

(No. 73.)



1894.

PARLIAMENT OF TASMANIA.

PUBLIC WORKS:

REPORT OF ENGINEER-IN-CHIEF, 1893-4.

Presented to both Houses of Parliament by His Excellency's Command.

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PUBLIC WORKS.

MR. FINCHAM'S REPORT FOR THE YEAR 1893-4.

Public Works Department, Hobart, 3rd July, 1894.

SIR,

I HAVE the honor to submit my Annual Report for the year ending 31st May, 1894, in continuation of Paper No. 49, House of Assembly, 1893.

The expenditure during the year under the Special Public Works Acts has been chiefly confined to the "urgent" works defined by 57 Vict. No. 33, and such items of 55 Vict. No. 56 as were shown to be urgent, together with current works under the Crown Lands Act.

As much as possible of "relief" work has been arranged by piece-work or small contracts, and, approximately, three-fourths of the total relief work has been so carried out.

Expenditure on Railway Construction.

Expenditure on railway construction has been carried out through the Railway Department, and has included the completion of the new railway wharf and piling in continuation of same at Launceston.

Cost of Railways.

The average cost per mile of all lines taken over from the Public Works Department has only been £5993 for all charges against Capital Account, except for rolling stock and equipment, which cost an additional £556 per mile.

The additions to cost per mile of all lines for works carried out by Railway Department since lines were taken over has been £126 for works and £49 for rolling stock.

The capital cost per mile of the 3ft. 6in. gauge lines constructed by the Government (including all additions by Railway Department since opening) as compared with same cost of narrow-gauge lines in other colonies is as under, the figures being based upon official papers of the different colonies for Session 1893 :—

<i>South Australia.</i>	<i>Tasmania.</i>	<i>Queensland.</i>	<i>New Zealand.</i>
*£5215	£6725	£6840	£7811

* Average mixed gauges, £7174.

The inclusion, however, of the Western and Main Lines taken over and purchased by the Colony accounts for the high rate of £8338 per mile necessarily given as average in the General Manager's Report 1892-3.

I submit, therefore, that, considering the comparative shortness of the lines, the rough nature of the country, and the difficulties experienced, the capital cost of the Government lines here cannot be regarded as altogether unsatisfactory, the low cost in South Australia being doubtless due to extent of easy country that is totally absent here.

Works under Local Public Works Loans Act.

The Waterworks constructed under the Local Public Works Loans Act at Longford, Latrobe, and Glenorchy have been completed, and are serving the respective districts. Some delays have occurred in connection with the Devonport Waterworks, which are, however, now complete, with exception of the reticulation work.

Works under Marine Boards.

I have, as usual, examined and reported upon various proposals connected with expenditure of Marine Board funds for the information of His Excellency the Governor in Council, as required by the Act of Parliament.

River Mersey Improvements.

The cut through the Bar was completed in February last, some 98,400 tons having been dredged during the year.

Dredging has been continued in forming a Turning Basin, and some 30,400 tons have been removed.

River Tamar Improvements.

This work has consisted in dredging 40,050 tons at Rostella Shoal, 15,960 tons at Stevenson's Bend, 16,340 tons at Town Point and Launceston Harbour, and is being continued in front of the new railway wharf, from which 80,810 tons have been removed; the material dredged has been deposited in the deep backwater channel at the Gem Rock, the old "ship" channel, and 46,770 tons at the back of the new wharf and piling.

The Resident Engineer has made periodical flying surveys of the river from Launceston to Rosevears, a detailed survey of the harbour, fixed bench marks on piles at shoals, and determined these levels as reduced to standard low-water of spring tides.

Buildings.

The new block for Male Patients at New Norfolk and the new Nurses' Home at Hobart were handed over to the Hon. the Chief Secretary early in the year, considerable savings having been effected in carrying out these works.

The new District Hospital at Zeehan is well advanced.

Good progress has been made with the new State School for South Launceston.

