

DOMINION OF CANADA

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ANNUAL REPORT

OF THE

DEPARTMENT OF RAILWAYS AND CANALS

For the Fiscal Year from April 1, 1916, to March 31, 1917

*Submitted in accordance with the provisions of the Revised Statutes of Canada, 1916,  
Chapter 35, Section 33.*

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1918

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*To His Excellency the Duke of Devonshire, K.G., P.C., G.C.M.G., G.C.V.O., etc., etc.,  
etc., Governor General and Commander in Chief of the Dominion of Canada.*

MAY IT PLEASE YOUR EXCELLENCY,—

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Railways and Canals, of the Dominion of Canada, for the past fiscal year from April 1, 1916, to March 31, 1917.

J. D. REID,  
*Minister of Railways and Canals.*



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**REPORT**  
OF THE  
**DEPUTY MINISTER OF RAILWAYS AND CANALS**  
  
**FOR THE YEAR ENDING MARCH 31, 1917.**

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To the Honourable J. D. REID,  
Minister of Railways and Canals.

SIR,—In presenting the departmental report for the fiscal year 1916-17, it is necessary that explanation be given as to the very considerable reduction in the amount of the material comprised in it, in comparison with reports of previous years. This reduction has been made in conformity with the requirements of the Order in Council of the 23rd of October, 1917, passed in view of the conditions arising out of the war, which have compelled curtailment of expenditure on public printing.

The present report accordingly omits all maps, plans, and illustrations of canal and railway works, such as in past years have been supplied, and which, though of much interest and value, are not essential, and can reasonably be dispensed with under the circumstances.

Further, the printing of the subsidiary detail reports sent in by the individual engineers and other officers has, as required by the order, been omitted, only the direct reports of the chiefs being inserted; the detail reports are, however, of course, available for reference in the department if required. Various statistical tables and miscellaneous information relating to previous years, dimensions, etc., are this year omitted, but are available in the reports already published. The reports of the accountant of the department and of the comptroller of government railways are printed practically as heretofore, though with some compression and rearrangement, which does not impair their utility.

The making of these reductions has naturally been facilitated by the suspension of certain construction works undertaken by the department and the curtailment of its operations, otherwise, in the interests of economy.

## GENERAL SUMMARY.

During the twelve months of the past fiscal year 1916-17 the expenditures made by or through the department on its several works of operation, maintenance, and construction, both railway and canal, and in furtherance by subsidy, under specific votes granted by Parliament, of railway enterprises in various parts of Canada other than the government roads; also the revenue derived from the government works, aggregate as follows: The total railway expenditure, including the Quebec bridge, amounted to \$41,895,886.53, of which \$14,737,326.70 was charged to capital, \$25,799,906.54 to revenue, and \$1,358,653.29 to income.

The railway expenditure on capital account included \$4,490,472.56 for the Intercolonial railway, \$609,751.71 for the Prince Edward Island railway, \$3,916,586.20 for the National Transcontinental railway, which is in course of construction by a board of commissioners, \$2,604,279.94 for the Hudson Bay railway, and \$2,733,677 for the Quebec bridge; \$3,724.98 for the International railway; \$46,579.38 for the New Brunswick and Prince Edward Island railway; and \$332,254.93 for the Quebec and Saguenay railway.

The railway expenditure on income included a total of \$959,583.88 paid as subsidies to railways other than the government roads, \$215,947.14 for the Board of Railway Commissioners for Canada, and \$46,630.53 for railway grade crossing fund, and \$44,149.09 for surveys and inspections.

The expenditure on the Intercolonial railway amounted to \$20,143,830.34, namely, \$4,490,472.56 on capital account, and on revenue account (working expenses and improvements and betterments), \$15,653,357.78.

On the Prince Edward Island railway, the total expenditure was \$1,443,604.73, of which \$609,751.71 was charged to capital and \$833,853.02 to revenue.

The total expenditure on the National Transcontinental railway amounted to \$11,723,508.40, namely, \$3,916,586.20 on capital, and \$7,806,922.20 on revenue account (working expenses). The working expenses for the International railway amounted to \$165,107.26, which does not include the sum of \$90,000 paid as rental for the road. The working expenses for the New Brunswick and Prince Edward Island railway were \$78,031.22, and for the St. John and Quebec railway, \$98,300.42.

The expenditure on canals aggregated \$6,028,100.73, of which \$4,304,589.09 was chargeable to capital account, \$399,414.50 to income, \$801,937.90 for staff, and \$522,159.24 for repairs, the last two amounts being charged to revenue.

Adding to the above for miscellaneous expenditures common to both branches, the sum of \$302,095.14, of which \$299,934.09 was chargeable to the special war appropriation (special services having been required of the department in connection with the war, entailing expenditures for the protection of its bridges and canal structures, transportation of goods for the Belgium Relief Fund, the Red Cross Society, and for payment of salaries for substitutes for enlisted men), the total expenditure for the year on railways and canals was \$48,226,082.40.

The total revenue derived from the government railways and canal works was \$24,001,181.75, of which the railways produced \$23,539,758.61, and the canals,

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\$461,423.14,<sup>1</sup> the sum of \$271,820.28 being derived from hydraulic and other rents, and \$175,536.50 from the Port Colborne elevator.

The total government expenditure on railways prior to and since Confederation (July 1, 1867) up to March 31, 1917, amounts, on capital account, to \$391,884,025.79, including expenditure on the Quebec bridge, and also the sum of \$25,000,000 granted to the Canadian Pacific Railway Company for its main line; also the amount, \$660,683.09, expended on the Annapolis and Digby railway. In addition, there has been expended from the consolidated fund a total of \$267,997,373.17, covering the operating expenses of the government roads, and \$75,117,415.47 on subsidies other than that for the main line of the Canadian Pacific railway, making a total expenditure of \$734,998,814.43.<sup>2</sup> Of this amount, the sum of \$13,881,460.65 was expended prior to Confederation, namely on the construction of portions of what is now the Intercolonial Railway system, \$10,766,725.54, and on the construction of the Prince Edward Island railway, \$3,114,735.11.

The total government expenditure on canals prior to and since July 1, 1867, to March 31, 1917, amounts on capital account to \$122,919,314.84, of which \$20,593,866.13 was expended prior to Confederation, and from the consolidated fund, for operation, maintenance and repairs, \$41,221,419.60, making a total of \$164,140,734.44.

The total expenditure on the two branches, railways and canals, up to March 31, 1917, is as above, \$899,139,548.87, adding to which for general expenditures embracing both, the further sum of \$1,457,384.31, the grand total expenditure amounts to \$900,596,933.18.

The total revenue collected since July 1, 1867, to March 31, 1917, amounts, from the government railways, to \$248,395,298.47, and from the canals to \$16,665,271.32, making a total of \$265,060,569.79.

Details in tabulated form showing the general classes and directions of the above expenditures and revenues will be found in the statements of the accountant of the department, printed in the appendices, Part I.

GOVERNMENT RAILWAYS IN OPERATION.

The government railways in operation and their main line lengths are, respectively, as follows:—

	Miles.
Intercolonial Railway . . . . .	1,518'39
Prince Edward Island Railway . . . . .	275'20
National Transcontinental Railway . . . . .	1,811'28
Grand Trunk Pacific Railway (the Lake Superior Branch leased). . . . .	191'75
New Brunswick and Prince Edward Island Railway . . . . .	36'05
International Railway of New Brunswick . . . . .	111'30
Total . . . . .	3,943'97
St. John and Quebec Railway operated but not owned . . . . .	119'87
Total . . . . .	4,063'84

<sup>1</sup> Under the authority of an Order in Council, dated June 22, 1905, the system of charging tolls for the passage of vessels and goods was abolished on all the canals of the Dominion. Records, however, are kept for statistical purposes, and the compilation of the resultant figures is given in a separate report issued by the department.

<sup>2</sup> This amount does not include the annual payment of \$119,700 to the Provincial Government of Quebec, being interest at the rate of 5 per cent on the sum of \$2,394,000 up to 1905, granted by 47 Victoria, ch. 8 (1884), nor the annual payment of \$107,730, being interest at the rate of 4½ per cent since and including 1905, on the said sum of \$2,394,000, for the line between Ottawa and Quebec, which sum was transferred to the public debt as a liability, and is dealt with by the Finance Department. (See Public Accounts, 1893-4, page 10, and 1906, page 79.)

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Information as to these roads will be found in reports of the General Manager and other officials, Appendix II, with traffic details of each road separately in *tabulated* form on pages 40 and 41.

The Intercolonial Railway earnings amounted to \$16,767,386.89, and its working expenses to \$15,653,357.78, including the rental of the Vale railway at \$1,200 a year, producing a surplus of \$1,112,829.11. This surplus has been partly absorbed, under the authority of the Act of 1912, chapter 8, by crediting the Rail, the Fire and the Equipment Renewal Accounts with amounts aggregating \$1,070,334.64. \$4,000 was paid as "compassionate allowances" under special votes.

The Prince Edward Island Railway working expenses amounted to \$833,853.02. Its earnings amounted to \$630,045.69, the deficit being \$203,807.33.

The International Railway working expenses amounted to \$165,107.26, and the earnings to \$116,678.67, a deficit of \$48,428.59. This does not include the sum of \$90,000 paid as interest on the purchase price of the road.

The St. John and Quebec Railway working expenses amounted to \$98,300.42, and the earnings to \$70,759.62, a deficit of \$27,540.80.

The New Brunswick and Prince Edward Island Railway working expenses amounted to \$72,357.80, and the earnings to \$38,336.75, leaving a deficiency of \$34,021.05. This does not include \$5,673.42 paid as interest on the purchase price of the road pending payment.

The working expenses of the portion of the National Transcontinental Railway operated by the Government amounted to \$7,206,922.20, not including \$600,000 paid for rental of the Lake Superior branch. The earnings amounted to \$5,916,550.99.

