During the year the interlocking and tablet systems have been considerably extended. Ten additional stations were equipped with fixed signals and 62 stations with distant signals in addition to their previous equipment of home signals. 295 stations are now equipped with fixed signals and 96 are interlocked; 103 have yet to be dealt with. Eighty-nine electric repeaters have been fitted to signals during the year, making a total of 324 now in use.

The electric tablet system is now in use at 376 stations controlling 2,925 miles of single line, and the lock-and-block operates at 36 stations over 44 miles of double track.

All stations on the North Island Trunk lines, Auckland to Wellington, previously equipped with fixed signals have now been provided with distant signals, and with the exception of nine stations the South Island main lines (Lyttelton–Bluff) have been similarly equipped. This extension of distant signals constitutes a radical improvement in the signalling system, and materially increases the factor of safety where train-crossing has to be effected.

Automatic electric warning-bells have been installed at seventeen level crossings during the year. Bells and switches were also installed at two crossings in Christchurch, and a mechanical alarm-bell in Lyttelton Tunnel. Owing to the war it has become almost impossible to obtain electrical material; the very limited stock in hand must therefore be conserved for the maintenance of the appliances already in operation throughout the railway system.

Revenue.

The gross revenue for the year amounted to £4,800,810, and exceeded last year's earnings by £252,454, and the estimated revenue by £350,810. The particulars are as follows:—

	1917.	1916.
	£	£
Passengers, ordinary	1,717,847	1,566,380
Season tickets	155,201	156,322
Parcels, luggage, and mails	243,832	236,705
Goods	2,498,862	2,423,493
Miscellaneous, rents, &c.	185,068	165,456
	£4,800,810	£4,548,356

The gross receipts per train-mile for all lines were 125·75d., as against 116·50d. for the previous year, an increase of 9·25d. per train-mile.

The North Island main line and branches produced 123·00d. per train-mile, against 112·25d. for the preceding year, an increase of 10·75d.

The receipts per train-mile on the South Island main line and branches were 124·75d., against 117·25d. last year, an increase of 7·50d.

The earnings from the Lake Wakatipu steamers amounted to £7,184, as against £7,243 for the previous year, a decrease of £59.

The net earnings per average mile of railway open for traffic increased by £77 per mile—viz., £632, against £555 for the preceding year.

The net revenue, £1,873,946, was equal to a return of 5·30 per cent. onthe capital invested in the lines open for traffic (£35,378,664), and 4·91 per cent. on the capital invested on the open and unopened lines (£38,187,173).

Expenditure.

The working-expenses for the year, which include £6,602, the cost of working the Lake Wakatipu traffic, amounted to £2,926,864, an increase of £15,981 over the expenditure for last year. The ratio of expenditure to earnings was 60·97 per cent., against 64·00 per cent. for the preceding year, a decrease of 3·03 per cent.

The percentage of expenditure to earnings for the year 1914–15 was 71·14, therefore the ratio of expenditure to earnings shows a decrease of 10·17 per cent. in two years.

Diagrams attached to this report illustrate the fluctuations for the last few years in the ratio of expenditure to earnings. The diagrams also show for comparative purposes the net profits earned by the Australian State railways recently.

	Expenditure.		Per Cent. of Revenue.	
	1916–17.	1915–16.	1916–17.	1915–16.
	£	£		
Traffic	904,318	889,991	18·87	19·60
Locomotive	1,176,647	1,160,705	24·54	25·56
Maintenance	720,840	740,349	15·04	16·30
Management	118,457	113,461	2·47	2·50
	2,920,262	2,904,506	60·92	63·96
Lake Wakatipu steamers ...	6,602	6,377	0·05	0·04
	£2,926,864	£2,910,883	60·97	64·00

The increased expenditure in the Traffic Branch and Head and Departmental Offices resulted mainly from the regulation scale increases in salaries under the Classification Act.

The increase in the Locomotive Branch is due to increase in wages, and advance in the cost of fuel, stores, and materials for repairs and upkeep of plant and appliances.

The expenditure in the Maintenance Branch shows a decrease when compared with last year. This is due to the inability of the Department to obtain materials for carrying out works authorized, consequently the works have had to stand over meantime. The expenditure per mile of railway was £244, as against £251 for the previous year.