Minor works as under have also been carried out; viz.—

- Hot-water supply, Launceston Hospital.
- Accommodation for Tourists at Lake St. Clair.
- Cells at H. M. Gaol at Hobart.
- Additions to State School at East Zeehan.
- Removing School and Residence from Spreyton to New Ground.
- Alterations to provide additional single rooms at New Norfolk.
- Alterations, additions, and repairs to 11 Schools, 13 Police Buildings, 3 Post and Telegraph Offices.

The usual repairs and alterations to Public Buildings are provided for out of Consolidated Revenue Fund.

Plans and specifications were also prepared for a new school at West Zeehan, and for additions to East Devonport school.

I commend to your consideration my remarks in the Annual Reports of former years upon the following subjects, viz. :—

- Roads*—(a.) The importance and economy of properly locating road lines in advance of settlement by engineering survey, and allowing, if need be, the road to determine the boundary of the block instead of letting the block determine the line of road, without reference to good construction.
- (b.) The necessity for some machinery for dealing with neglect of Local Bodies to maintain works for which they have undertaken responsibility, whether such neglect arises from poverty or otherwise.
- (c.) The necessity for re-defining the boundaries of, and reducing the number of Main Road Districts, and insisting upon consideration of general through traffic taking precedence of mere local requirements in the allocation of the expenditure of the Government subsidy.

Bridges.—The yearly increasing need of provision for the large bridges outside Main Road Districts. These are mostly timber constructions, and require a fair and reasonable maintenance, which as a whole they never get. A very large sum in the aggregate has been expended on these works, and, as their age increases, the unavoidable repairs or renewals will become a heavier burden by reason of present neglect.

Jetties.—A sum of money approaching £100,000 has been expended on timber jetties during the past fifteen years, and I recommend strongly some better provision for their maintenance, as I fear they do not get reasonable and sufficiently early attention in many cases. Some have been handed over to the Road Trusts, and a limited few to the Marine Boards, but the rest are left without care, excepting when some special and urgent demand is forced upon the Department by reason of actual damage, whether from vessels, storm, or decay.

Buildings.—The numerous timber buildings all over the Colony require more attention in order to their permanency than the limited funds have ever allowed.

General Construction.—Although, owing to timber constructions being generally necessitated, the yearly maintenance may entail a greater yearly outlay than would be the case in works constructed of less perishable material, yet it must be remembered that these cheaper constructions have afforded enormous facilities for traffic and the development of the resources of the Colony which would have been seriously limited and checked if only costly permanent constructions were adopted; while the compound interest on the difference in cost allows a good margin for renewal of the cheaper structure when required.

I have the honor to be,

Sir,

Your obedient Servant,

J. FINCHAM,

M. Inst. C.E., Engineer-in-Chief.

*The Hon. A. T. PILLINGER, M.E.C.,
Minister of Lands and Works.*

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TABLE A.

TOTAL EXPENDITURE and Liabilities to 31st May, 1894, under the following Heads of Public Works since 1856.