The total length of the government railways in operation amounted to 3,943.97 miles. The train mileage was 12,412,757 miles, and car mileage, 204,369,625. The total earnings were \$23,930,398.06, which is \$5,853.38 per mile, \$1.86 per train mile, or \$11.30 per car mile. The expenses were \$1.89 per train mile, amounting to \$5,973.72 per mile of railway.<sup>1</sup>

The expenditure for maintenance of way and structures amounted to \$4,727,351; maintenance of equipment, \$4,426,200; traffic, \$418,425; rail transportation, \$13,227,794; water transportation, \$370,229; rental of leased lines, \$696,873; miscellaneous, \$760,397; the total expenditures aggregated \$24,627,261.<sup>1</sup>

The repairs to locomotives amounted to \$1,803,420.63; to freight cars, \$1,327,376.99; to passenger cars, \$721,547.50.<sup>1</sup>

The passenger traffic produced \$6,705,080.28; the freight traffic, \$16,642,458.16; and mail and express, \$664,910.04. The total number of passengers was 5,764,170, namely, through passengers, 459,075, and local, 5,305,095.<sup>1</sup>

The local freight traffic amounted to 5,605,403 tons, and the through traffic to 4,744,073 tons, a total of 10,349,476 tons; the total mileage for both was 3,012,144,640 miles.<sup>1</sup>

There are 76.21 miles of double tracking and 973.71 miles of sidings and spurs.

The weight of the rails laid is 80 pounds per yard for 3,178.02 miles, and 85 pounds for 273.24 miles, the balance being of lighter weight rails.

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<sup>1</sup> These figures do not include the St. John and Quebec railway.

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The capacity of the freight yards has been increased largely at several points, and two grain elevators are being built, a new 500,000-bushel one at St. John, N.B., replacing that destroyed by fire, and the other a 1,000,000-bushel one at Transcona, Man.

The sum of \$1,070,334.64 was placed to the credit of Equipment Renewal Account and \$40,266.01 was received for sales of old rolling stock. During the year there was spent on this account a total of \$2,514,092.38 in the purchase of rolling stock, leaving a credit balance on March 31, 1917, of \$1,661,208.89.

The total number of freight cars on hand at the close of the year is 17,121, and of passenger cars, 639. There are 10,400 box cars, 198 refrigerating cars, 3,371 platform cars, 1,175 dump cars, 385 stock cars and 1,592 cars of other descriptions. In addition, there are 575 work cars.

The number of locomotives at the close of the year was 547, of which 113 were either purchased or built during the year.

In addition to the above rolling stock, the equipment of the Prince Edward Island railway, which is a narrow-gauge railway, consists of 31 locomotives, 59 passenger cars, 530 freight cars and 20 work cars.

The Safety Engineer reports that during the year 629 employees were injured and thirteen killed; 21 passengers were injured, but none were killed.

The value of stores on hand at the close of the year was \$4,818,102.74, comprising ordinary stores and fuel, \$4,071,207.71, and roadway and bridge material, \$746,895.03.

The above statements do not contain the expenditure nor revenue of the St. John and Quebec railway.

The Carleton branch of the Prince Edward Island railway, 3 miles in length, connecting Carleton Point to the Cape Traverse branch of the railway, has been completed. The terminal works at cape Tormentine and at Carleton Point are completed, with the exception of certain filling and dredging.

#### COMPARATIVE STATISTICS, INTERCOLONIAL RAILWAY, YEARS 1915-16 AND 1916-17.

In 1915-16, the average tons of freight carried per train, producing revenue, was 327.86, and the number of passengers, 64.15; in 1916-17, the average freight tonnage was 357.07, and passengers, 94.82.

In 1915-16, the average tons per loaded car, producing revenue, was 19.22, and the number of passengers, 9.24; in 1916-17, the number of tons was 22.08, and of passengers, 12.16.

The number of tons per train, all freight, in 1915-16, was 332.62, and in 1916-17, 358.40.

The number of tons per car, all freight, in 1915-16, was 15.95, and in 1916-17, 18.27.

The average distance each ton of freight was carried in 1915-16 was 280.58 miles, and in 1916-17, 261.53. The average distance passengers were carried in those years was 48.21 miles and 72.04, respectively.

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The average number of loaded cars per train in 1915-16 was 17.05 cars of freight, and 6.94 cars of passengers; in 1916-17, the number of freight cars per train was 16.03, and of passengers, 7.80.

The average number of empty cars per train in 1915-16 was 3.79, and in 1916-17, 3.58.

In 1915-16, the average of train miles per mile of road was, for freight trains, 3,137.84, and for passenger, 2,029.72; in 1916-17, these figures were, respectively, 3,365.72 and 2,270.37.

In 1915-16, the average per mile of road of revenue producing freight carried one mile was 1,028,785.16 tons, and passengers, 130,201.02; in 1916-17, the figures were: freight, 1,191,703.93 tons, and passengers, 215,271.92.

The number of tons all freight, per mile of road, carried one mile in 1915-16 was 1,043,694.43, and in 1916-17, 1,206,280.31.

The train mileage in 1915-16 was: passenger, 3,099,463 miles; freight, 4,791,476 miles; and in 1916-17, passenger, 3,447,301 miles; freight, 5,110,481 miles.

The loaded car mileage in 1915-16 was 81,714,686 miles, and in 1916-17, 81,933,436 miles.

The empty car mileage in 1915-16 was 18,178,425 miles, and in 1916-17, 18,294,030 miles.

The caboose car mileage in 1915-16 was 4,515,858 miles, and in 1916-17, 4,773,896 miles.

The total car mileage in 1915-16 was: passenger, 21,506,251 miles, and freight, 104,408,969 miles; in 1916-17 the figures were: passenger, 26,872,639, and freight, 105,001,362.

The total freight moved in 1915-16 was 5,680,178 tons; of this quantity, 5,447,220 tons were revenue producing. In 1916-17 the total freight moved was 7,003,379 tons, of which 6,770,224 tons were revenue producing.

Repairs to passenger cars cost, per car, in 1915-16, \$717.77, or per car mile, 1.67 cents; and in 1916-17, \$882.59, or per car mile, 1.73 cents.

Repairs to freight cars cost, per car, in 1915-16, \$60.12, or per car mile, 0.81 of a cent; and in 1916-17, \$75.83, or per car mile, 0.78 of a cent.

Repairs to locomotives cost, per locomotive, in 1915-16, \$1,930.91, or per locomotive mile, 6.86 cents; and in 1916-17, \$2,797.43, or per locomotive mile, 9.48 cents.

#### PRINCE EDWARD ISLAND RAILWAY.

This is a narrow gauge railway, 3 feet 6 inches. It extends from Tignish to Georgetown, 158.60 miles, and from Charlottetown to Murray Harbour, 52.30 miles, with branches to Souris, Elmira and Cape Traverse. The length of the road operated was 275.20 miles.

#### CAPITAL ACCOUNT.

There was an addition of \$609,751.71 to the expenditure on capital account during the year ended March 31, 1917, making the total capital expenditure \$11,451,124.15. The principal item was \$604,676.86 for the car ferry between Carleton Point. P.E.I., and Cape Tormentine, N.B., on the mainland.

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## REVENUE ACCOUNT.

The gross earnings amounted to \$630,045.69, and the working expenses to \$833,853.02, leaving a deficiency of \$203,807.33. Compared with the previous year, there was an increase of \$239,118.87 in the gross earnings, and an increase of \$288,832.40 in the working expenses.

The number of passengers carried was 401,636, producing a traffic of \$247,002.37, of which \$69,113.52 was for water traffic. Of freight, 150,101 tons were carried. The freight earnings amounted to \$219,442.74 for the railway and \$108,508.13 for water traffic to mainland. The earnings from mail and express amounted to \$47,498.70 for the railway and \$7,593.75 for water traffic.

The engine mileage was 458,376 miles; the train mileage, 368,495 miles; the car mileage, 2,143,610 miles.

The gross earnings per mile of railway amounted to \$1,616.39; per engine mile, 97 cents; per train mile, 1.21; and per car mile, 20.75 cents.

The working expenses per mile of railway aggregated \$2,135.15, and per train mile, 159.46 cents.

## NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

Under an agreement, dated March 18, 1915, ratified by the Act of 1915, chapter 16, and under an Order in Council of May 12, 1915, this railway has been purchased by the Government, as part of the government railway system, for the sum of \$270,000. The agreement provided that it should be held to have come into force on August 1, 1914, and that the Government should have the right to sole possession, to operate the road, and to receive all its revenues, until the transfer is completed and the purchase price paid. The transfer has not yet been completed, but the road was taken over on August 31, 1914, and has since been operated by the Government.

The road is 36.05 miles in length, and runs from Sackville to cape Tormentine, New Brunswick, forming a connection between the Intercolonial railway and the new car ferry between cape Tormentine and Carleton Point, on Prince Edward Island.

Details as to working expenses, traffic, etc., will be found in the reports of the General Manager of Government Railways and other officers, Appendix II.

## INTERNATIONAL RAILWAY OF NEW BRUNSWICK.

Under an agreement, dated August 1, 1914, ratified by the Act of 1915, chapter 16, and under an Order in Council of August 27, 1914, a lease of this railway has been entered into by the Government for a term not exceeding five years, at an annual rental of \$90,000, payable half-yearly, with option of purchase at any time within that period for the sum of \$2,700,000. The road was taken over, as part of the government railway system, on August 1, 1914. It is 111.30 miles in length, extending from the Intercolonial railway at Campbellton, N.B., to St. Leonards, N.B.

Details as to working expenses, earnings, traffic, etc., will be found in the reports of the General Manager of Government Railways, and other officers, Appendix II.

## ST. JOHN AND QUEBEC RAILWAY.

By the Act of 1912, chapter 49, a certain agreement, dated the 5th of March, 1912, made on behalf of the Dominion and the province of New Brunswick and the St. John and Quebec Railway Company for leasing to the Dominion, for a term of ninety-nine years, the company's railway, when fully constructed, from the city of St. John, N.B., to a point of connection with the Transcontinental railway at or near the town of Grand Falls, N.B., was ratified; the Act to come into force on proclamation by the Governor in Council. The agreement provided that on construction and equipment of certain sections, the Dominion would lease and operate the same.

The road extends from Centreville to Gagetown, 119.87 miles. The portion from Centreville to Fredericton was taken over for operation by the Canadian Government Railways on January 1, 1915, and the portion from Fredericton to Gagetown on March 2, 1915.

