellington gives the effect of cost of maintenance due to 600 degrees of curvature and 26·4 ft. rise and fall on these items, as follows:—

TABLE X.—EFFECT OF GRADES AND CURVATURE ON COST OF MAINTENANCE OF WAY.

Items.	Per Cent. of Total Cost of Maintenance of Way.	Due to 26·4 ft. Rise and Fall.		Due to 600 Degrees of Curvature.	
		Per Cent. of Increase.	Per Cent. of Total.	Per Cent. of Increase.	Per Cent. of Total.
Rails	13·4	10	1·34	300	40·20
Ties, surfacing, and ballast	55·3	5	2·77	50	27·65
All items affected	...	...	4·11	...	67·85

Multiplying these values respectively by the rise and fall per mile in feet, divided by 26·4, and the curvature per mile divided by 600 for each line, the increased per cent. of cost of mainten-

ance of way due to grades and curves is the result. To this must be added about 50 per cent. for the effect of the pusher on cost of maintenance of way (see Wellington, page 620), and we have:—

TABLE XI.—COST OF MAINTENANCE OF WAY PER TRAIN MILE.

Line.	Rise and Fall and Curvature per Mile.		Percentages of Increased Cost per Train Mile for Maintenance of Way.			1 + Total per Cent. of Increase.	Maintenance of Way Cost per Train Mile in Pence.
	Feet.	Degrees.	Rise and Fall.	Curvature.	Assistant Engine.		
New Zealand railways ...	23	40·0	3·58	4·53	...	1·0811	22·15
A	70	43·6	10·90	4·94	50	1·6584	33·95
B	73	77·0	11·37	8·72	50	1·7009	34·82
C	91	90·0	14·18	10·20	50	1·7438	35·70
C1	89	113·0	13·86	12·80	50	1·7666	36·17
E	100	90·0	15·58	10·20	50	1·7578	36·00
F	114	90·0	17·76	10·20	50	1·7796	36·40

The last column of figures is obtained by prorating them to the preceding column from the average of all New Zealand roads, 22·15d.

Multiplying the cost in pence per train mile from the last column of Table XI. by the train mileage for each case gives the total costs per annum of maintenance of way shown in Table XII.

TABLE XII.—ANNUAL COST OF MAINTENANCE OF WAY IN POUNDS.

Line.	500 Trains per Annum.		700 Trains per Annum.		1,000 Trains per Annum.	
	Train Miles.	Cost.	Train Miles.	Cost.	Train Miles.	Cost.
A	8,540	1,208	11,950	1,692	17,080	2,417
B	9,800	1,423	13,710	1,990	19,600	2,841
C	10,560	1,572	14,790	2,200	21,120	3,142
C1	10,850	1,635	15,200	2,290	21,700	3,270
E	10,600	1,590	14,840	2,226	21,200	3,180
F	10,575	1,604	14,800	2,245	21,150	3,208

Carriages and Wagons.

The cost per train mile for carriages and wagons, New Zealand Railways Statement for 1901, was 4·75d.

The cost in repairs for carriages and wagons, due to 600 degrees of curvature, is 120 per cent. of its cost per train mile, and for 26·4 ft. rise and fall it is 4 per cent. of the same (see Wellington). If the average rise and fall of the New Zealand roads is 23 ft. per mile and the curvature 40 degrees per mile, the cost on lines A, B, C, C1, E, and F will be the figures in the last column of Table XIII., which are proportional to those in the preceding column.

TABLE XIII.—COST OF REPAIRS OF CARRIAGES AND WAGONS PER TRAIN MILE.

Line.	Rise and Fall, Feet per Mile.	Curvature, Degrees per Mile.	Percentage of Cost.		1 + Total per Cent. Increase.	Cost per Train Mile in Pence.
			Rise and Fall.	Curvature.		
New Zealand lines ...	23	40·0	3·49	8·00	1·1149	4·75
A	70	43·6	10·61	8·72	1·1933	5·08
B	73	77·0	11·07	15·40	1·2647	5·39
C	91	90·0	13·80	18·00	1·3180	5·61
C1	89	113·0	13·50	22·60	1·3610	5·80
E	100	90·0	15·16	18·00	1·3316	5·67
F	114	90·0	17·29	18·00	1·3529	5·77

Multiplying the cost in pence per train mile from the last column of Table XIII. by the train mileage for each case gives the total cost of carriages and wagons per annum shown in Table XIV.

TABLE XIV.—ANNUAL COST OF REPAIRS OF CARRIAGES AND WAGONS IN POUNDS.

Line.	500 Trains per Annum.		700 Trains per Annum.		1,000 Trains per Annum.	
	Train Miles.	Cost.	Train Miles.	Cost.	Train Miles.	Cost.
A	8,540	181	11,950	253	17,080	362
B	9,800	220	13,710	308	19,600	440
C	10,560	247	14,790	346	21,120	494
C1	10,850	262	15,200	367	21,700	525
E	10,600	250	14,840	350	21,200	500
F	10,575	254	14,800	356	21,150	508

For 340, 477, and 681 trains per annum, moving the same traffic as 500, 700, and 1,000 trains per annum, the same annual costs for maintenance of way and carriages and wagons can be used, because the number of car miles will be the same; and because the total gross ton mileage will be nearly the same, the cost of maintenance of way and carriages and wagons should also be the same.

Combining the results of Tables IX., XII., and XIV., the total working-cost of these lines is obtained. This is given in Table XV., which includes £800 per annum for ventilating the long tunnels of lines A and B.

TABLE XV.—COST OF WORKING, OTIRA TO BEALEY, IN POUNDS.

Line.	Number of Trains per Annum.					
	500.	700.	1,000.	340.	477.	681.
A	3,668	4,596	5,983	3,563	4,443	5,762
B	4,090	5,189	6,825	4,032	5,080	6,649
C	3,900	5,208	7,165	4,496	5,818	7,796
C1	4,017	5,374	7,412	4,614	5,985	8,045
E	5,002	6,527	8,821	...	...	...
E*	4,209	5,647	7,793	...	...	...
F	5,335	6,973	9,418	...	...	...

* Alternate arrangement of motive power, two 90-ton engines.

Adding interest on cost of construction at 3½ per cent. to the total working-costs of Table XV., the total annual charges, which form the true basis for the economic comparison of these lines, is the final result given in Table XVI.

TABLE XVI.—TOTAL ANNUAL CHARGES IN POUNDS.

Line.	Interest on Cost of Construction.	Trains of 278 Tons: Number each Way per Annum.			Trains of 408 Tons: Number each Way per Annum.		
		500.	700.	1,000.	340.	477.	681.
A	19,810	23,478	24,406	25,793	23,373	24,253	25,572
B	16,800	20,890	21,989	23,625	20,832	21,880	23,449
C	16,800	20,700	22,008	23,965	21,296	22,618	24,596
C1	17,255	21,272	22,629	24,667	21,869	23,240	25,300
E	15,225	20,227	21,752	24,046	...	...	...
E*	15,225	19,434	20,872	23,018	...	...	...
F	14,000	19,335	20,973	23,418	...	...	...