Under Public Works Construction Acts.	Total Expenditure to 31st May, 1893.	Expenditure during 12 months ended 31st May, 1894.	Total Expenditure to 31st May, 1894.	Liabilities, 31st May, 1894.	Total Expenditure and Liabilities.	Balance available for further Expen- diture.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Railways (including Surveys).....	3,565,937 7 0	10,706 1 11	3,576,643 8 11	432 12 1	3,577,076 1 0	+36,422 2 8
Roads.....	1,094,347 19 0	22,124 16 8	1,116,472 15 8	15,387 13 0	1,131,860 8 8	62,728 5 5
Bridges exclusive of small bridges constructed out of Road Votes.....	207,350 14 0	7346 3 5	214,696 17 5	804 4 5	215,501 1 10	19,991 7 8
Streets*.....	86,082 10 3	8504 6 10	94,586 17 1	...	94,586 17 1	
Jetties and Harbours.....	301,394 13 11	13,312 3 4	314,706 17 3	7392 1 10	322,098 19 1	14,826 10 8
Lighthouses*.....	37,517 10 8	1237 18 8	38,755 9 4	...	38,755 9 4	
Buildings.....	479,510 0 11	14,610 17 2	494,120 18 1	4200 13 7	498,321 11 8	45,272 6 9
State Schools*.....	132,042 15 3	747 11 6	132,790 6 9	...	132,790 6 9	
Telegraphs*.....	115,848 11 4	483 17 8	116,332 9 0	...	116,332 9 0	
Defences*.....	120,763 9 6	4536 11 0	125,300 0 6	...	125,300 0 6	
Miscellaneous (including Tracks).....	276,520 14 11	5939 6 11	282,460 1 10	661 16 6	283,121 18 4	12,074 14 8
Under Waste Lands and Crown Lands Acts. Roads, Bridges, &c.	201,444 19 4	14,257 5 7	215,702 4 11	4628 0 0	220,330 4 11	82,678 0 8
Residence Areas Fund— Town Streets, &c.	2875 12 0	1503 12 9	4379 4 9	...	4379 4 9	370 12 3
	6,621,636 18 1	105,310 13 5	6,726,947 11 6	33,507 1 5	6,760,454 12 11	274,364 0 9

* Information obtained from Treasury : part only of expenditure by Public Works Department.

† Miscellaneous items, exclusive of vote, £200,000, for Ulverstone-Burnie Railway.

W. C. CATO, *Accountant.*

TABLE B.
RAILWAYS—CONSTRUCTION EXPENDITURE.

Lines of Railway.	Total Expenditure to 31st May, 1893.		Expended during the year ended 31st May, 1894.			Total Expenditure to 31st May, 1894.
		Surveys.	New Works Construction.	Additional Works on Open Lines.	Rolling-stock, additions to.	
Main Line—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Hobart to Launceston	1,201,542 12 4	6000 0 0	1050 0 0	1737 17 2	219 1 0	1,210,549 10 6
Derwent Valley Branch.....	215,278 1 7	964 14 6	...	...	...	216,242 16 1
Green Ponds Branch.....	157,611 14 10	1700 0 0	714 6 10	...	...	160,026 1 8
Fingal Branch.....	195,553 11 8	698 8 1	5 4 6	...	0 1 6	196,257 5 9
Parattah and Oatlands.....	11,715 3 6	75 5 0	...	...	...	11,790 8 6
Western Line—						
Launceston to Deloraine Section	504,972 17 0	...	...	427 17 6	...	505,400 14 6
Deloraine to Formby ditto.....	201,732 18 10	...	...	316 17 11	...	202,049 16 9
Formby to Ulverstone ditto	112,286 11 8	700 0 0	...	...	...	112,986 11 8
Chudleigh Branch.....	67,339 7 7	650 0 0	11 0 6	...	...	68,000 8 1
Launceston to Scottsdale	395,800 2 6	1559 9 7	12 9 1	11 9 11	2 10 10	397,386 1 11
Sorell Railway	120,598 0 2*	598 2 3	90 16 10	...	...	121,286 19 3
Zeehan Railway.....	219,770 10 7*	...	15 5 3	...	...	219,785 15 10
General Railway purposes.....	25,439 11 5	...	...	3485 1 4	...	28,924 12 9
Supplementary Rolling Stock.....	76,554 10 6†	...	...	...	2606 1 9	79,160 12 3
Surveys—Railways not constructed.....	46,795 13 5	...	...	...	...	46,795 13 5
TOTAL	3,552,991 7 7	12,945 19 5	1899 3 0	5979 3 10	2827 15 1	3,576,643 8 11

* Reduced by credit for Rolling Stock transferred to Main Line, £15,000.

† Includes £23,419 Rolling Stock, Fingal coal.

£21,226 16s. 8d. of Construction Expenditure has been charged to Revenue, and the balance to Public Works Loans.

TABLE C.

COST of Railways purchased or taken over by the Government of Tasmania, together with the cost of additional Construction since.