Details as to working expenses, earnings, traffic, etc., will be found in the reports of the General Manager of Government Railways and other officers, Appendix II.

## HUDSON BAY RAILWAY.

This railway will run from The Pas, Manitoba, a point on the river Saskatchewan where connection is made with the Canadian Northern Railway system, to Port Nelson, on the western coast of Hudson bay.

The work of construction for the first 185 miles, from The Pas to Thicket Portage, was placed under contract in August, 1911. A contract for a further distance of 68 miles, from Thicket Portage to Split Lake Junction, was let on September 20, 1912, and a third contract, covering the distance, 165 miles, from Split Lake Junction to Port Nelson, on December 17, 1912, a total distance of 418 miles.

The final location into Port Nelson was completed in August, 1914, making the total length of the line from The Pas to Port Nelson, 424 miles. By the end of the fiscal year, March 31, 1917, grading had been completed, except about 11 miles of gaps, to Port Nelson; the track had been laid and the telegraph line built up to about mile 334, the second crossing of the river Nelson, at Kettle rapids.

Over 80 per cent of the track, out of the total 424 miles of railway, has been laid up to the second crossing of the Nelson river at Kettle rapids, about 90 miles from Port Nelson, where the bridge substructure work has been begun.

The work of constructing the terminals for the railway at Port Nelson has been carried on by the Department with a force under an engineer in charge.

The construction of the permanent deep water works, giving connection between the mainland and deep water, has made satisfactory progress in view of an unusually stormy season. The system of steel bridges, seventeen spans, has been completed.

In the season of navigation of 1915 occulting acetylene gas beacon lights, visible at a distance of 8 miles, were established by the Department of Marine and Fisheries at a number of points in Hudson bay and Hudson straits.

Communication with Port Nelson is afforded by means of Marconi wireless stations established at that point and at The Pas.

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The expenditure for the fiscal year ended March 31, 1917, was \$2,604,279.94, making the total expenditure up to that date, \$18,354,188.37.

## NATIONAL TRANSCONTINENTAL RAILWAY.

Under an agreement, dated July 29, 1903, ratified by the Dominion Act of that year, chapter 71, and under a modifying agreement dated February 18, 1904, ratified by the Act of that year, chapter 24, the Grand Trunk Pacific Railway Company, a company incorporated by the Act of 1903, chapter 122, undertook certain obligations in respect of the construction and operation of a line of railway, wholly upon Canadian territory, between the city of Moncton, in the province of New Brunswick, and the navigable waters of the Pacific ocean. The railway is composed of two divisions, namely, the eastern division, between Moncton and Quebec, thence westerly through the northern part of the provinces of Quebec and Ontario, and, in the province of Manitoba, to the city of Winnipeg, and the western division, between Winnipeg and the Pacific ocean. The eastern division is being constructed by the Government under commissioners appointed by the Governor in Council, and on completion is to be leased to and maintained and operated by the company, who undertake to construct at their own cost, and maintain and operate, the western division. The lease of the eastern division is to be for a period of fifty years, at a rental of 3 per cent per annum upon the cost of its construction; the first seven years of the term to be free of rent; both divisions are to be equipped with modern and ample rolling stock by the company, the first equipment to be of a value of not less than \$20,000,000.

By way of assistance to the company in the construction of the western division, it is provided that the Government shall guarantee payment of the principal and interest of an issue of bonds to be made by the company for an amount sufficient to produce a sum equal to 75 per cent of the cost of its construction; but not to exceed \$13,000 per mile in respect of the prairie section from Winnipeg to the eastern limit of the Rocky mountains. This limit has been established as the east bank of Wolf creek, a point 120 miles west from Edmonton.

By the Act of 1905, chapter 98, three deeds of trust by way of mortgage, set out in the said Act, were ratified and confirmed, namely, one dated June 10, 1905, between the Grand Trunk Pacific Railway Company, the Royal Trust Company, and His Majesty, to secure the issue of first mortgage bonds; the second dated March 15, 1905, between the Grand Trunk Pacific Railway Company, the National Trust Company, and the Grand Trunk Railway Company, to secure the issue of second mortgage bonds, and the third, also dated March 15, 1905, between the Grand Trunk Pacific Railway Company, the National Trust Company, and the Grand Trunk Railway Company, to secure the issue of first mortgage bonds in respect of the branch line designated as the "Lake Superior Branch."

Payments from the proceeds of the bonds of the company for work done, etc., on the western division, are made from time to time on certificates given by the Government Chief Engineer of this division, showing approved expenditures.

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By the Act of 1909, chapter 19, authority was given for aiding in the completion of the construction of the "prairie" section by a loan to the company of \$10,000,000, to be secured, as collateral, subject to any prior lien, by a mortgage on the "prairie" section of their road; such loan to bear interest at the rate of 4 per cent per annum, and to be repayable in ten years.

This loan, which is dealt with by the Finance Department, was duly made; the mortgage deed being dated May 22, 1909.

By the Act of 1913, chapter 23, authority was given for a loan to the company not exceeding \$15,000,000, at 4 per cent interest, the loan being repayable by July 1, 1923. Under this authority, \$15,000,000 has been advanced to the company. Its debentures to an equal amount have been taken by the Government in pledge as security for this loan, as provided by the Act.

By the Act of 1913, chapter 24, authority was given for the purchase of 3 per cent bonds of the company to the extent of the balance of the authorized issue. Such balance, to the amount of \$6,800,000, has been purchased by the Government.

By the Act of 1914, chapter 34, authority was given for the guarantee of the principal and interest of an issue of 4 per cent bonds to be made by the company for the purpose of aiding the provision of the balance of moneys required for the completion of the "Mountain Section" to provide for expenditures not exceeding \$16,000,000; such bonds to be secured by a new trust deed granting mortgages or charges upon the present and future undertakings and properties of the company; such guarantee to be accepted as a full, final and satisfactory settlement of all claims by the company for further aid in respect of the construction of the western division.

In pursuance of this Act, a trust deed securing the issue of bonds to the amount of £3,280,000, was executed on August 5, 1914.

The several government expenditures on the eastern division were to be made from appropriations by Parliament for the purpose, and on the recommendation of the Minister of Railways and Canals, to whom accounts of all receipts, expenditures and liabilities are to be furnished monthly.

By various Acts and Orders in Council, the time for completion has been extended, and by the Act of 1914 (the Grand Trunk Pacific Railway Guarantee Act), section 11, it was provided that "notwithstanding anything contained in the said trust deed of tenth of June, 1905, or in any Act or Order in Council heretofore passed, the date for completion of the western division shall be the 31st of December, one thousand nine hundred and fifteen." By section 2 of this Act, the "Western Division" was defined as extending from the city of Winnipeg to the Pacific ocean.

By the Act of 1912, chapter 39, the construction of the eastern division, and its operation, until completed and leased to the Grand Trunk Pacific Railway Company, was placed under the charge and control of one commissioner (in place of four) to be appointed by the Governor in Council, and to hold office during pleasure. By an Order in Council, dated April 4, 1912, Mr. R. W. Leonard, C.E., the Chairman of the Commission as then existing, was appointed as such commissioner. Mr. Leonard having resigned, the Minister of Railways and Canals was appointed commissioner by an Order in Council of July 3, 1914, as authorized by the Act of that year, chapter 43.

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## EASTERN DIVISION.—MONCTON TO WINNIPEG.

Tracklaying between Moncton and Winnipeg was completed (with the exception of the Quebec bridge) in November, 1913, the last spike being driven on the 17th of that month.

Pending the completion of the Quebec bridge, the communication across the river will be made by a train ferry.

The statement of the accountant of the department (Part I of the Appendices) shows the capital expenditure on the eastern division for the year ended March 31, 1917, to be \$3,916,586.20, and the total expenditure on capital up to that date, \$163,797,783.66.

During the year 1913-14 the road was operated to a limited extent by the Intercolonial Railway, for the distance 285.25 miles, between Moncton, N.B., and Escourt, Que., a point 54.85 miles west of Edmundston, N.B. During the fiscal year 1914-15 the operation of the road was carried on by the Intercolonial Railway between Moncton and Chaudière, a distance of 455.15 miles.

On May 1, 1915, the National Transcontinental Railway from the city of Quebec to Winnipeg, a distance of 1,355.95 miles, was taken over for operation as part of the Canadian Government Railway system, and was put in operation as such on June 1, 1915.

On July 1, 1915, the Lake Superior branch, between Lake Superior Junction on the Transcontinental Railway and Fort William, Lake Superior, 191.75 miles, was taken over for operation by the Canadian Government Railways, having been leased by the Government from the Grand Trunk Pacific Railway Company.

Authority for the leasing of this branch by the Government was given by the Act of 1915, chapter 18, which provided that any contract for leasing for more than five years, or for the acquisition of the branch, was to be subject to ratification by Parliament.

Under authority of an Order in Council of June 2, 1915, a contract was entered into, dated June 29, 1915, for leasing the branch for 999 years from May 1, 1915, at a rental of \$600,000 a year, payable half-yearly, the first payment to be made on November 1, 1915. The contract provided for an option to the Government for the purchase of the branch for \$13,333,333.33 at any time after March 31, 1936, on notice of one year; the lease to be ratified before June 1, 1920.

The whole railway between Moncton and Winnipeg is operated by the Canadian Government Railways, the distance being 2,003.03 miles, including the Lake Superior branch, 191.75 miles, and the two branches into Quebec city, namely: the Cadorna branch, 5.88 miles, and the Champlain Market branch, 6.48 miles. The Quebec bridge, 0.61 mile, under construction, is not included.

The working expenses amounted to \$7,206,922.20, and the gross earnings to \$5,916,550.99, leaving a deficit of \$1,290,371.21. In addition, \$600,000 was paid as rental for the Lake Superior branch.

Details will be found in the statements of the Comptroller and Treasurer of Government Railways, herewith (Appendix, Part II).

## WESTERN DIVISION.

The Western Division extends from the western boundary of the Winnipeg terminals, on the east bank of the river Assiniboine, in the city of Winnipeg, to the city of Prince Rupert, on the Pacific coast, a distance of 1,748 miles, including the 3½ miles on the Shore line of the terminal grounds.