* Alternate arrangement of motive power, two 90-ton engines.

It will be seen, by comparing the above table with that contained in my report of February last, that the differences between the one and the other are not very material, and that in any event they are not such as would warrant any change of the recommendations made in the report mentioned.

I have, &c.,

V. G. BOGUE

The Hon. W. Hall-Jones, Minister for Public Works, Wellington, N.Z.

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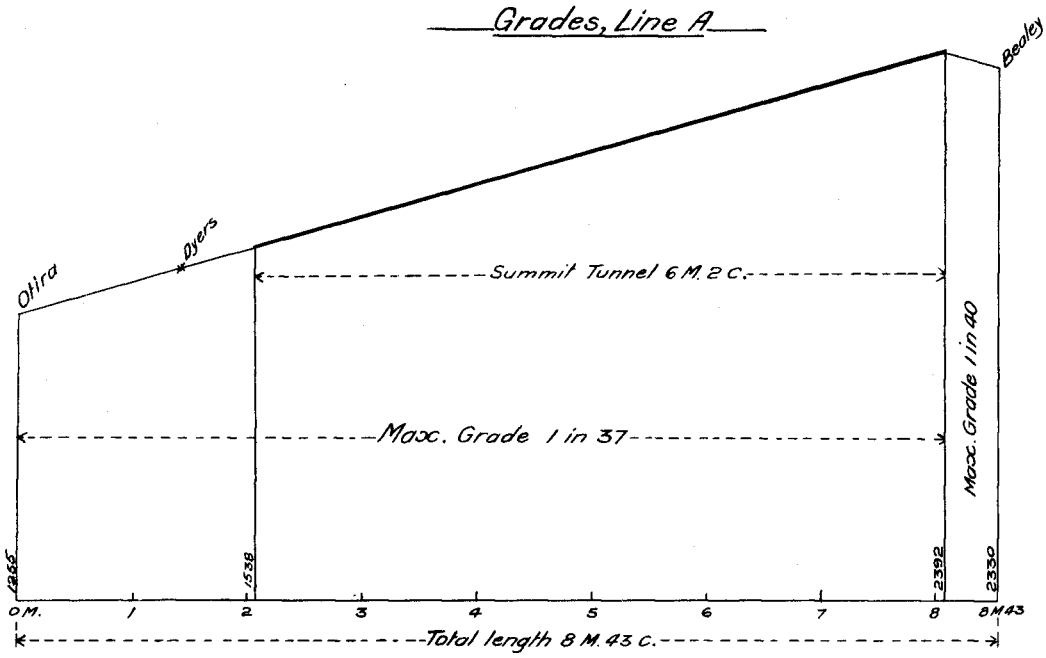
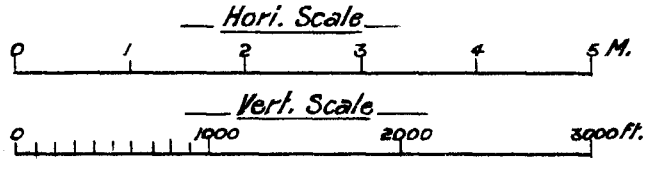
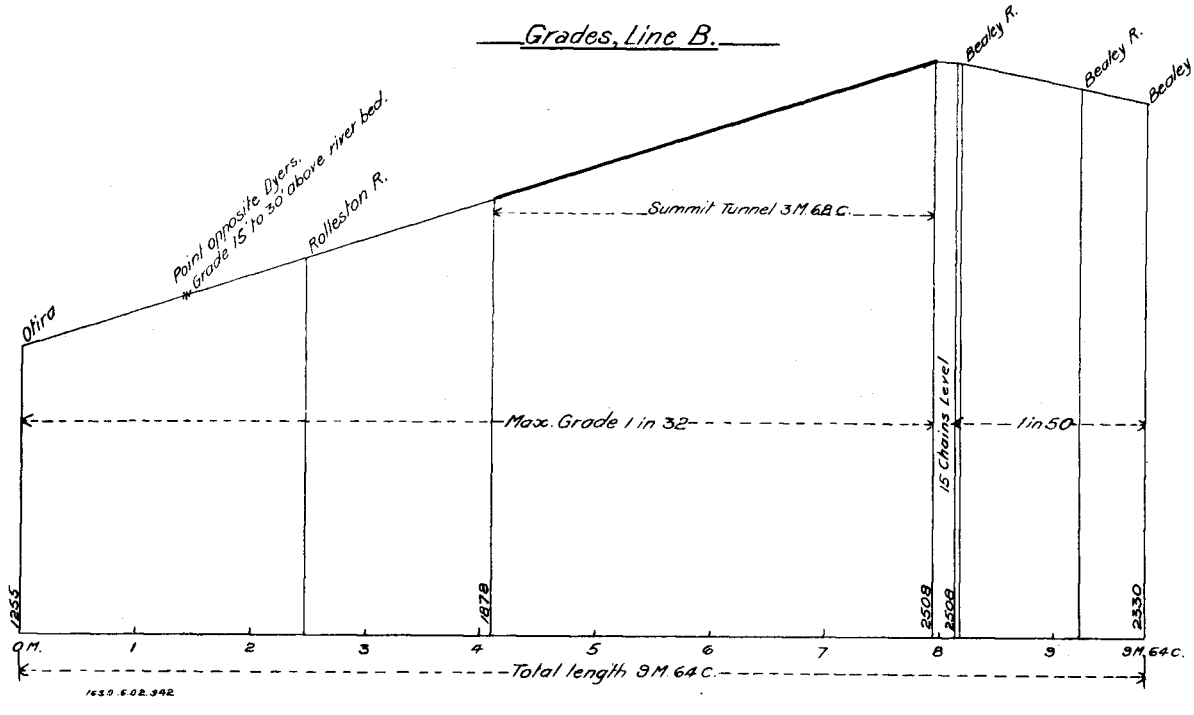


