

FURTHER PAPERS

RELATIVE TO

THE CONSTRUCTION OF ROADS IN THE NORTH ISLAND.

(Being Return to an Order of the House of Representatives, No. 14, dated 23rd June, 1870.)

That there be laid upon the Table of this House—"A Return showing, (1.) The total mileage of road work, chargeable on the £30,000 Vote, completed during the year and now ready for cart traffic, and the Districts within which they are made. (2.) The extent of the work now in progress in such or other Districts. (3.) The extent and cost of such work done by the Constabulary, Natives, or other persons in such Districts respectively. (4.) The nature of the work performed or undertaken, whether of a temporary or permanent character. (5.) The condition of the roads constructed, and whether they are calculated to satisfy the requirements of the Districts through which they pass. (6.) A Nominal Return of the Officers employed in the survey or superintendence of the work, or in any other manner engaged upon such roads, with a statement of the salary and allowances received by each of such Officers. (7.) The total cost of the work done, and the estimated cost of completing work on account of which liabilities have been incurred in each Province of the North Island respectively, and a statement of all other payments charged on the said sum of £30,000.

"Also, a Map of the North Island, having marked thereon the various roads completed, in progress, and in contemplation, and chargeable on the appropriation above mentioned."

(Mr. Kelly.)

WELLINGTON.

—
1870.

"Statement of all other Payments charged on the Vote of £30,000."

Nil.

"A.so, a Map of the North Island, having marked thereon the various roads completed, in progress, and in contemplation, and chargeable on the appropriation above mentioned."

The Map is suspended in the Library.

TARANAKI AND NGATIRUANUI DISTRICTS.
RETURN showing the Progress of the Road Works constructed by the General Government, and chargeable on the Vote of £30,000.

A Total Mileage completed, and now ready for Cart Traffic.	B Extent of Works now in Progress.	C Extent of Works performed by				D Total Extent of Work done.	E Total Cost of Work done.	F Estimated Cost of Works in Progress, for which Liabilities have been incurred.	G Nature of Work performed or undertaken; whether Temporary or Permanent.	H Condition of Roads constructed; whether calculated to satisfy the requirements of the District.	I Nominal Return of Officers employed in Survey or Superintendence, &c., with Statement of Salary and Allowance.				
		Constabulary.		Natives.							Other Persons.	Name.	Salary.	Allowance.	Total.
		Extent.	Cost.	Extent.	Cost.											Extent.	Cost.
Ouaero—	Miles. 4	Miles. 2½	£ s. d. 1,214 4 5	Miles. 27	£ s. d. 1,141 13 0	Miles. 2½	£ s. d. 1,214 4 5	Permanent	...	£ s. d. 300 0 0	...	£ s. d. 300 0 0			
Forest Road	Miles. 4½	...	...	...	£ s. d. 109 19 9	...	£ s. d. 109 19 9	do.	...	...	...	...

(B) A bridge over the Stoney River, the contract for which is £229, of which sum £75 has been paid on account. Five miles of road extending southward from the said bridge, estimated for £254 8s.
(C) About 120 Natives have been employed under the Surveyor's estimate, which was very low for the work done, one section not having averaged 2s. 6d. per diem. Part of the work under contract for the erection of Stoney River Bridge.
(D) The road has been cleared from twenty to twenty-four feet wide, tops of hillocks levelled, culverts built over forty-seven swamps, and earthwork thrown up the full width of the swamps, with ditches by the sides; extensive

cuttings and removal of earth for fords at six rivers whose banks were very high, and cuttings and earthwork of less magnitude at eight rivers whose banks were lower.
(G.) The work performed is on a permanent line of road, the opening of which will necessitate a yearly expenditure to keep it in repair, without which what has been done will only be temporary.
(H.) As soon as some additional work recommended by the Surveyor, but not included in his estimate, has been done between Umuroa and Te Namu (now estimated for at £50) the whole will be available for carts, &c., and, subject to necessary attention from time to time, should satisfy the requirements of the district for the time being.

WANGANUI AND PATEA DISTRICTS.