It is divided into two sections, namely, the "Prairie Section," extending from Winnipeg to the east bank of Wolf creek—a point 120 miles west of Edmonton, the capital of the province of Alberta—a distance of 915 miles, and the "Mountain Section," which extends from the east bank of Wolf creek to Prince Rupert, a distance of 830 miles. The terminals extend for a further distance of 3¼ miles around the water front of the city of Prince Rupert.

The Government chief engineer of the division, on whose certificates payments are made to the company, is Sir Collingwood Schreiber, K.C.M.G., whose report, showing the position of the work at the close of the fiscal year, March 31, 1917, will be found printed in the appendices hereto, Part IV. He states that the entire division is in good, safe condition for operation for public traffic, but that to comply with the parliamentary acts, the contract and the specification, work to the estimated value of \$2,297,500 remained to be executed on the Prairie section, and of \$2,330,385 on the Mountain section. He gives details of this work. He states that the amount of certified expenditure is: for the Prairie section, \$37,910,534.88, and for the Mountain section, \$93,160,195.76, a total of \$131,070,730.64.

The whole division between Winnipeg and Prince Rupert has been operated since September 6, 1914.

QUEBEC BRIDGE.<sup>1</sup>

On August 29, 1907, the cantilever bridge in course of construction over the river St. Lawrence by the Quebec Bridge and Railway Company (originally commenced under a subsidy of \$1,000,000 authorized by the Act of 1899, chapter 7, and a subsidy agreement, dated November 12, 1900), collapsed.

Under the terms of an agreement with the company, dated October 19, 1903, ratified by the Act of 1903, chapter 54, the Government had undertaken to guarantee the principal and interest of the bonds or other securities of the company to the limit of \$6,678,200, the company releasing claim to the balance remaining unpaid of the said subsidy; such guarantee to be secured by mortgage on the company's franchises, tolls and property. On February 1, 1904, a mortgage trust deed was executed, conveying to the Royal Trust Company (Montreal) as trustees, all the property and franchises of the company, and providing for the issue of bonds accordingly.

It was provided in this agreement that the Government should have the right at any time, on one month's notice, to take over the company's undertaking, assets,

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<sup>1</sup>The history of the Government's connection with the bridge prior to its collapse is given in the Department Annual Report of 1907-8, p. xlvii.

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property and franchises on paying the shareholders the amount of their stock at par not exceeding \$265,585.70, with simple interest at 5 per cent and a premium of 10 per cent on the par value of the paid-up shares.

Of the said subsidy of \$1,000,000, there had been paid to the company a total of \$374,353.33 prior to the execution of the above agreement, and subsequent to its execution, payments were made from the proceeds of their bonds on certificates of the Government engineer covering work done and materials delivered.

After the collapse of the bridge, the right of the Government to take over the company's undertaking was exercised under the authority of an Order in Council of August 17, 1908. The date of assumption was December 1, 1908. The total of the amounts paid by the Government to the several shareholders for their shares was \$355,279.07, payment being made to the parties concerned in November, 1908. The deed of assignment and transfer from the company to the Government was dated October 18, 1909.

Under authority of an Order in Council of August 17, 1908, a board of three engineers was constituted for preparation of a new design and specification, and for the reconstruction of the bridge, with powers to call in expert engineers as advisers on points of difference that might arise.

In June, 1910, the formal call for tenders was made by newspaper advertisement. In response, 35 different propositions were submitted, which were duly considered by the board, who, finally, after calling in advisory engineers, recommended the acceptance of an alternative design sent in by the St. Lawrence Bridge Company (with whom are associated the Dominion Bridge Company and the Canadian Bridge Company). This design the board considered to possess certain features of strength, simplification of erection, economical distribution of material, and general appearance which, in their opinion, would produce a bridge that "would compare most favourably with the highest type of long-span bridges in existence." By an Order in Council of March 31, 1911, authority was given for entrance into contract with the conjoined companies named, and such contract was executed under date April 4, 1911. The contract price is 9.02 cents a pound, aggregating about \$8,650,000, a saving of about \$2,600,000 having been effected by the elimination of the highways for vehicular traffic contemplated in the original design; the contract date for completion was December 31, 1915.

The bridge will have a total length of 3,228 feet, or about three-fifths of a mile. The centre span will be 1,800 feet long; the length of the suspended portion of it being 640 feet. This span will, for a length of 760 feet over the channel of the river, have a height of 150 feet between its lower members and the high water level of the river. The two cantilever arms will each be 580 feet long. The width of the bridge between trusses will be 88 feet. The bridge will comprise a double-track railway and two side-walks for foot passengers.

Under date January 10, 1910, a contract for the substructure was entered into with Messrs. M. P. and J. T. Davis, whose tender was the lowest of three obtained after newspaper advertisement calling for tenders; and supplementary agreements necessitated by changes in the caisson design and in the location of the north anchor pier, were made with them on May 23, 1910, and September 2, 1911.

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The Board of Engineers for reconstruction, as originally constituted, has been modified by retirements and death, and is at present composed as follows: Charles N. Monsarrat, M. Can. Soc. C.E., chairman and chief engineer; Ralph Modjeski, Am. Soc. C.E., and H. P. Borden, M. Can. Soc. C.E.

The headquarters of the board are in Montreal.

The report of the chairman and chief engineer for the year ended on March 31, 1917, will be found printed in the appendices hereto, Part V.

The report shows that during the year the whole structure was completed, including the suspended span which was erected at a point about 3 miles down the river. On the 11th of September, 1916, this span was floated up the river, and the operation of lifting it into place began and proceeded successfully until it had reached a height of about 20 feet above the water, when some portion of the contractor's erection equipment failed, with the result that the entire span tilted towards the west and disappeared into the river. The St. Lawrence Bridge Company assumed entire responsibility for the loss, and took immediate steps to replace the span at their own expense. At the close of the year fabrication had been going ahead rapidly.

An investigation was at once held by the board and officers of the company, and the board made a report on the accident, which will be found in Appendix V, p. 74.

The expenditure during the fiscal year ended March 31, 1917, was \$2,733,677, paid out of capital, making the total capital expenditure on the reconstruction of the bridge, \$13,244,583.51. Expenditure had previously been made from income, namely, for the year 1908-9, \$422,867.12 (in which is included the amount, \$355,279.07, paid for acquiring the stock of the Quebec Bridge and Railway Company, and \$31,765.44, the expenses of the commission of inquiry into the causes of the collapse of the old structure), and for the year 1909-10, \$111,788.02 for the preparation of plans, etc., or a total of \$534,655.14, against which there is credited the sum of \$100,000 paid in 1910 to the Government by the Phœnix Bridge Company, the contractors for the original superstructure, in the final adjustment of claims arising out of the collapse. The total net expenditure by this department up to March 31, 1917, after crediting the sum of \$91,188.10, the proceeds of the sale of scrap and unused material from the collapsed bridge, is \$13,679,238.98. This is irrespective of the amount of subsidy, \$274,353.33 paid to the Quebec Bridge Company as above mentioned, and of the amounts paid by the Finance Department, namely, for the guaranteed bonds of the company, \$6,424,781; to the province of Quebec, \$250,000; to the city of Quebec, \$300,000; and \$485.20, an award of the Supreme Court, in all \$6,975,266.20. Including these items the aggregate of all expenditure is \$21,028,858.51.

### WELLAND SHIP CANAL.

This important work has for its object the affording of greater and better accommodation for a larger class of vessels than those that can be used on the present canal.

The present canal lies between Port Colborne, lake Erie, and Port Dalhousie,

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lake Ontario. Its length is 26½ miles, and comprises 25 lift locks, the dimensions of which are 270 feet by 45 feet, with a depth of 14 feet of water on the sills.

The proposed Welland ship canal as finally located follows the course of the present canal from Port Colborne on lake Erie to Allanburg, half-way across the peninsula. From this point an entirely new cutting is to be made, crossing the present canal just below lock No. 25, the water level of the two canals at this point being the same, viz.: 568 feet above sea-level. The new canal again crosses the present one below lock No. 11, the water of both canals at this point being at an elevation of 382 feet above sea-level.

The proposed canal enters lake Ontario at the mouth of the Ten Mile creek about three miles east of Port Dalhousie. The total length of canal from lake to lake is 25 miles; and the difference in level between the two lakes, 325½ feet, is to be overcome by seven lift locks, each having a lift of 46½ feet. The dimensions of the locks are to be 800 feet in length by 80 feet in width in the clear and with 30 feet of water over the mitre sills at extreme low stages in the lakes. The width of the canal at the bottom will be 200 feet and, for the present, the canal reaches will be excavated to a depth of 25 feet only, but all structures will be sunk to the 30-foot depth, so that the canal can be deepened at any future date by dredging out the reaches.

A new western breakwater will be built at Port Colborne to ensure quiet water in the harbour during storms.

The outer entrance piers in Lake Ontario will be placed about 1½ miles from shore, where the depth of water is 30 feet; a wide channel will be dredged out from these piers and an embankment formed on either side of it about 500 feet wide. The lock walls will be 82 feet high above the top of the gate sills.

The work is divided into 9 sections, of which section No. 1, approximately 3 miles, at the Lake Ontario end of the canal, was placed under contract on the 1st of August, 1913; section No. 2, approximately 4½ miles, was placed under contract on the 31st of December, 1913; section No. 3, approximately 2 miles, was placed under contract on the 4th of October, 1913; section No. 5 was placed under contract on the 22nd of December, 1913.

During the fiscal year 1916-17, the sum of \$3,513,769.82 was expended, making the total expenditure, \$13,474,333.26; to this is to be added for previous expenditure, for preliminary surveys, borings, etc., \$219,589.73, making the total cost up to the 31st of March, 1917, \$13,693,922.99.

In view of existing war conditions contract work on the canal has been suspended under notices served in January, 1917.

## SUBSIDIZED RAILWAYS.

Information as to subsidized railways is given in the statements of the accountant of the department, which will be found in the appendix hereto, Part I. The accountant's statements show all payments made since the beginning of the system of railway subsidies in the year 1883-84.