N. Z. M. R.

Longitudinal Sections of Lines

Referred to in Mr. Bogue's Report





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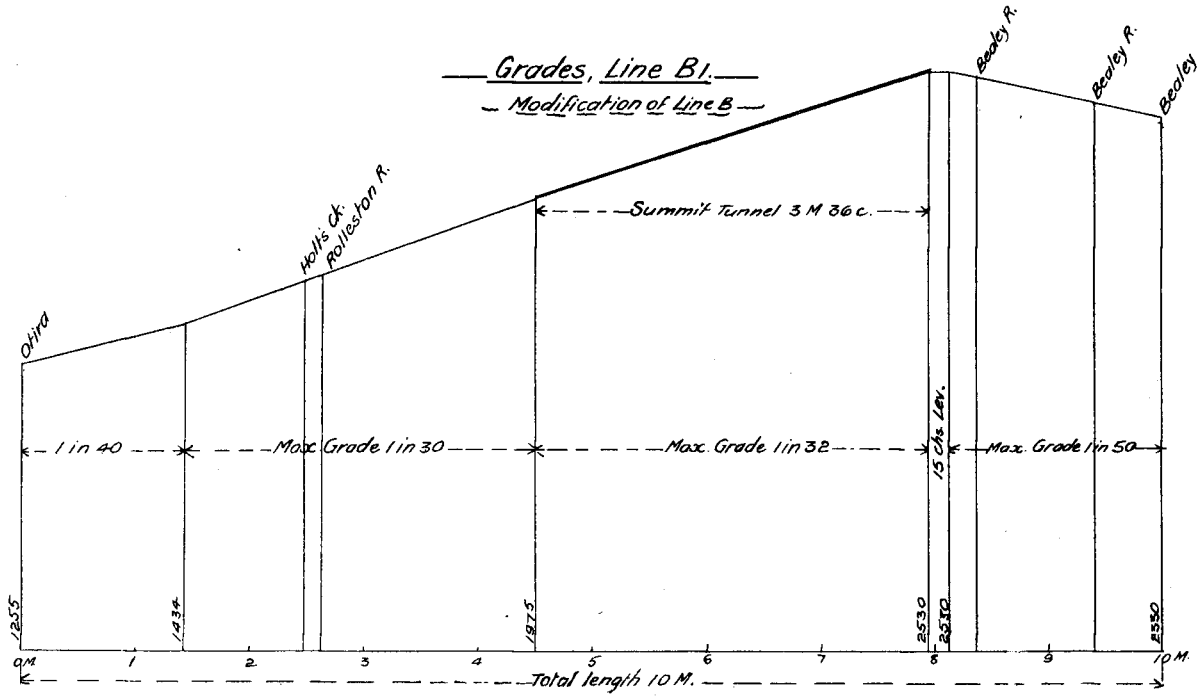

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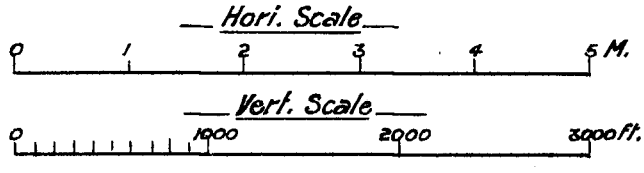

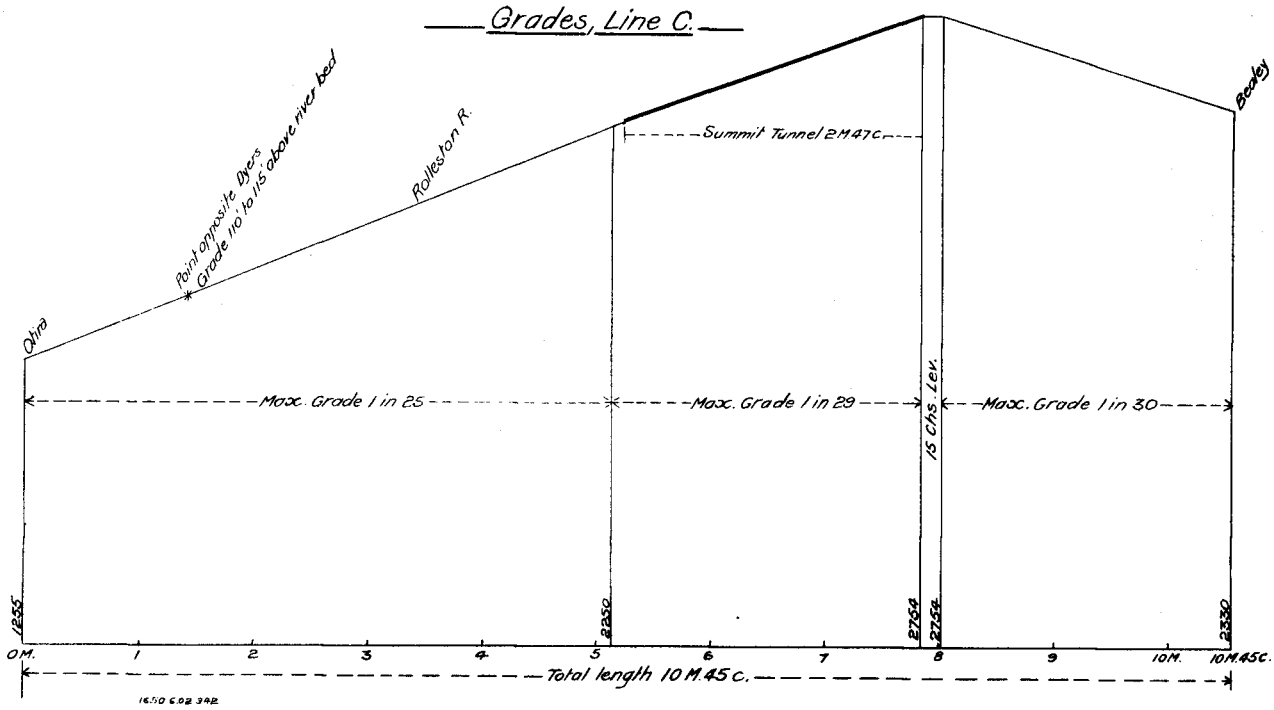

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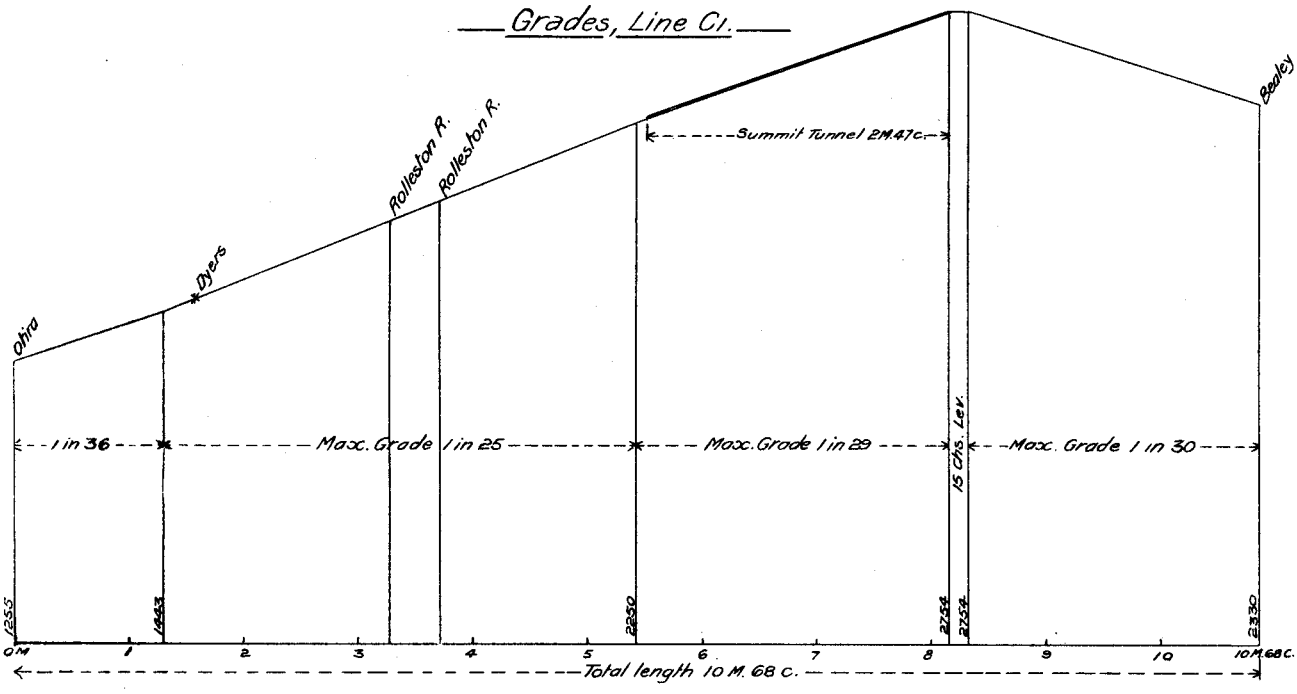

