

CANADIAN PACIFIC RAILWAY'S EARNINGS

While the meeting of the Directors of the Canadian Pacific Railway last Monday was not productive of news in the direction of increased dividends, new capital stock issues or action of a similar character which the market "bulls" have been predicting for a considerable time, a definite statement regarding the earnings was made after the meeting.

The most essential items concerning the earnings for the fiscal year ended June 30th are that after payment of all dividends, nearly \$12,000,000 is carried forward as a surplus from railway and steamship earnings, besides which there is the sum of \$6,500,000 special income from land sales and other assets, making a net surplus of \$18,896,615 carried forward, or over \$1,500,000 per month.

The net earnings for the first time exceeded \$100,000,000.

In this year's report appeared an item "Special income from interest on land sales and from extraneous assets not included in the above, \$6,602,205." No corresponding item appears in the report for the year ended June 30th, 1910, but a list given in the report which would seem to correspond thereto amounted to a total of \$2,426,477. This item was accordingly used in the above table although the large increase in the corresponding figures for last year would require more explanation than appears on the surface. The net result is the essential item after all. After paying all dividends and making allowance for depreciation and various special charges the surplus carried forward is \$18,475,447, or \$4,578,832 more than the previous year being an increase, as compared with the previous year of 33 per cent.

This is a splendid showing, more especially in view of the fact that last year's crop was considerably smaller than was at first hoped, and also in view of the fact that many of the American railroads showed a considerable shrinkage in earnings as compared with the previous year. After paying all charges and dividends and after making allowance for depreciation, etc., the company has been able to carry forward a surplus, over and above all charges, of one and a half million dollars per month. The fact that the Western crop this season is fully 75 per cent. greater than a year ago will exercise its influence on the earnings of the company for the current year and the company will be able to show still greater earnings than those mentioned above.

RAILROAD AND COMPANY EARNINGS.

The following are the railway earnings for the week ended August 7th:—

	1910.	1911.	Increase.
C.P.R.	\$2,065,000	\$2,272,000	\$207,000
C.N.R.	248,200	332,550	84,350
Halifax Electric Ry. ..	5,071	5,641	570
T. & N.O. Railway ..	23,986	35,802	11,816

The total earnings of the Calgary Street Railway for July were \$39,147, an increase over last year of \$16,000. Total operating expenses were \$15,187, and after the addition of the interest and sinking fund and the contingent account, there was still a profit of \$16,739. The proportion of operating expenses to revenue is decreasing, as the cost this year was 38 per cent., while last year it was 40 per cent. The number of passengers carried was 919,325.

The Grand Trunk Railway's surplus is £263,000. The directors promise a full dividend on the first and second preferred stocks, carrying forward about £11,700. The Great Western deficit is £31,462, owing to the strike in July and August, 1910. It has been decided to carry the balance forward to next year.

COMPARATIVE COSTS OF SEWAGE PURIFICATION.

The annual reports of Matthew Gault, Superintendent of Sewers for the City of Worcester, Mass., contain interesting and valuable data on the methods and cost of purifying sewage in that city. The data given in this article are compiled from the last two annual reports.

The purification of sewage involves three distinct problems, viz.: (1) The removal and disposal of the suspended matters; (2) the oxidation of the dissolved organic matters, so that the effluent shall be non-putrescible; and (3) the disinfection of this effluent, so as to render it free from pathogenic germs. The extent of the purification required in any given case depends upon local conditions.

The City of Worcester is required, by statute, to "remove from its sewage, before it is discharged into the Blackstone River, the offensive and polluting properties and substances therein, so that after its discharge into said river, either directly or through its tributaries, it shall not create a nuisance or endanger the public health."

The first problem, the removal and disposal of the suspended matters, was effectively solved by the adoption of chemical precipitation and sludge pressing, the sludge-cake being used, mainly, for filling up a large swampy area.

As time went on it became apparent that, under existing conditions, the removal of suspended matters alone was not satisfying all of the requirements. Accordingly, steps were taken towards the solution of the second problem, the oxidation of the dissolved organic matters, by providing intermittent sand filters.

The area now available for this purpose, January 1, 1911, amounts to nearly 75 acres. Upon this area it is possible to treat an average of 40 per cent. of the organic matter of the entire sewage with very satisfactory results.

While it will probably never be essential at Worcester to take the final step of sterilization of the sewage effluent, it will undoubtedly be necessary to continue to provide means for the bacterial purification of the sewage.

The population of Worcester by the census of 1910 was 146,000. The estimated population using the sewerage system was 136,000.

The disposal works consist of sedimentation and chemical precipitation tanks, intermittent sand filters, and small sprinkler filters installed for experimental purposes. The quantity of sewage received at the purification works during 1910 averaged 14,570,000 gals. per day. Practically all the sewage was passed through the grit chambers, which collected a total of 565 cu. yds. of deposit, or approximately 0.11 cu. yd. per million gals. of sewage. This deposit was hauled to a nearby gravel pit.

The strongest sewage is selected for sand filtration up to the capacity of the area provided. The remainder is treated by chemical precipitation, with the exception of a relatively small amount applied to the sprinkler filters. The quantity of sewage treated in each way during 1910 is as follows:—

	Million Gallons.		Per cent.
	Total.	Daily.	of total.
Chemical precipitation ...	3,580	9.81	67.3
Sand filtration	1,722	4.72	32.4
Experimental sprinkler filters ..	15	0.04	0.3

Chemical precipitation required the use of 989 lbs. per million gals. of sewage treated. The results of this treatment, measured by albuminoid ammonia, show a removal of 77.8 per cent. of the suspended organic matter. The sludge from chemical precipitation, amounting to 15,946,000 gals.,