The total payments made on subsidy account during the year ended March 31, 1917, amounted to \$959,583.88, paid out of income.

## BOARD OF RAILWAY COMMISSIONERS FOR CANADA.

By the Act 3, Edward VII, chapter 58 (1903), amending and consolidating the law respecting railways, the Railway Committee of the Privy Council was abolished, and in lieu thereof a Board of Commissioners, under the above title, was created, to consist of three members (increased to six by the Act of 1908, chapter 62), to be appointed by the Governor in Council; this Act was brought into force on February 1, 1904, by proclamation, on the authority of an Order in Council, dated January 18, 1904, which also appointed certain persons as commissioners. By the Act of 1908, chap. 61, the jurisdiction of the board was extended to cover the operation of telegraph and telephone lines, and by the Act of 1908, chapter 62, certain amendments were made to its constitution and otherwise. By the Act of 1909, chapter 31, the board was empowered to determine the maximum price to be charged for electricity developed through water-powers leased from the Crown. An Act of 1910, chapter 50, amended certain provisions of the Railway Act regarding the powers of the board, and the Act of the same year, chapter 57, extended the jurisdiction of the board to cover the fixing by it of the tariffs of wireless telegraph and marine electric telegraphs or cables. The Act of 1911, chapter 22, gave powers to the board to require from railway companies the establishment of a staff of fire-rangers, modified the previous enactments regarding the disposal of electricity developed through Government leased water-powers, and amongst other enactments, made provision for action, through the board, to ensure the efficient operation of subsidized railways. The office of the board is at Ottawa, though it is authorized to hold sessions in any part of Canada. Its decisions and orders are final, subject to appeal to the Supreme Court upon questions of jurisdiction or law, and also to action thereon by the Governor in Council, in his discretion.

It is required to make annually a report of its proceedings, which report is laid before Parliament. The report for the year ended March 31, 1917, has been received, and will be laid before Parliament in due course.

## CANALS.

The total expenditure on the Dominion canals for the twelve months ended March 31, 1917, was \$6,028,100.73, comprising \$1,304,589.09 charged to capital, \$399,414.50 charged to income, \$801,937.90 for staff, and \$522,159.24 for repairs; the last two items being charged to revenue.

The balance of rentals due on April 1, 1916, was \$153,055.38. The rentals accrued during the year amounted to \$275,206.99, making a total of \$428,262.37. Of this amount, there was collected during the year a total, after deducting abatements aggregating \$7,380.65, of \$271,820.28. The balance remaining due on March 31, 1917, was \$149,061.144. It should be observed that, as a general rule, rentals are payable in advance, this fact accounting, to a considerable extent, for the large amount of rental due at the end of each year.

The total revenue collected amounted to \$461,423.14, the balance being made up of wharfage dues, fines, etc., and a total of \$175,526.50 derived from the operation of the Port Colborne grain elevator on the Welland canal.

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No tolls have been charged on any of the Dominion canals since 1903-4.

Summaries of these expenditures and receipts will be found in the statements furnished by the accountant of the Department, printed in the appendices, Part I, of the present report.

The above figures relate to the fiscal year 1916-17, but very voluminous statistics relating to canal traffic, and various commercial statistics for the season of navigation of the year 1916, will be found in the "Canal Statistics," which are issued as a separate report.

## CANAL TRAFFIC.

The following features of the principal canal traffic during the season of 1916 will be of interest:—

On the Welland canal, 2,544,964 tons of freight were moved, a decrease of 516,048 tons. Of the total, 693,578 tons were agricultural products, and 265,563 tons were produce of the forest; of coal, 1,190,142 tons were carried; 2,544,964 tons were through freight, of which 2,045,343 tons passed eastward.

Of the through freight, Canadian vessels carried 1,682,826 tons, a decrease of 233,189 tons, and United States vessels 632,142 tons, a decrease of 292,902 tons.

The total through freight passed eastward and westward through this canal to United States ports was 203,407 tons, a decrease of 282,209 tons compared with the year of 1915.

The quantity of grain passed down the Welland and St. Lawrence canals to Montreal was 609,119 tons, a decrease of 510,008 tons, as compared with the previous year; no transshipments have been made at Ogdensburg since 1903.

On the St. Lawrence canals, 3,368,064 tons were moved, a decrease of 41,403 tons, of which 2,404,815 tons were eastbound through freight and 568,970 tons westbound freight; 660,555 tons were agricultural products, 1,688,304 tons coal, and 650,590 tons forest products.

On the Ottawa river canals, the total quantity of freight moved was 237,651 tons, a decrease of 34,719 tons, of which 139,168 tons were products of the forest.

On the Chambly canal, 398,977 tons were moved, a decrease of 16,501 tons, of which 242,654 tons were produce of the forest and 100,165 tons of coal.

On the Rideau canal, 105,430 tons were carried, a decrease of 15,351 tons; 9,912 tons being produce of the forest and 6,915 tons of coal.

On the St. Peters' canal, 9,629 tons were carried, an increase of 6,734 tons; 3,787 tons were coal. The canal was closed to public traffic, during the season of 1915, for the reconstruction of the lock and was opened on September 1, 1916.

On the Murray canal, 46,680 tons passed, an increase of 15,952 tons.

On the Trent canal, 45,009 tons were moved, a decrease of 4,895 tons, of which 38,841 tons were the produce of the forest.

On the St. Andrews lock, on the Red River, Manitoba, the volume of business was 13,438 tons.<sup>1</sup>

<sup>1</sup> This work, which consists of a lock and dam on the Red River, about fifteen miles north of Winnipeg, was built and is operated by the Department of Public Works. It affords communication between Winnipeg and lake Winnipeg. It is only mentioned here for statistical purposes.

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On the Sault Ste Marie canal, the total movement of freight was 16,813,649 tons, being an increase of 9,062,692 tons. There were 6,689 passages of vessels, the number of lockages being 4,777. Of wheat, 86,874,340 bushels, and of other grain, 46,096,508 bushels were carried; also 3,353,270 barrels of flour; 11,504,773 tons of iron ore; 1,033,647 tons of coal; and 6,333,600 feet, board measure, of lumber.

The principal facts of these statistics, summarized, are as follows:—

The total traffic through the several canals of the Dominion for the season of 1916 amounted to 23,583,491 tons, an increase of 8,384,688 tons compared with the previous year; 263,648 passengers were carried, an increase of 12,812.

The report of the chief engineer of the department, which will be found in Part III of the appendices, give comprehensive information as to the several works under his charge, the principal of which are the Hudson Bay railway, the Trent canal, the new Welland ship canal, and the terminals of the Intercolonial Railway near Halifax.

### RAILWAY STATISTICS.

The digest of the sworn statements of railway companies relating to their operations in Canada for the twelve months ended June 30, 1917, is prepared by the departmental comptroller of statistics, and is issued as a separate report.

### CANAL STATISTICS.

The traffic statistics of the Dominion canals for the season of navigation of 1916 are compiled under the direction of the same officer, and are also issued as a separate report.

I have the honour to be, sir,

Your obedient servant,

A. W. CAMPBELL,

*Deputy Minister.*

APPENDIX I

STATEMENTS OF THE ACCOUNTANT



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## SUMMARY.

GENERAL SUMMARY of the Expenditure and the Revenue for the fiscal year ending March 31, 1917, and previous years.

## EXPENDITURE.

	\$	cts.
Total expenditure for the year as per statements following pages 6 to 35 .....	48,226,082	40
Total expenditure on Railways for the year, including Quebec Bridge and Railway Subsidies.....	41,895,886	53
Total expenditure on Canals for the year.....	6,028,100	73
General expenditure common to both Railways and Canals, for the year.....	302,095	14
The grand total of the expenditure to March 31, 1917, on Railways and Canals, as shown on page 23 of this report, amounts to...	900,596,933	18
This expenditure is divided as follows:—		
Grand total expenditure on Railways, including Quebec Bridge and Railway Subsidies.....	734,998,814	43
Grand total expenditure on Canals.....	164,140,734	44
Grand total general expenditure, common to both Railways and Canals.....	1,457,384	31

## REVENUE.

The revenue from both Railways and Canals, for the fiscal year amounts to.....	24,001,181	75
Revenue from the Railways.....	23,539,758	61
Revenue from the Canals.....	461,423	14
The grand total of the revenue to March 31, 1917, on Railways and Canals both amounts to (see page 23) .....	265,060,569	79
Grand total of the revenue from the Railways.....	248,395,298	47
Grand total of the revenue from the Canals, amounts to .....	16,665,271	32

The sundry classifications of the expenditure and the revenue are shown on pages 6, 7, 8 and 9 for the fiscal year; and page 23 for the expenditure previous to Confederation and since.

According to instructions, approved by Order in Council dated October 23, 1917, the annual report of the branch has been made as concise as possible. All statements of a statistical nature have been omitted, and for more complete information on the expenditure or revenue of any railway or canal the previous annual reports should be consulted.

DEPARTMENT OF RAILWAYS AND CANALS.