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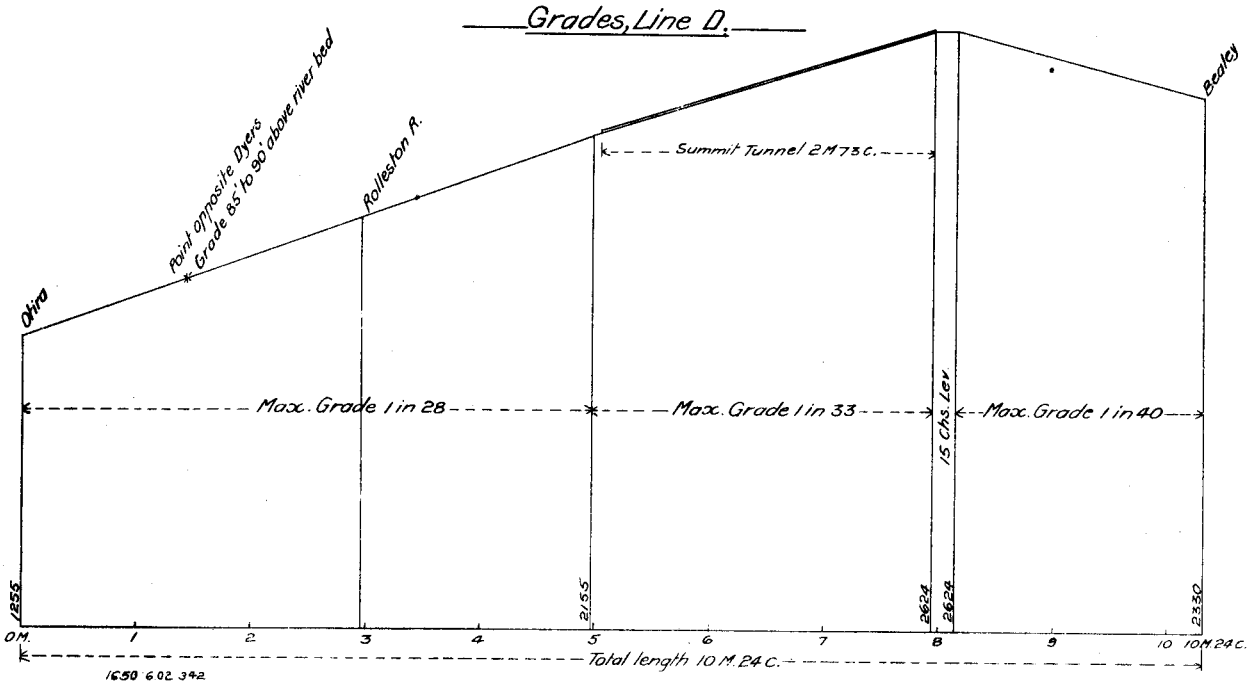
Hori. Scale

0 1 2 3 4 5 M.

Vert. Scale

0 1000 2000 3000 ft.



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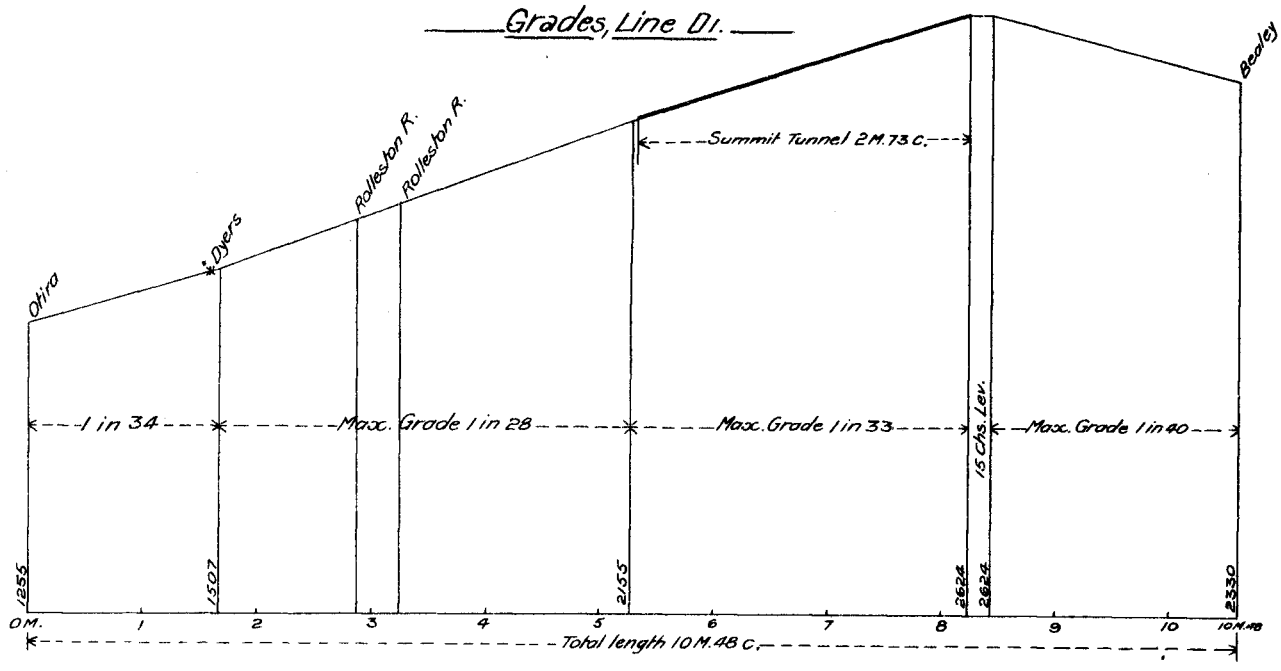