M. f. c. l.	M. f. c. l.	M. f. c. l.	M. f. c. l.	£	M. f. c. l.	£	M. f. c. l.	£	M. f. c. l.	£	M. f. c. l.	£	Total.	
													Per annum	Per diem
4 0 9 16	3 2 8 0	0 4 5 68	0 2 9 16	840 6 6	1 6 3 0	1,042 16 0	1 3 1 40	2,928 14 8	8 4 0 9 16	5,793 0 0	2,812 0 0	...	Per annum 182 10 0	Per diem 0 2 6
									road formed 9 1 9 53				Per annum 0 14 7	Per diem 0 2 6
									road line cleared on flats 1 6 0 10				Per annum 0 14 7	Per diem 0 2 6
									survey lines				Per annum 0 14 7	Per diem 0 2 6
													Per annum 0 9 6	Per diem 0 1 0
													Per annum 0 9 6	Per diem 0 2 6
													Per annum 0 8 3	Per diem 0 2 6

(A) Formed only, but cart traffic is at present going over a portion of it.
(B) Works that are now being opened up, including two bridges, one at Kai-Iwi and the other at Okehu.
(C) Includes temporary roads out to allow the coach to pass one and one-eighth of a mile. Other persons consist of the Veteran Volunteers, Patea Militia, and Wairoa Rifle Volunteers.
(F) Including the cost of the two bridges at Kai-Iwi and Okehu, and supposing the road to have been done by contract.
(G) Of the total extent of the road formed which appears in column (A.), 1m. 1f. 0c. 47l. was only for a tem-

porary purpose, and 40 chains 60 links of that have no relation to the route to Patea, being a track from Kaipo to Wairoa. This leaves 2m. 7f. 8c. 69l. of formed road on the proper line available.
(H.) The portion of the road which is now formed on the proper line will, when gravelled, satisfy the present requirements of the District; but a considerable extent of it would require to be much improved to make it what a main trunk line of road ought to be.
(I.) All officers are allowed 2s. 6d. a day road money, and, excepting Mr. Foster, 1s. a day ration money.

WANGANUI DISTRICT.
RETURN showing the Progress of the Road Works constructed by the General Government, and chargeable on the Vote of £30,000.

A Total Mileage completed, and now ready for Packhorse Traffic.	B Extent of Works now in Progress.	C Extent of Works performed by				D Total Extent of Work done.	E Total Cost of Work done.	F Estimated Cost of Works in Progress, for which Liabilities have been incurred.	G Nature of Work performed or undertaken; whether Temporary or Permanent.	H Condition of Roads constructed; whether calculated to satisfy the requirements of the District.	I Nominal Return of Officers employed in Survey or Superintendence, &c., with Statement of Salary and Allowance.					
		Constabulary.		Natives.							Other Persons.		Name.	Salary.	Allowance.	Total.
		Extent.	Cost.	Extent.	Cost.						Extent.	Cost.					£ s. d.	Per diem
23	*	£ 220 0 0	†	‡	...	...	H. C. Field, Engineer ...	£ 2 2 0	...	2 2 0			
						†		H. A. Field, Engineer's Assistant*	0 7 0	...	0 7 0			
										A. Edgecombe, Engineer's Assistant	0 7 0	...	0 7 0			
										P. A. A. Pilmer, Overseer*	0 7 0	...	0 7 0			
										E. Lockett, Overseer*	0 7 0	...	0 7 0			
										K. Komene, Guide*	0 7 6	...	0 7 6			
										Heremoini, Guide*	0 3 0	...	0 3 0			

(n) The only work at present in progress is the selection and marking off of the rest of the line. The total length of this will be from sixteen to twenty miles, according to the point at which it seems best to descend to the plains, and of this thirteen and a half miles is now (14th July) completed.

(c) * The total distance from end to end of the completed track is twenty-three miles, but the adoption, with improvements, of a dray track and Native track part of the way, reduces the length of actually new track to nineteen miles.

† The only work done by "Other Persons" is the selection and laying off of the line and overseeing its execution. These are done by the staff. The total length is about forty-three and a half miles.

‡ The total cost to 31st May was about £275; and from that date till now, 14th July, about £115.

(r) According to the point at which the line descends to the plains, the cost of laying off the line will be from £150 to £200, of which £115 is already incurred. The cost of widening, &c., the remainder of the line will be from £250 to £350.

(g.) Partly temporary, partly permanent. In the first instance it was intended to be merely temporary, to afford the means of further examining the country, so as to enable a permanent road to be laid off; but wherever it has been found that the permanent line must go in a certain direction, the temporary one has been so laid off as to be permanently available.

(h.) For the present the work will satisfy the requirements of the locality; but the country through which the line runs and beyond it is so valuable that a really good road will soon be required through it, both to serve it and complete the communication with the Taupo and Napier Districts.

* Not now employed.

† This piece of road fills up a gap in the communication from the back bush country to the coast and port of Manawatu. It will be available for summer traffic. The clay formation requires a surface coating of sand or gravel. The District much requires the continuation of formation of this road line to the eastward.