Item.	Mileage.	Cost when purchased or taken over by Government.	Expenditure by Railway Department since taken over.			Grand Total.
			Works.	Rolling Stock.	Total.	
	m. chns.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Main Line Railway	121 60	1,144,831 7 2	22,632 17 3	43,085 6 1	65,718 3 4	1,210,549 10 6
Launceston and Deloraine.....	44 60	413,704 5 4	69,172 5 5	22,524 3 9	91,696 9 2	505,400 14 6
TOTAL.....	166 40	1,558,535 12 6	91,805 2 8	65,609 9 10	157,414 12 6	1,715,950 5 0

Average Cost per mile when purchased or taken over £9366
 Average Cost per mile including Expenditure since taken over £10,312

TABLE D.

COST of Railways constructed by Public Works Department, together with Cost of additional Construction by Railway Department since opening for Public Traffic to 31st May, 1894.

	Expenditure by Public Works Department.					Expenditure by Railway Department since opening.			GRAND TOTAL.
	Length.	Works.	Rolling Stock.	Equipment.	Total Cost at opening.	Works.	Rolling Stock.	Total Cost since opening.	
	m. c.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Western Railway—									
Deloraine to Formby Section	37 20	163,645 10 11	23,527 6 2	812 17 2	187,985 14 3	14,035 16 5	28 6 1	14,064 2 6	202,049 16 9
Formby to Ulverstone Section	11 60	103,777 14 9	7751 17 1	386 0 0	111,915 11 10	1070 19 10	...	1070 19 10	112,986 11 8
Scottsdale Railway.....	47 0	363,158 7 1	23,670 6 11	1368 8 0	388,197 2 0	4800 13 11	4388 6 0	9188 19 11	397,386 1 11
Fingal Railway	46 60	164,084 13 7	17,380 3 1	591 9 6	182,056 6 2	8672 11 5	5528 8 2	14,200 19 7	196,257 5 9
Derwent Valley Railway	24 20	193,803 8 2	16,019 7 4	710 0 0	210,532 15 6	3150 19 5	2559 1 2	5710 0 7	216,242 16 1
Parattah to Otlands Railway	4 20	9556 1 6	1929 3 6	90 0 0	11,575 5 0	215 3 6	...	215 3 6	11,790 8 6
Chudleigh Railway	12 60	64,058 13 6	3620 14 7	321 0 0	68,000 8 1	...	...	...	68,000 8 1
Green Ponds Railway	26 0	141,103 13 1	18,271 13 7	558 14 10	159,934 5 6	91 16 2	...	91 16 2	160,026 1 8
Sorell Railway	14 64	111,345 14 7	9030 11 6	910 13 2	121,286 19 3	...	...	...	121,286 19 3
Zeehan Railway	29 0	205,680 2 7	12,105 15 3	1999 18 0	219,785 15 10	...	...	...	219,785 15 10
	253 64	1,520,214 3 9	133,306 19 0	7749 0 8	1,661,270 3 5	32,038 0 8	12,504 1 5	44,542 2 1	1,705,812 5 6

Total average cost per mile at opening £ 6549
 Ditto ditto, including Expenditure since opening 6725
 Average cost per mile at opening (Works only) 5993
 Ditto ditto, Rolling Stock 525
 Ditto ditto, Equipment..... 31
 Average cost per mile, including Expenditure since opening, (Works only) 6119
 Ditto ditto, Rolling Stock 574

TABLE E.

WASTE LANDS AND CROWN LANDS ACTS.