N. Z. M. R.

Longitudinal Sections of Lines

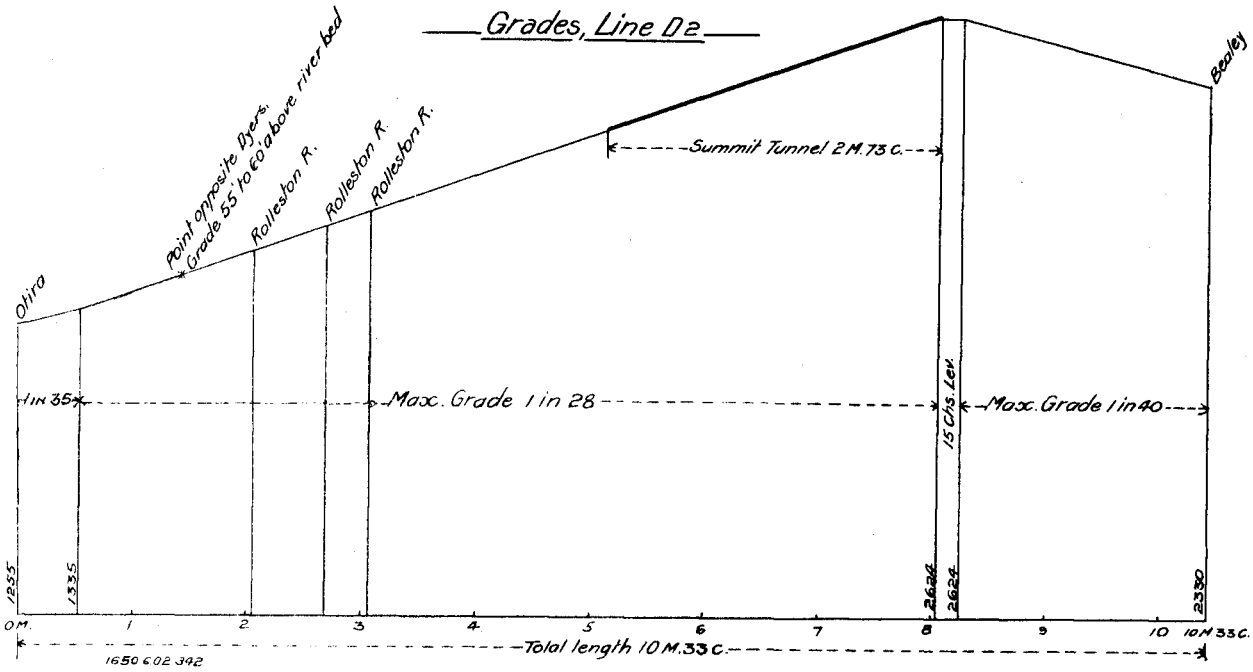
Referred to in Mr. Bogue's Report

Hori. Scale

0 1 2 3 4 5 M.

Vert. Scale

0 1000 2000 3000 ft.



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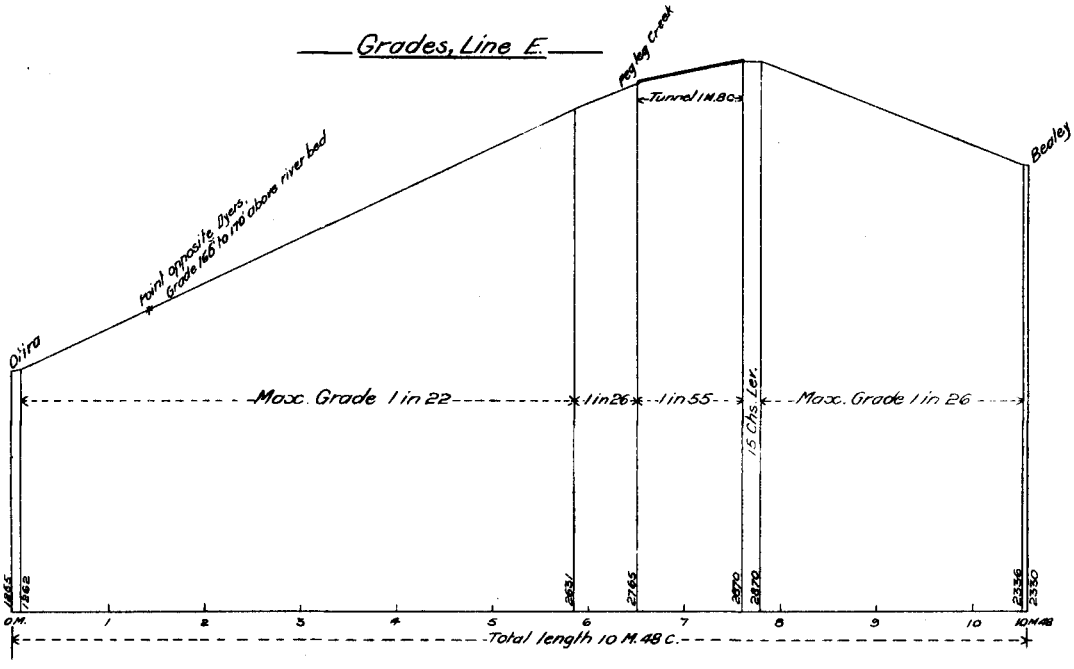

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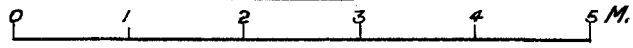
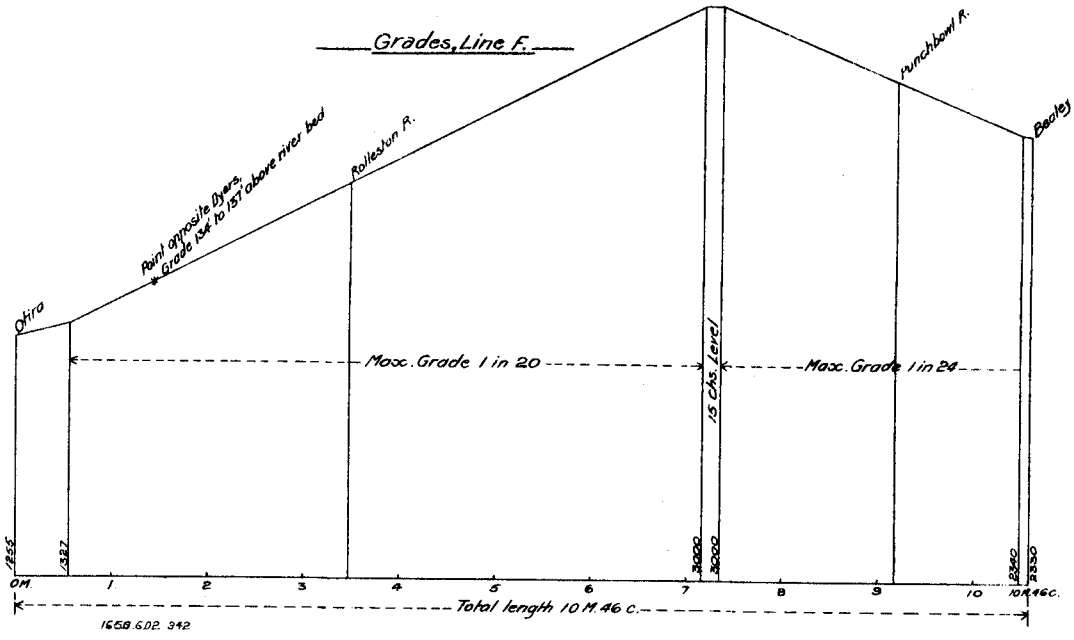
Longitudinal Sections of Lines