W. C. LITTLE,  
*Accountant.*

## EXPENDITURE.

## GENERAL STATEMENT of Expenditure during the Year ending March 31, 1917.

	§	cts.	§	cts.
TOTAL EXPENDITURE—as per statements, pages 8 and 9.....			48,226,082	40
Expenditure chargeable to Railways.....	37,799,556	24		
"    "    Railways, General.....	403,069	41		
"    "    Quebec Bridge.....	2,733,677	00		
"    "    Railway Subsidies.....	359,583	88		
Total expenditure, Railways.....			41,895,886	53
Expenditure chargeable to Canals.....	5,862,881	83		
"    "    Canals, General.....	165,218	90		
Total expenditure, Canals.....			6,028,100	73
General expenditure.....			302,051	14
Total expenditure.....			48,226,082	40
CLASSIFICATION OF EXPENDITURE IN GENERAL—				
Capital Account.....	19,041,915	79		
Revenue Account.....	27,124,003	68		
Income Account.....	1,100,579	05		
Consolidated Fund (railway subsidies) Income.....	959,583	88		
Total expenditure.....			48,226,082	40
CLASSIFICATION OF EXPENDITURE BY ACCOUNTS—				
<i>Railways—</i>				
Capital expenditure—Railways.....	12,003,649	70	12,003,649	70
Revenue expenditure—Railways.....	25,795,906	54		
"    "    Railways, General.....	4,000	00	25,799,906	54
Income expenditure—Railways, General.....			399,069	41
<i>Quebec Bridge—</i>				
Capital expenditure—Quebec Bridge.....	2,733,677	00	2,733,677	00
<i>Railway Subsidies—</i>				
Consolidated Fund—Railway Subsidies.....	959,583	88	959,583	88
Total expenditure, Railways, \$41,895,886.53.				
<i>Canals—</i>				
Capital expenditure—Canals.....	4,304,589	09	4,304,589	09
Income    "    Canals.....	372,102	96		
"    "    Canals, General.....	27,311	54	399,414	50
Revenue    "    Canals Staff.....	700,022	11		
"    "    Canals Staff, General.....	101,915	79		
"    "    Canals Repairs.....	486,167	67		
"    "    Canals Repairs, General.....	35,991	57	1,324,097	14
Total expenditure on Canals, \$6,028,100.73.				
General Expenditure—Income account.....			302,095	14
Total expenditure.....			48,226,082	40

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## REVENUE.

GENERAL STATEMENT of the Revenue received during the Year ending  
March, 31 1917.

	\$	cts.	\$	cts.
TOTAL REVENUE RECEIVED DURING FISCAL YEAR.....			24,001,181	75
Revenue from Railways.....	23,539,758	61		
" " Canals.....	461,423	14		
Total revenue as above .....			24,001,181	75
STATEMENT OF REVENUE RECEIVED, IN DETAIL—				
Railways—				
Intercolonial Railway.....	16,767,386	89		
International Railway of New Brunswick.....	116,678	67		
National Transcontinental Railway.....	5,916,550	99		
New Brunswick and Prince Edward Island Railway.....	38,336	75		
Prince Edward Island Railway.....	630,045	69		
Total.....	23,468,998	99		
St. John & Quebec Ry.....	70,759	62		
Total revenue from Railways.....			23,539,758	61
Canals—				
Welland Canal.....	68,277	37		
" Elevator, Port Colborne.....	175,536	50		
Welland Ship Canal.....	824	50		
Lachine Canal.....	141,476	75		
Beauharnois Canal.....	15,120	40		
Cornwall Canal.....	38,332	50		
Williamsburg Canal.....	2,944	74		
Soulanges Canal.....	3,609	00		
Chambly Canal.....	769	00		
Carillon and Grenville Canal.....	860	00		
Rideau.....	9,397	86		
Trent Canal.....	3,707	23		
St. Peters Canal.....	2	00		
Sault Ste. Marie Canal.....	143	08		
Murray Canal.....	218	00		
Ste. Anne's Lock and Canal.....	204	21	461,423	14
Total revenue received during fiscal year.....			24,001,181	75

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## EXPENDITURE on Canals for year ended March 31, 1917.

Name of Canals.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.		Total Expenditure during year.
			Staff.	Repairs.	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Carillon and Grenville.....			26,235 56	16,914 51	43,150 07
Chambly.....	49,300 00		35,300 97	35,678 51	120,279 48
Cornwall.....		1,614 41	87,050 60	38,459 87	127,124 88
Lachine.....	24,073 21	175,000 00	100,803 96	95,423 01	395,300 18
Murray.....			5,656 45	4,076 73	9,733 18
Rideau.....	33,735 10	29,999 46	61,858 80	71,498 90	197,092 26
Sault Ste. Marie.....			28,047 09	24,223 18	52,270 27
Soulanges.....		1,493 07	35,664 97	24,402 39	61,560 43
St. Anne's Lock.....			3,958 16	4,459 01	8,417 17
St. Lawrence River and Canals—					
North Channel.....	48,955 31				48,955 31
St. Ours Lock.....			4,176 25	3,829 74	8,005 99
St. Peters.....		126,561 99	3,301 49	455 33	130,318 86
Trent.....	613,088 60	16,616 85	53,204 67	47,315 71	730,225 83
Welland.....		18,776 39	221,004 06	96,111 44	335,891 89
Welland Ship.....	3,513,769 82				3,513,769 82
Williamsburg—					
Galops.....	20,028 25				20,028 25
Rapide Plat.....	1,638 80				1,638 80
Williamsburg.....		2,040 79	33,759 08	23,319 29	59,119 16
	4,304,589 09	372,102 96	700,022 11	486,167 67	5,862,881 83
GENERAL ON CANALS.					
Dredge Vessels, Lachine.....				7,734 71	7,734 71
Dredge Vessels, Rideau.....				24,643 74	24,643 74
Miscellaneous.....			3,333 18	610 18	3,943 36
Statistical Officers.....			34,175 54		34,175 54
Sunday Labour.....			42,372 25		42,372 25
Surveys and Inspections.....		15,583 51			15,583 51
Quebec Canals—					
Dredging.....		7,218 16			7,218 16
Maintenance.....			19,134 82		19,134 82
Hungry Bay Dyke.....				3,002 94	3,002 94
Miscellaneous—					
Miscellaneous works not provided for.....		1,020 31			1,020 31
Civil Service Amendment Act.....		3,489 56			3,489 56
Compassionate allowances to families of deceased employees.....			2,900 00		2,900 00
		27,311 54	101,915 79	35,991 57	165,218 90
Grand total.....	4,304,589 09	399,414 50	801,937 90	522,159 24	6,028,100 73

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## EXPENDITURE on Railways for Year ended March 31, 1917.

Name of Railways.	Chargeable to Capital.		Chargeable to Revenue.		Total.	
			Working Expenses.			
	\$	cts.	\$	cts.	\$	cts.
Hudson Bay Railway .....	2,604,279	94			2,604,279	94
Intercolonial Railway .....	4,490,472	56		*15,653,357	20,143,830	34
" " Improvements and Betterments .....				1,070,334	1,070,334	64
International Railway of New Brunswick... ..	3,724	98		165,107	168,832	24
" " " (Statutory) .....				90,000	90,000	00
National Transcontinental Railway Construction .....	122,328	33			122,328	33
National Transcontinental Railway Grain Elevator, Winnipeg .....	279,949	83			279,949	83
National Transcontinental Railway (Statutory) .....	3,514,308	04		7,806,922	11,321,230	24
New Brunswick and P.E.I. Ry. ....	46,579	38		78,031	124,610	60
Prince Edward Island Ry. ....	609,751	71		833,853	1,443,604	73
Quebec & Saguenay Ry. ....	332,254	93			332,254	93
St. John & Quebec Ry. ....				98,300	98,300	42
Total .....	\$12,003,649	70		25,795,906	37,799,556	24
Quebec Bridge .....	2,733,677	00			2,733,677	00
Railway Subsidies .....			959,583	88	959,583	88
GENERAL ON RAILWAYS.						
Enquiry and Report on the Railway Situation of Canada .....			72,233	74	72,233	74
Railway Commission—Maintenance .....			166,447	14	166,447	14
" " Statutory .....			49,500	00	49,500	00
Surveys and Inspections .....			44,149	09	44,149	09
Railway Grade Crossing Fund .....			46,630	53	46,630	53
Governor General's Cars, attendance, etc. ....			4,738	25	4,738	25
Grand Trunk Pacific Ry. Remuneration to Government Director .....			666	66	666	66
Contribution to the International Association of Railways Congress .....			97	33	97	33
Expenses with Consolidation of the Railway Act .....			440	00	440	00
Contribution of the Government to the Faculty of McGill University .....			2,500	00	2,500	00
Contribution of the Government to the Faculty of the Polytechnic School, Montreal .....			2,500	00	2,500	00
Compassionate allowances to families of deceased employees .....				4,000	4,000	00
Continuous Audit on behalf of the Government of Canada .....			9,166	67	9,166	67
Total .....			399,069	41	403,069	41
Grand total .....	14,737,326	70	1,358,653	29	25,799,906	54
MISCELLANEOUS EXPENDITURE.						
War Appropriation .....			299,934	09	299,934	09
Cost of Litigation .....			2,161	05	2,161	05
Total .....			302,095	14	302,095	14
Grand Total on Railways and Canals, including Miscellaneous Expenditure .....	19,041,915	79	2,060,162	93	27,124,003	68

\*Amount includes rental of the Vale Railway at \$1,200 per annum.

EXPENDITURE on Canals to March 31, 1917.  
(CAPITAL ACCOUNT.)

Canal.	Previous Years.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Baie Verte.....						
Beauharnois.....	1,636,690	26			1,636,690	26
Carillon and Grenville.....	4,182,092	96			4,182,092	96
Chambly.....	731,696	52	49,300	00	780,996	52
Cornwall.....	7,246,304	21			7,246,304	21
Culbute Lock and Dam.....	382,391	46			382,391	46
Lachine.....	14,108,611	59	24,073	21	14,132,684	80
Lake St. Francis.....	75,906	71			75,906	71
Lake St. Louis.....	298,176	11			298,176	11
Murray.....	1,248,946	71			1,248,946	71
Rideau.....	4,168,069	21	33,735	10	4,201,804	31
Sault Ste. Marie.....	4,994,372	51			4,994,372	51
Soulanges.....	7,904,044	53			7,904,044	53
Ste. Anne's Lock and Canal.....	1,170,215	63			1,170,215	63
St. Lawrence River and Canals—						
North Channel.....	1,946,187	56	48,955	31	1,995,142	87
River Reaches.....	483,830	20			483,830	20
Galops Channel.....	1,039,895	65			1,039,895	65
St. Ours Lock.....	127,228	56			127,228	56
St. Peter's.....	648,547	14			648,547	14
Tay.....	489,599	23			489,599	23
Trent.....	15,626,295	14	613,088	60	16,239,383	74
Welland.....	29,399,405	93			29,399,405	93
Welland Ship.....	10,180,153	17	3,513,769	82	13,693,922	99
Williamsburg.....	1,334,551	80			1,334,551	80
Farran's Point.....	877,090	57			877,090	57
Galops.....	6,121,213	70	20,028	25	6,141,241	95
Rapide-Plat.....	2,158,242	00	1,638	80	2,159,880	80
Total.....	118,579,759	06	4,304,589	09	122,884,348	15
Canals General.....	34,966	69			34,966	69
Grand Total.....	118,614,725	75	4,304,589	09	122,919,314	84

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EXPENDITURE ON Canals to March 31, 1917.  
INCOME ACCOUNT.