County.	Amount available subject to conditions of Acts.	Expenditure autho- rised by Governor in Council.	Amount expended as per last Return.	Expenditure since last Return.	Total Expenditure 31st May, 1892.	Further Liabilities.	Balance available for further Expenditure.
	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£	£ s. d.
Devon	84,323	75,583 3 9	63,059 14 11	3018 1 10	66,077 16 9	657	18,136 14 8
Westmoreland and Devon	6374	5600 0 0	4319 4 11	18 0 6	4337 5 5	...	2636 14 7
Lincoln	1606	1300 0 0	25 16 8	43 15 11	69 12 7	...	1536 7 5
Wellington	37,521	30,526 15 0	22,653 8 4	2837 3 9	25,490 12 1	935	11,182 16 4
Dorset	61,868	48,279 16 4	40,547 16 11	2411 9 2	42,959 6 1	784	18,124 13 11
Cornwall	8043	6846 10 0	5217 8 6	845 15 8	6063 4 2	66	1913 15 10
Monmouth	12,400	10,771 15 0	8845 16 1	646 1 2	9491 17 3	202	2706 2 9
Buckingham	29,184	26,080 15 0	19,857 18 0	1232 2 0	21,090 0 0	579	7540 5 9
Cumberland	8173	3800 0 0	2774 16 5	429 6 0	3204 2 5	375	4593 17 7
Glamorgan	5161	4634 15 0	3800 13 11	20 5 9	3820 19 8	20	1320 0 4
Somerset	2881	2760 0 0	2442 9 10	6 10 0	2448 19 10	...	432 0 2
Kent	13,677	8629 0 0	6713 14 7	1018 8 6	7732 3 1	552	5392 16 11
Pembroke	15,929	12,821 15 0	11,081 14 10	881 14 1	11,963 8 11	55	3910 11 1
Montagu	3008	2700 0 0	970 12 4	120 11 10	1091 4 2	10	1906 15 10
Westmoreland	12,199	10,868 0 0	9133 13 1	727 19 5	9861 12 6	393	1944 7 6
TOTALS	£302,347	...	£201,444 19 4	£14,257 5 7	£215,702 4 11	£4628	*£82,678 0 8

* This amount is subject to the conditions of the Acts being complied with.

TABLE F.
RESIDENCE AREAS FUND.

Heading.	Amount available.	Voted and authorised.	Amount expended as per last Return.	Expenditure since last Return.	Total Expenditure to 31st May, 1894.	Further Liabilities.	Balance available for further Expenditure.	Remarks.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Zeehan.....	4026 7 8	3867 9 4	2500 0 0	1306 10 10	3806 10 10	...	219 16 10	
Dundas	578 18 4	572 13 4	375 12 0	197 1 11	572 13 11	...	6 4 5	
Derby	16 5 0	...	...	...	...	...	16 5 0	
Lefroy	58 10 0	25 0 0	...	...	...	...	58 10 0	
Lisle.....	5 0 0	...	...	...	...	...	5 0 0	
Wiangata.....	12 10 0	12 10 0	...	...	...	...	12 10 0	
Mathinna.....	30 0 0	18 15 0	...	...	...	...	30 0 0	
Mangana.....	11 1 0	...	...	...	...	...	11 1 0	
Beaconsfield	10 0 0	2 10 0	...	...	...	...	10 0 0	
Weld	1 5 0	...	...	...	...	...	1 5 0	
	4749 17 0	...	2875 12 0	1503 12 9	4379 4 9	...	370 12 3	

TABLE G.

SUMMARY of Expenditure from 1st June, 1893, to 31st May, 1894.

	£	s.	d.	£	s.	d.
Under Loans Act—						
Railways	10,706	1	11			
Roads.....	22,124	16	8			
Bridges	7346	3	5			
Streets	8504	6	10			
Jetties and Harbours	13,312	3	4			
Lighthouses	1237	18	8			
Buildings	14,610	17	2			
State Schools.....	747	11	6			
Telegraphs	483	17	8			
Defences.....	4536	11	0			
Miscellaneous ..	5939	6	11			
Crown Lands and Waste Lands Acts—						
Roads, Bridges, &c.	14,257	5	7			
Residence Areas Fund—						
Town Streets, &c.	1503	12	9			
				105,310	13	5
Consolidated Revenue Fund—						
Maintenance of Main Roads	9426	7	10			
Repairs to Buildings, &c.....	11,581	6	11			
				21,007	14	9
				£126,318	8	2