Referred to in Mr. Bogue's Report

Hori. Scale



Vert. Scale



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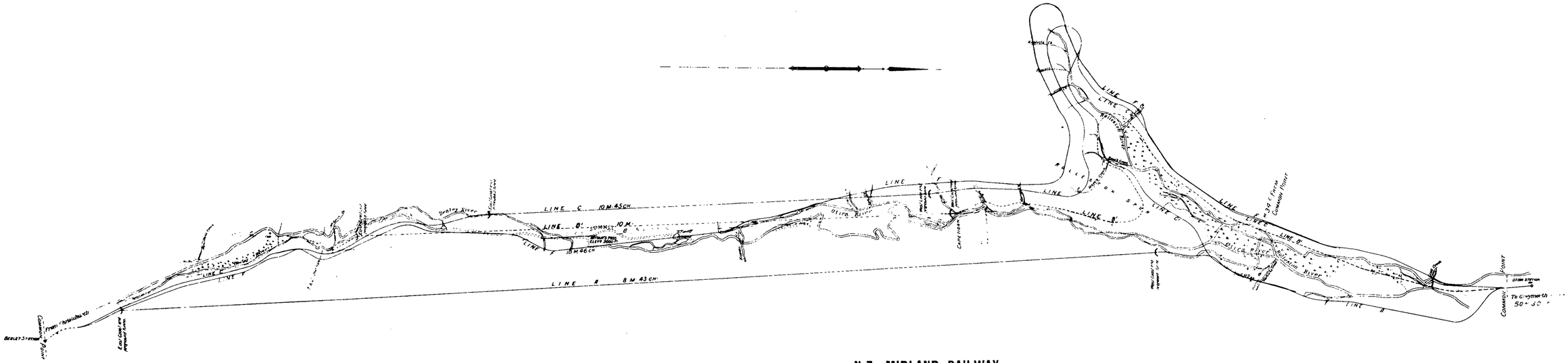

N.Z. MIDLAND RAILWAY.

SKETCH PLAN OF ARTHUR'S PASS.

(ACCOMPANYING REPORT OF V. G. BOGUE, 1902.)

Scale.

Chains 10 4 0 10 20 30 40 50 60 70 80 90 100 Chains

Wellington, Feb. 17. 1902.
V. G. Bogue

REFERENCE.

LINE	A	SHOWN THUS	———
"	B'	"	- - - - -
"	C	"	———
"	C'	"	———
"	F	"	———

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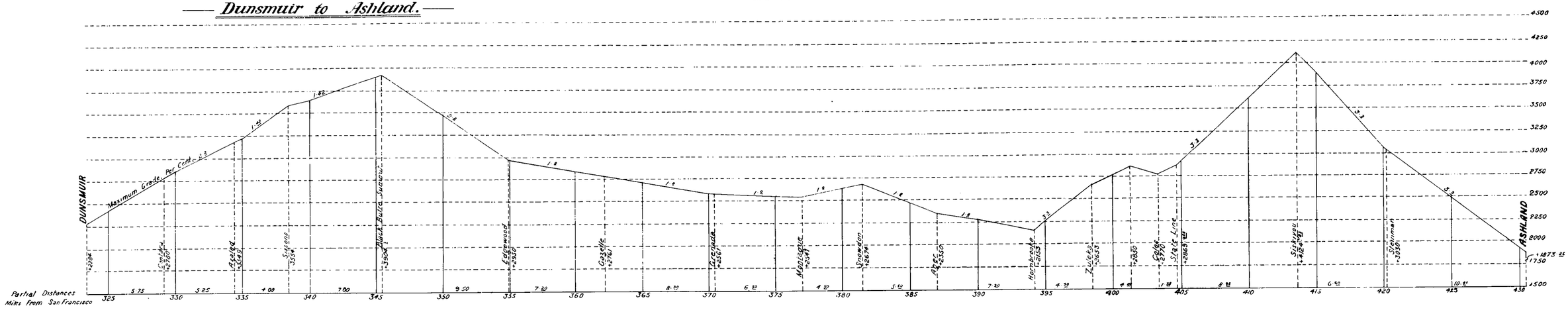
1650 750 765

Southern Pacific Company.

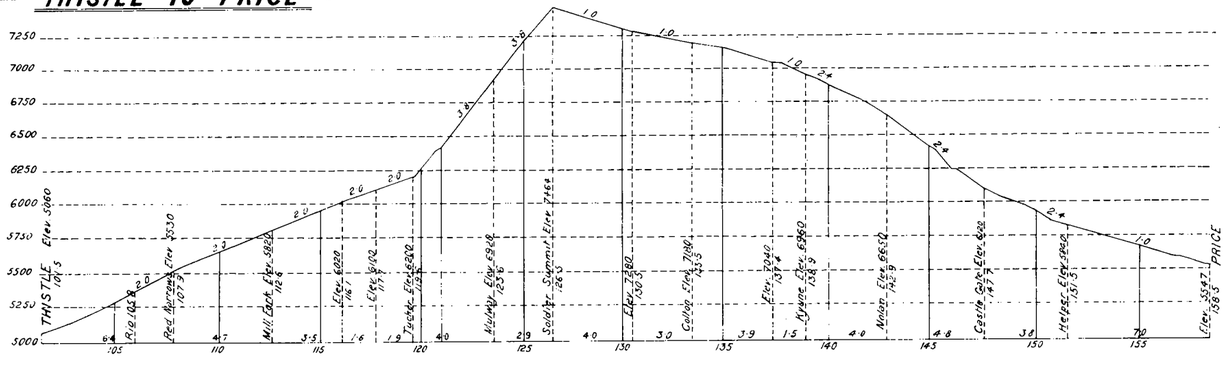
OREGON LINES

Dunsmuir to Ashland.



D.&R.G.R.R.