Canals.	Previous Years.		1916-17.		Total.		
	\$	cts.	\$	cts.	\$	cts.	
Baie Verte.....	44,387	53			44,387	53	
Beauharnois.....	265,810	84			265,810	84	
Carillon and Grenville.....	351,431	74			351,431	74	
Chambly.....	759,574	15			759,574	15	
Cornwall.....	592,038	21	1,614	41	593,652	62	
Culbute Lock and dam.....	60,923	37			60,923	37	
Lachine.....	1,420,902	70	175,000	00	1,595,902	70	
Lake St. Francis.....	25,043	68			25,043	68	
Lake St. Louis.....							
Murray.....	101,425	11			101,423	11	
Rideau.....	646,832	76	29,999	46	676,832	22	
Sault Ste. Marie.....	280,098	04			280,098	04	
Soulanges.....	157,574	35	1,493	07	159,067	42	
St. Anne's Lock and Canal.....	84,044	81			84,044	81	
St. Lawrence River and Canals.....	128,298	11			128,298	11	
St. Ours Lock.....	174,028	88			174,028	88	
St. Peters.....	534,991	54	126,561	99	661,553	53	
Tay.....		748		65		748	65
Trent.....	924,169	46	16,616	85	940,786	31	
Welland.....	1,541,620	07	18,776	39	1,560,396	46	
Welland Ship.....							
Williamsburg.....	297,559	36	2,040	79	299,600	15	
Total.....	8,391,501	36	372,102	96	8,763,604	32	
Canals, General.....	618,073	56	27,311	54	645,385	10	
Grand Total.....	9,009,574	92	399,414	50	9,408,989	42	

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EXPENDITURE on Canals to March 31, 1917.  
REVENUE ACCOUNT --(REPAIRS.)

Canals.	Previous Years.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Baie Verte.....						
Beauharnois.....	525,691	23			525,691	23
Carillon and Grenville.....	560,414	40	16,914	51	577,328	91
Chambly.....	907,558	79	35,678	51	943,237	30
Cornwall.....	956,094	27	38,459	87	994,554	14
Culbute Lock and Dam.....	7,036	15			7,036	15
Lachine.....	2,012,065	75	95,423	01	2,107,488	76
Lake St. Francis.....						
Lake St. Louis.....						
Murray.....	97,161	44	4,076	73	101,238	17
Rideau.....	1,696,166	44	71,498	90	1,767,665	34
Sault Ste. Marie.....	349,935	99	24,223	18	374,159	17
Soulanges.....	437,547	11	24,402	39	461,949	50
Ste. Anne's Lock.....	138,282	62	4,459	01	142,741	63
St. Lawrence River and Canals.....						
St. Ours Lock.....	97,193	02	3,829	74	101,022	76
St. Peters.....	35,968	17	455	38	36,423	55
Tay.....						
Trent.....	674,369	76	47,315	71	721,685	47
Welland.....	3,628,473	42	96,111	44	3,724,584	86
Welland Ship.....						
Williamsburg.....	593,523	49	23,319	29	616,842	78
Total.....	12,717,482	05	486,167	67	13,203,649	72
Canals, General.....	478,266	04	35,991	57	514,257	61
Grand total.....	13,195,748	09	522,159	24	13,717,907	33

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EXPENDITURE on Canals to March 31, 1917.  
REVENUE ACCOUNT—(Staff).

Canals.	Previous Years.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Baie Verte.....						
Beauharnois.....	649,574	89			649,574	89
Carillon and Grenville.....	788,478	60	26,235	56	814,714	16
Chambly.....	946,844	80	35,300	97	982,145	77
Cornwall.....	1,554,282	74	87,050	60	1,641,333	34
Culbute Lock and Dam.....	11,507	48			11,507	48
Lachine.....	2,662,536	68	100,803	96	2,763,340	64
Lake St. Francis.....						
Lake St. Louis.....						
Murray.....	133,983	99	5,656	45	139,640	44
Rideau.....	1,665,890	89	61,858	80	1,727,749	69
Sault Ste. Marie.....	397,825	51	28,047	09	425,872	60
Soulanges.....	504,256	13	35,664	97	539,921	10
Ste. Anne's Lock.....	112,047	47	3,958	16	116,005	63
St. Lawrence River and Canals.....						
St. Ours Lock.....	114,324	51	4,176	25	118,500	76
St. Peter's.....	113,161	44	3,301	49	116,462	93
Tay.....						
Trent.....	522,515	82	53,204	67	575,720	49
Welland.....	4,615,861	25	221,004	06	4,836,865	31
Welland Ship.....						
Williamsburg.....	620,819	79	33,759	08	654,578	87
Total.....	15,413,911	99	700,022	11	16,113,934	10
Canals, General.....	1,878,672	96	101,915	79	1,980,588	75
Grand Total.....	17,292,584	95	801,937	90	18,094,522	85

## TOTAL EXPENDITURE by Canal to March 31, 1917.

Canals.	Capital.	Income.	Revenue.		Totals.
			Staff.	Repairs.	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Baie Verte .....		44,387 53			44,387 53
Beauharnois .....	1,636,690 26	265,810 84	649,574 89	525,691 23	3,077,767 22
Carillon and Grenville.....	4,182,092 96	351,431 74	914,714 16	577,328 91	5,925,567 77
Chambly .....	780,996 52	759,574 15	982,145 77	943,237 30	3,465,953 74
Cornwall .....	7,246,304 21	593,652 62	1,641,333 34	994,554 14	10,475,844 31
Culbute Lock.....	382,391 46	60,923 37	11,507 48	7,036 15	461,858 46
Lachine.....	14,132 684 80	1,595,902 70	2,763,340 64	2,107,488 76	20,599,416 90
Lake St. Francis .....	75,906 71	25,043 68			100,950 39
Lake St. Louis.....	298,176 11				298,176 11
Murray.....	1,248,946 71	101,423 11	139,640 44	101,234 17	1,591,248 43
Rideau .....	4,201,804 31	676,832 22	1,727,749 69	1,767,665 34	8,374,051 56
Sault Ste. Marie .....	4,994,372 51	280,098 04	425,872 60	374,159 17	6,074,502 32
Soulanges .....	7,904,044 53	159,067 42	539,921 10	461,949 50	9,064,982 55
Ste. Anne's Lock.....	1,170,215 63	84,044 81	116,005 63	142,741 63	1,513,007 70
St. Lawrence River & Canals	3,518,868 72	128,298 11			3,647,166 83
St. Ours Lock .....	127,228 56	174,028 88	118,500 76	101,022 76	520,780 96
St. Peters .....	648,547 14	661,553 53	116,462 93	36,423 55	1,462,987 15
Tay .....	489,599 23	748 65			490,347 88
Trent .....	16,239,383 74	940,786 31	575,720 49	721,685 47	18,477,576 01
Welland.....	29,399,405 93	1,560,396 46	4,836,865 31	3,724,584 86	39,521,252 56
Welland Ship.....	13,693,922 99				13,693,922 99
Williamsburg.....	1,334,551 80				
" Farran's Point.....	877,090 57				
" Galops .....	6,141,241 95	299,600 15	654,578 87	616,842 78	12,083,786 92
" Rapide Plat....	2,159,880 80				
Total .....	122,884,348 15	8,763,604 32	16,113,934 10	13,203,649 72	160,965,536 29
Expenditure, Canals General.	34,966 69	645,385 10	1,980,588 75	514,257 61	3,175,198 15
Grand total expenditure.....	122,919,314 84	9,408,989 42	18,094,522 85	13,717,907 33	164,140,734 44



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## CANALS REVENUE received during year ending March 31, 1917.

Collection Division.	Wharfage, Storage, Harbour Dues, etc.		Hydraulic and other Rents.		Total.	
	\$	cts.	\$	cts.	\$	cts.
<i>Welland Canal</i> .....			404	00	404	00
Port Colborne.....		50 10	9,268	40	9,318	50
Port Colborne Elevator.....	175,536	50			175,536	50
Port Dalhousie.....		516 65	58,038	22	58,554	87
Totals.....	176,103	25	67,710	62	243,813	87
<i>Welland Ship Canal</i> .....			824	50	824	50
<i>St. Lawrence Canals—</i>						
Coteau Landing (Beauharnois Canal).....			15,120	40	15,120	40
" " (Soulanges Canal).....		77 00	3,532	00	3,609	00
Cornwall.....			38,332	50	38,332	50
Cardinal—Williamsburg Canal.....		570 74	2,374	00	2,944	74
Lachine Canal (Montreal).....	11,767	20	129,151	09	140,918	29
" " (Lachine).....		558 46			558	46
Totals.....	12,973	40	188,509	99	201,483	39
<i>Chambly Canal</i> .....			621	00	621	00
Chambly.....			56	00	56	00
St. John's.....			32	60	32	60
St. Ours Lock.....			60	00	60	00
Totals.....			769	00	769	00
<i>Ottawa River Canals—</i>						
Carillon & Grenville Canal.....			192	00	192	00
" " Grenville.....		8 00	20	00	28	00
" " Carillon.....			640	00	640	00
Ste. Anne's Lock.....		52 21	152	00	204	21
Totals.....	60	21	1,004	00	1,064	21
<i>Rideau Canal</i> .....			1,923	00	1,923	00
Ottawa.....		311 00	3,473	41	3,784	41
Kingston Mills.....			411	00	411	00
Smiths Falls.....		95 00	3,184	45	3,279	45
Totals.....	406	00	8,991	86	9,397	86
<i>St. Peter's Canal</i> .....			2	00	2	00
<i>Murray Canal</i> .....			218	00	218	00
<i>Trent Canal</i> .....		60 00	3,647	23	3,707	23
<i>Sault Ste. Marie Canal</i> .....			143	08	143	08
Grand totals.....	189,602	86	271,820	28	461,423	14
Net amount deposited to the credit of the Receiver General.....					461,423	14

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HYDRAULIC AND OTHER RENTS, showing rent accrued, paid, and balances due March 31, 1917.