(t) The road line has been laid out, and works generally directed, by John J. Stewart, Provincial Engineer in the employment of the Provincial Government of Wellington, under whose instructions the Overseer mentioned in the Return has acted and overlooked in detail the labour and works.

MANAWATU DISTRICT.

For Cart Traffic. Miles.	Miles.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Per diem	Name.
7	1½, Oroua Bush to Ngawhakarau	371 6 9	†	Amos Burr, Overseer ...

(A.) Line, Foxton to Oroua Bush.—A considerable portion of this line is naturally passable for light dray traffic. In line Oroua Bush to Ngawhakarau, although formation is nearly complete, yet it will not be passable for a dray till summer, as it is unmetalled.

(B.) Line, Foxton to Oroua Bush.—The detached bad portions on whole line are in progress so far as amount allows. In line Oroua Bush to Ngawhakarau, all that is unfinished is in progress, except the coating with a layer of sand half of the length, which is postponed until winter is over.

(C.) Line, Foxton to Oroua Bush.—Although some contracts on this line were taken by Europeans, still they chiefly employed Native labour, and it is so returned. The work was mostly done by a system of small contracts.

* Culverts, overseer, outlet drains, improving formation in parts, tools, timber, carting, blacksmith.

(E.) Line, Foxton to Oroua Bush.—£100 additional will be required before the whole length of thirteen and a quarter miles is passable for drays. Line, Oroua Bush to Ngawhakarau.—The coating, with layer of sand or gravel of half of the whole length, is not included.

(G.) Attention has been given to make these works enduring portions of permanent roads.

† This work is of a permanent nature. In this thirteen and a quarter miles from Foxton to Oroua Bush, the work done is to make a track passable for a dray. Consequently, the work is confined to the bad places, and those

HAWKE'S BAY DISTRICT.
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	Constabulary.		Natives.		Other Persons.		Name.	Salary.						Allowance.	Total.	
	Extent.	Cost.	Extent.	Cost.	Extent.	Cost.										
Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
31	80 0 0	27	450 0 0	21	651 13 0	524	1,181 13 0	280 0 0	*	†	B. Lambert, Foreman ... R. B. Mansell, Overseer of Native contracts Other supervision	3 0 0 2 8 0	Rations		

(A.) This section is from Rumanga to Tapuacharuru. The work has been performed by Native contract labour under the Chief Poihipi.

(B.) Bridges. Superstructures are trussed beams with iron tension rods. Spanning Rangitaiki on dray track, and Waipunga upper crossing on bridle track, respectively in length forty and thirty-five feet. Ferry is intended for Waikato, and is to be on the same principle as that at Mohaka.

(C.) Constabulary stationed at Kunanga have opened dray track from that place to end of Poihipi's contract, a distance of four miles,—a few cuttings were only necessary to accomplish this. Constabulary from Te Haroto and Tarawera restored about twenty chains of bridle track which had been washed away by floods. Of the cost of these works I have no returns, but have stated what I consider them to be worth. Natives have not been employed otherwise than as stated in column A. The item £450 includes £150 due but not yet paid. Other persons are men of my own party who have been employed in forming bridle track. Principal work involved has been side cutting, bush clearing, and erection of culverts and small bridges. The Mohaka Ferry has also been re-established and maintained for twelve months at a cost of £122 16s. This sum is not included in column C. The twenty-one miles must be understood to include five miles of permanent track formed,—the remainder of distance having been improved only and maintained for the past year.

(D.) Dray track included in A., and bridle track referred to in C.
(E.) Cost of Native contract (less £150), Constabulary work (approximate), and labour performed by Other Persons. The latter item does not include provisioning of men, transport of tools, or cost thereof: of these items I have no record or accounts.

(F.) Works referred to in column B.
(G.) Referred to in column C.

* Dray track. Side cuttings, embankments, scrub clearing, and levelling. Portions only temporary, but where cuttings are heavy, may be said to be permanent. Bridle track, five miles permanent. Bridges, when erected, permanent.

† Dray track (considering season) in fair order,—will answer immediate requirements. Bridle track in bad state owing to wet weather and heavy traffic,—will not meet requirements of traffic.

(I.) Two other foremen were employed, each at different periods: one of them was drowned. Their duties were principally to supervise works pertaining to telegraph and blockhouse erection, &c., and it was only occasionally they were required for road work. The item £47 16s. is included in column E. Supervision has also been afforded to various defence and road works by the telegraph linemen, which is not included.

TAURANGA DISTRICT.

Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Per diem	£ s. d.
Taupo Road— 4½ miles	...	4½m. 10c. §	2,964 0 0	4½	4,400 0 0	Permanent	Calculated to satisfy do.	A. C. Turner	0 6 0	27 6 0	...	...	...	...	...	...	...	...	...
Judea Road— ¼ mile	¼	...	do.	do.	Mr. Gundry	0 10 0	5 10 0	...	...	...	...	...	...	...	...	...
Matipahi and Maketu Road— 2½ miles	...	2½†	200 0 0	2½	200 0 0	do.	do.	Mr. Haigh	0 7 6	40 10 0	...	...	...	...	...	...	...	...	...
Maketu and Tahebe (Rotoiti) Road 22 miles	...	5½†	600 0 0	22	...	do.	do.	Mr. Crapp	0 2 0	9 2 0	...	...	...	...	...	...	...	...	...
Whakatane Ohope— 6 miles*	...	6	362 0 0	6	362 0 0	do.	do.	Mr. Gillard	...	...	...	...	...	...	...	...	...	...	...

* Information from report by Lieut.-Colonel St. John.

† Militia and Volunteers.

‡ Ngatereanga.

§ Arawa.

(I.) Mr. Turner draws his salary under the Tauranga District Settlement Lands Act, and receives 6s. per day field and forage allowance. Mr. Gundry receives his salary through the Constabulary.

RECAPITULATION.

RETURN showing the Progress of the Road Works constructed by the General Government, and chargeable on the Vote of £30,000.

District.	Total Mileage completed and now ready for Cart Traffic.	Extent of Works now in Progress.	Extent of Works performed by						Total Extent of Work done.	Total Cost of Work done.	Estimated Cost of Works in Progress, in which Liabilities have been incurred.	Nature of Work performed or undertaken; whether Temporary or Permanent.	Condition of Roads constructed; whether calculated to satisfy the requirements of the District.	Remarks.				
			Constabulary.		Natives.		Other Persons.											
			Extent.	Cost.	Extent.	Cost.	Extent.	Cost.										
Taranaki—	Miles.	Miles.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	Miles.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Onaero ...	2½	4	...	1,214 4 5	...	...	...	...	2½	1,214 4 5	...	Permanent	...	...	...	...	...
Forest ...	...	4½	...	...	...	4½	109 19 9	...	4½	109 19 9	390 10 3	do.	...	...	...	...	...
South Road ...	27	5	...	...	...	...	75 0 0	...	27	1,216 13 0	408 8 0	do.	Vide Return	...	...	...	...
Patea ...	4	3½	0½	840 6 6	1½	1,042 16 0	1½	2,928 14 8	15	5,798 0 0	2,812 0 0	Vide Return	do.	...	...	...	...
Wanganui-Taupo ...	*23	18	...	...	23	220 0 0	...	...	43	610 0 0	800 0 0	do.	do.	...	...	...	...
Manawatu ...	7	13	...	...	3	236 5 3	1	48 4 0	4	284 9 3	215 10 9	Permanent	do.	...	...	...	...
Ditto ...	1½	1½	...	...	1½	371 6 9	0½	62 16 9	1½	659 17 5	350 0 0	do.	do.	...	...	...	...
Hawke's Bay-Taupo ...	31	Vide Return	4½	80 0 0	27	450 0 0	21	651 13 0	52½	1,181 13 0	280 0 0	do.	do.	...	...	...	...
Bay of Plenty—																		
Tauranga ...	4½	22	...	...	...	...	4½	2,964 0 0	4½	2,964 0 0	4,400 0 0	do.	Calculated to satisfy	...	...	...	...
Judea ...	0½	0½	...	1,000 0 0	...	...	...	...	0½	1,000 0 0	...	do.	do.	...	...	...	...
Matapiri-Maketu ...	2½	2½	...	...	2½	200 0 0	...	...	2½	200 0 0	200 0 0	do.	do.	...	...	...	...
Maketu-Rotoiti ...	22	22	...	...	5½	600 0 0	...	...	5½	600 0 0	...	do.	do.	...	...	...	...
Whakatane-Ohope ...	6	...	6	...	6	362 0 0	...	...	6	362 0 0	...	do.	do.	...	...	...	...
Total ...	133½	96½	7½	3,134 10 11	97½	4,624 1 0	32½	6,840 8 2	168½	16,195 16 10	9,856 9 0	...	...	...	...	...	...

Filling up and bridging deep gully and swamp.

Work done by contract.
Bridge over Stoney River contracted for.

* Packhorse track.

Foxton to Oroua Bush.

Oroua Bush to Ngawhakaran.