THISTLE TO PRICE



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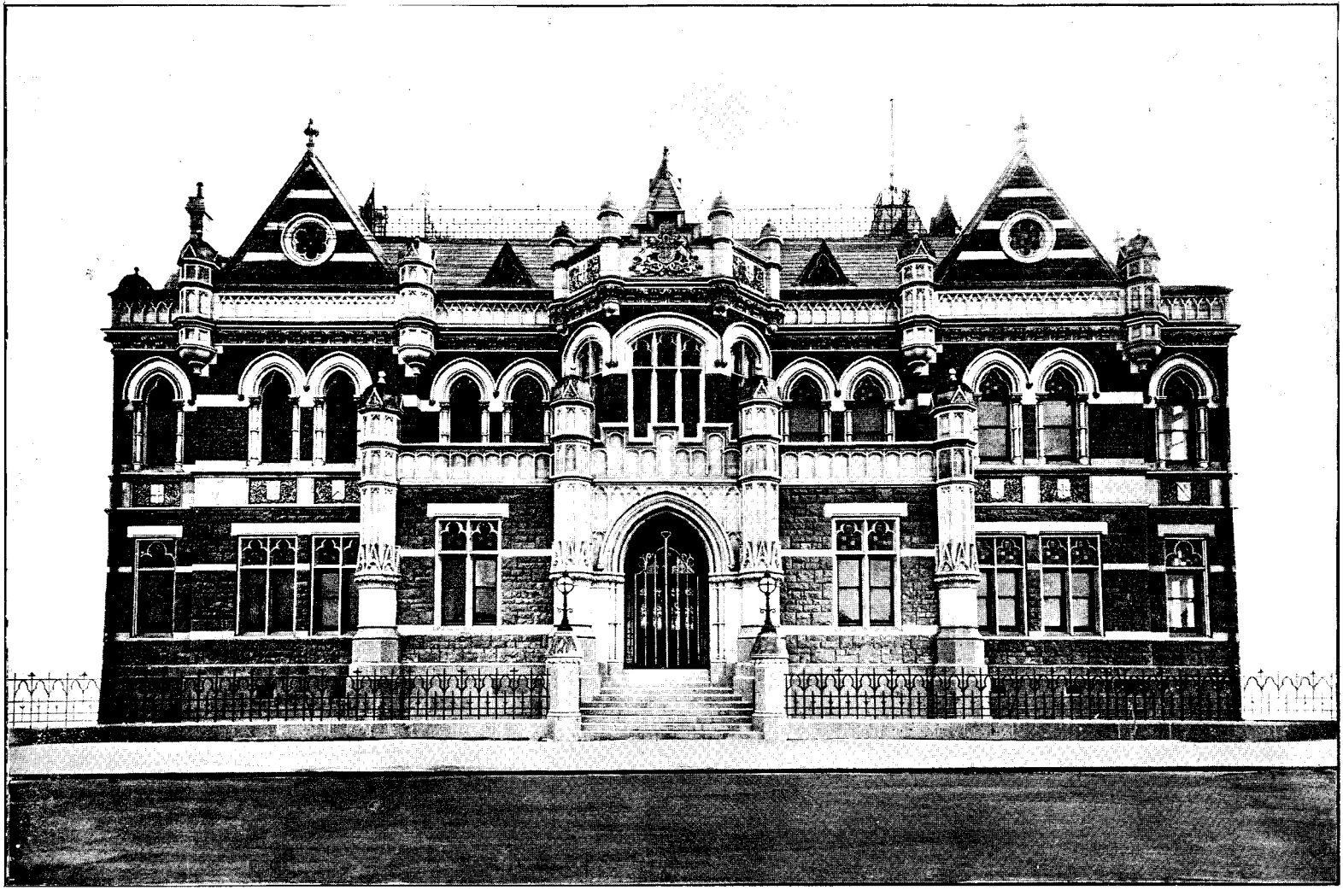
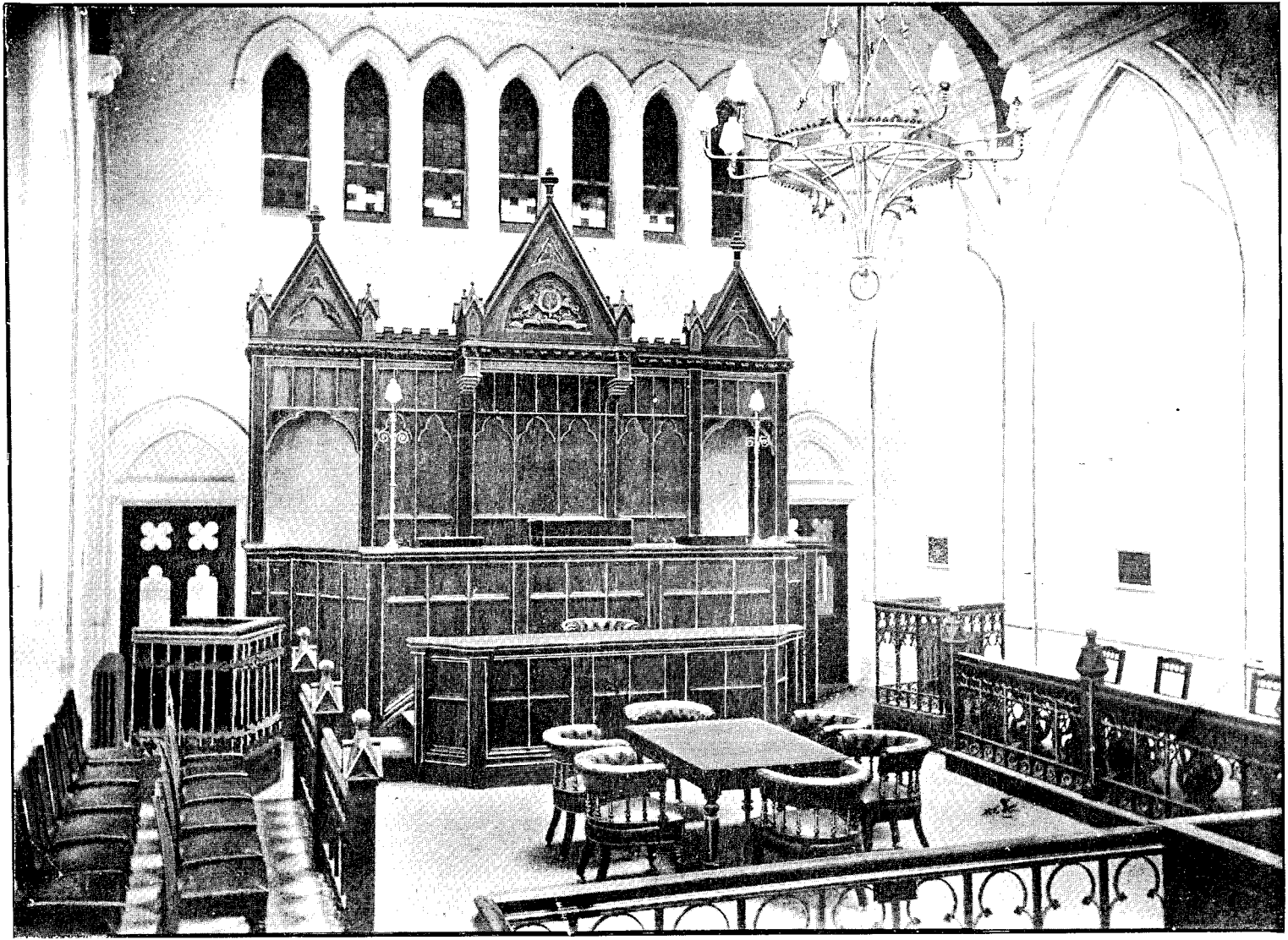
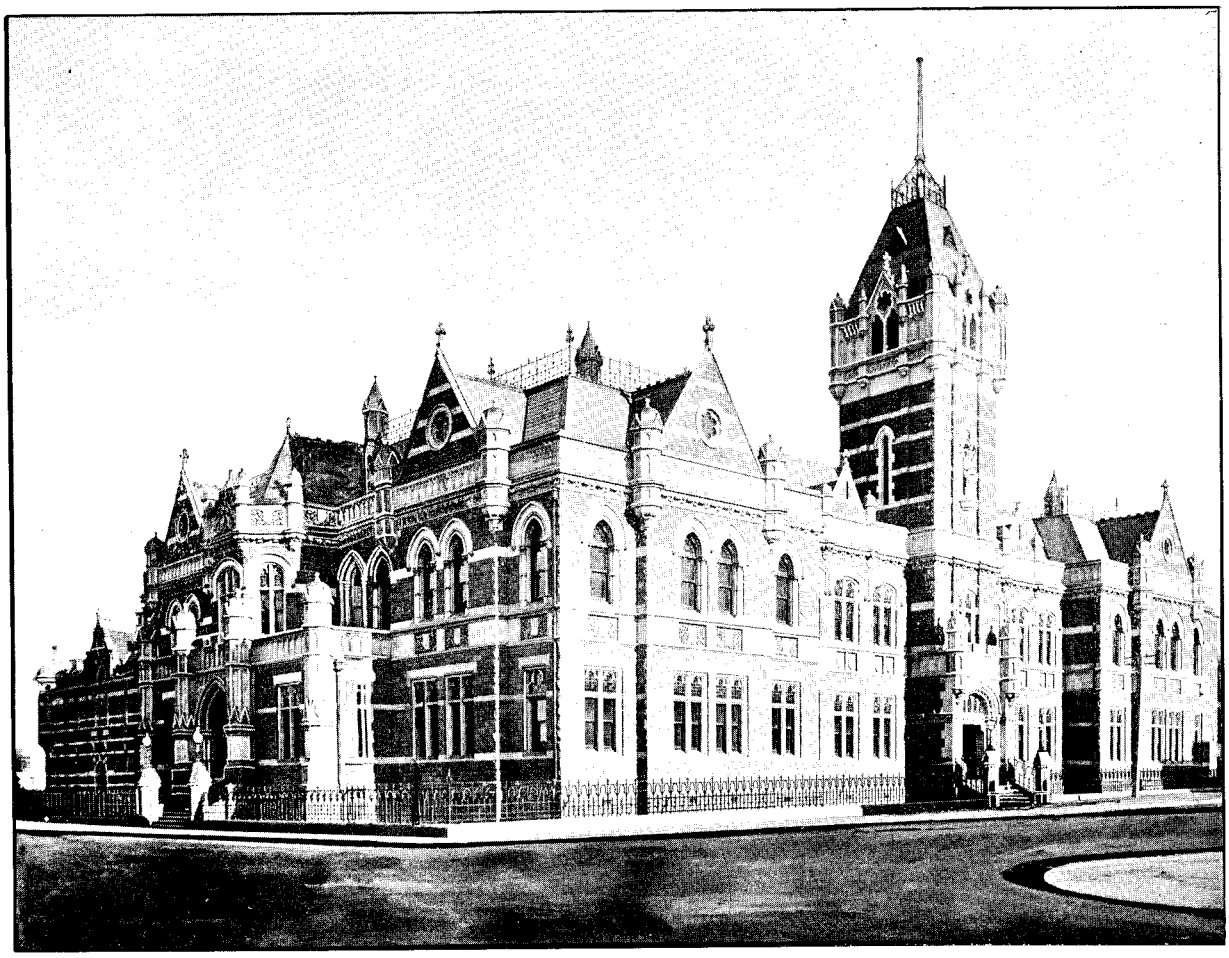


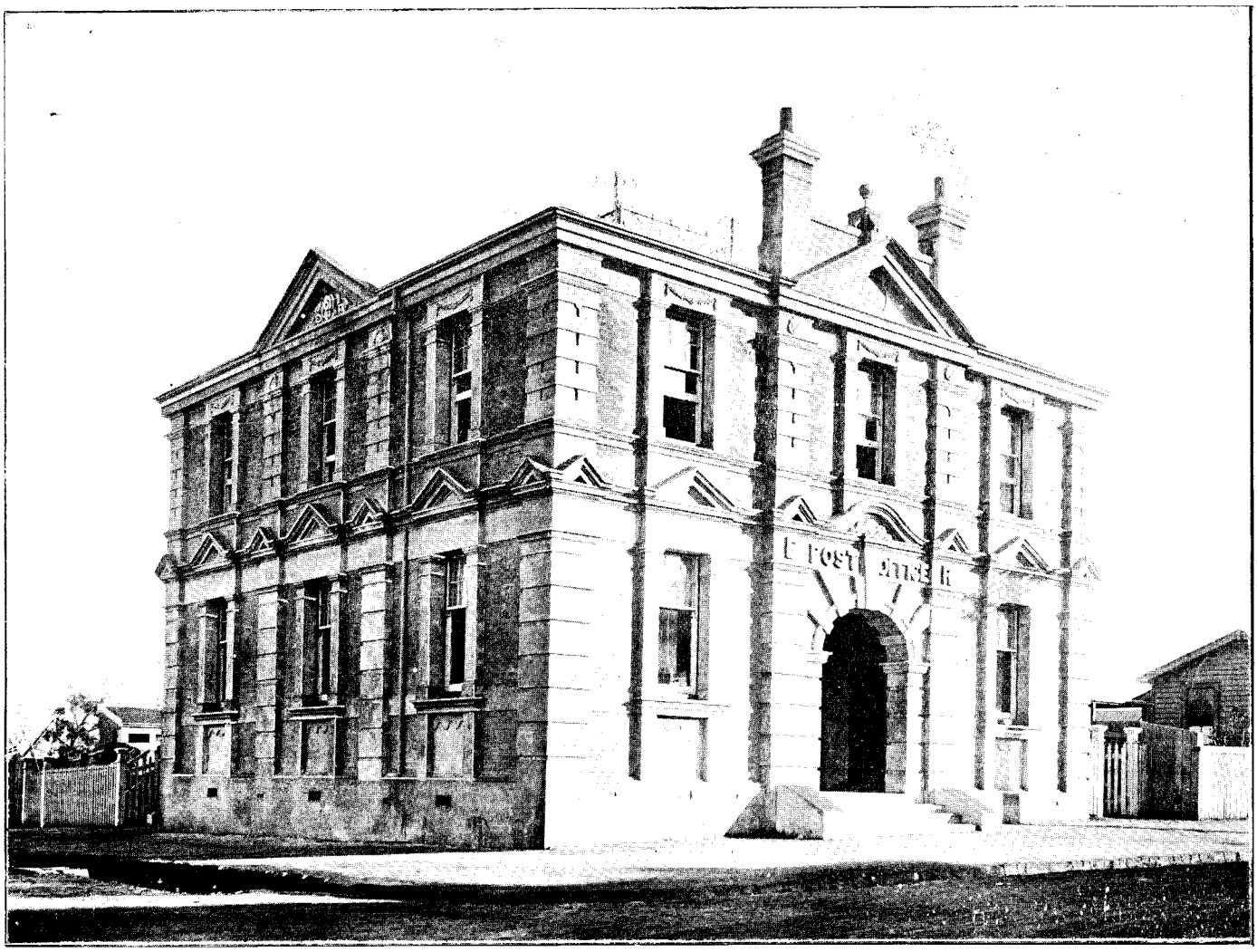
D.—1. New Law Courts, Dunedin.—Castle Street Elevation.



D. -1. New Law Courts, Dunedin.—Supreme Court Interior.



D.—1. [illegible] New Law Courts, Dunedin.—North-east Angle.



D.—1. New Post-office, Onehunga.