Balance due April 1, 1916.	Hydraulic and other rents accrued 1916 17.		Lock House rents.		Totals.		Canals.	Abatement for overcharges.		Deposited to the credit of the Receiver General.		Balance due March 31, 1917	Totals.
	\$	cts.	\$	cts.	\$	cts.		\$	cts.	\$	cts.		
63,424 52		62,021 66		404 00		125,850 18	Welland		150 00		67,306 62	57,989 56	125,850 18
264 00		942 00		174 50		1,380 50	Welland Ship.				650 00	556 00	1,380 50
10,384 17		5,505 50		216 00		16,105 67	Williamsburg.		4,471 00		2,158 00	9,260 67	16,105 67
14,096 10		25,661 50				39,757 69	Cornwall				38,332 50	1,425 10	39,757 69
6,650 84		14,816 15				21,466 99	Beauharnois		577 50		15,120 40	5,769 09	21,466 99
28,792 40		132,027 41		204 00		161,230 81	Lachine		1,446 95		128,947 09	30,632 77	161,230 81
7,717 13		126 00		681 00		1,529 84	Chemby				88 00	760 84	1,529 84
60 00		7,268 04		1,923 00		15,908 17	Rideau		165 78		7,068 86	6,750 53	15,908 17
330 30		16,735 23		1,250 00		18,335 53	Trent		222 50		2,397 23	14,465 80	18,335 53
60 00		490 00				550 00	Saint Ste. Marie		346 92		143 08	60 00	550 00
21,400 08		643 00		192 00		22,235 08	Carillon & Grenville.				660 00	21,383 08	22,235 08
		3,136 00		396 00		3,532 00	Soulanges.				3,136 00		3,532 00
		32 00		120 00		156 00	Ste. Anne's Lock.				32 00		156 00
		1 00				1 00	Chats Falls.						1 00
		2 00				2 00	St. Peter's.						2 00
		9 00		210 00		221 00	Murray.						221 00
153,465 38		269,436 49		5,770 50		428,262 37	Totals		7,380 65		266,049 78	149,061 44	428,262 37

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## WELLAND CANAL.—Amounts Expended on Construction.

	Capital.	
	\$	cts.
Expenditure to March 31, 1916.....	29,618,995	66
Expenditure, 1917.....		
<b>Total.....</b>	<b>29,618,995</b>	<b>66</b>
Less amounts transferred to Welland Ship Canal.....	219,589	73
<b>Net amount of expenditure.....</b>	<b>29,399,405</b>	<b>93</b>

## WELLAND SHIP CANAL.—Amounts expended on Construction.

	Year Ending.	Capital.
		\$ cts.
Expenditure.....	1914	994,257 60
“.....	1915	4,074,200 69
“.....	1916	4,892,105 15
“.....	1917	3,513,769 82
<b>Total.....</b>		<b>13,474,333 26</b>

Expenditure as above.....	\$13,474,333 26
To which add the preliminary expenditure for surveys, borings, etc., charged to Welland Canal capital as follows:—	
1905-06.....	\$ 13,231 97
1906-07.....	10,825 27
1907-08.....	8,300 34
1908-09.....	19,993 37
1909-10.....	9,979 91
1910-11.....	21,229 35
1911-12.....	23,138 60
1912-13.....	112,890 92
	<u>219,589 73</u>
<b>Total cost of Welland Ship Canal to March 31, 1917.....</b>	<b>\$13,693,922 99</b>

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## HUDSON BAY RAILWAY.—Amounts Expended on Construction.

	Year.	Capital.
		\$ cts.
Government Expenditure since Confederation.....	1909	92,427 83
“ “ “ .....	1910	53,042 63
“ “ “ .....	1911	184,149 81
“ “ “ .....	1912	159,632 00
“ “ “ .....	1913	1,099,063 15
“ “ “ .....	1914	4,498,717 25
“ “ “ .....	1915	4,773,743 99
“ “ “ .....	1916	4,889,131 77
“ “ “ .....	1917	2,604,279 94
Total to March 31, 1917. ....		18,354,188 37

## QUEBEC BRIDGE.—Amounts Expended on Construction.

	Year.	Capital.	Income.
		\$ cts.	\$ cts.
Government Expenditure .....	1909		422,867 12
“ “ .....	1910		111,788 02
“ “ .....	1911	227,563 40	
“ “ .....	1912	603,293 07	
“ “ .....	1913	1,512,825 96	
“ “ .....	1914	2,604,105 61	
“ “ .....	1915	2,816,305 10	
“ “ .....	1916	2,746,813 70	
“ “ .....	1917	2,733,677 00	
Total.....		13,244,583 84	534,655 14
Less amount received from the Phoenix Bridge Co. 1910.....			100,000 00
Total to March 31, 1917.....		13,244,583 84	434,655 14

Capital Expenditure as above .....	\$	13,244,583 84
In this expenditure a total of \$91,188.10 has been credited, being received for the sale of scrap and used material from the collapsed bridge.		
Add amounts paid by the Finance Department not included above :—		
Amount guaranteed by Act of 1903, Chap. 54.....	\$6,424,781 00	
Amount paid to the Province of Quebec .....	250,000 00	
Amount paid to City of Quebec .....	300,000 00	
Amount paid to Emile Tanguay, as per Supreme Court award.....	485 20	6,975,266 20
	\$	20,219,850 04
Less amount received from the Phoenix Bridge Co.....		100,000 00
Agrees with Public Accounts Balance Sheet, 1917.....	\$	20,119,850 04
To which add the expenditure under Income, 1909 and 1910.....	\$	534,655 14
Add also amount paid for subsidies in 1901, 1902 and 1903.....	374,353 33	
		909,008 47
Total expenditure to date of March 31, 1917 .....	\$21,028,858 51	

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## EXPENDITURE on the Canadian Government Railways to March 31, 1917.

## CAPITAL ACCOUNT.

Railways.	Previous Years. to 1916-17.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Intercolonial Ry. System as follows:—						
Canada Eastern	819,000	00			819,000	00
Cape Breton Ry	3,860,679	14			3,860,679	14
Drummond County Ry	1,464,000	00			1,464,000	00
Eastern Extension Ry	1,324,042	81			1,324,042	81
Intercolonial Ry	106,015,832	36	4,490,472	56	110,506,304	92
Montreal & European Short line	333,942	72			333,942	72
Oxford & New Glasgow Ry	1,949,063	21			1,949,063	21
Total	115,766,560	24	4,490,472	56	120,257,032	80
<i>a</i> European & North American Ry	88,363	18			88,363	18
<i>a</i> Nova Scotia Ry	208,509	72			208,509	72
International Ry of New Brunswick	3,937	47	3,724	98	7,662	45
Prince Edward Island Ry	10,841,372	44	609,751	71	11,451,124	15
New Brunswick & P. E. I. Ry	224,211	28	46,579	38	270,790	66
<i>b</i> Quebec & Saguenay Ry			332,254	93	332,254	93
Hudson Bay Ry	15,749,908	43	2,604,279	94	18,354,188	37
National Transcontinental Ry	159,881,197	46	3,916,586	20	163,797,783	66
Annapolis and Digby	660,683	09			660,683	09
Canadian Pacific Ry	62,789,776	09			62,789,776	09
<i>c</i> Carleton Branch Ry	48,410	48			48,410	48
Yukon Territory Works;—Stikine Teslin Ry	283,323	55			283,323	55
Governor General's Cars	71,538	82			71,538	82
Miscellaneous Expenditure	18,000	00			18,000	00
Total on Railways	366,635,792	25	12,003,649	70	378,639,441	95
<i>b</i> Quebec Bridge	10,510,906	84	2,733,677	00	13,244,583	84
Total	377,146,699	09	14,737,326	70	391,884,025	79

*a*—Amount paid on this line between 1868 and 1873 included was transferred to Consolidated Fund.*b*—See Special Statement page 19.*c*—This Railway which cost \$88,410.48 was sold in 1893 to the City of St. John, N. B., for \$40,000.00 (Vict. Cap. 6).

## EXPENDITURE on the Canadian Government Railways to March 31, 1917.

## INCOME ACCOUNT.

Railways.	Previous to 1916-17.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Annapolis and Digby Ry	8,381	82			8,381	82
Intercolonial Ry	280,000	00			280,000	00
Miscellaneous expenditure	3,281,398	20	399,069	41	3,680,467	61
Total	3,569,780	02	399,069	41	3,968,849	43
Quebec Bridge	434,655	14			434,655	14
	4,004,435	16	399,069	41	4,403,504	57

8 GEORGE V, A. 1918

## EXPENDITURE on the Canadian Government Railways to March 31, 1917.

## REVENUE ACCOUNT—WORKING EXPENSES.

Railways.	Previous to 1916-17.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Canadian Pacific Ry.....	318,216	30			318,216	30
Eastern Extension Ry.....	538,094	06			538,094	06
*Intercolonial Ry.....	217,866,649	49	15,653,357	78	233,520,007	27
Intercolonial Ry., Improvements and Betterments.....	1,515,895	57	1,070,334	64	2,586,230	21
International Ry. of New Brunswick.....	318,357	73	255,107	26	573,464	99
New Brunswick and Prince Edward Island Ry.....	130,973	46	78,031	22	209,004	68
National Transcontinental Ry.....	4,744,130	10	7,806,922	20	12,551,052	30
Prince Edward Island Ry.....	12,156,003	50	833,853	02	12,989,856	52
St. John and Quebec Ry.....	115,451	88	98,300	42	213,752	30
Miscellaneous expenditure.....	90,189	97	4,000	00	94,189	97
	237,793,962	06	25,799,906	54	263,593,868	60

\* Including expenditure on the Baie des Chaleurs Railway in 1897, amounting to \$18,679 97.

## REVENUE Received by the Canadian Government Railways to March 31, 1917.

Railways.	Previous to 1916-17.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Canadian Pacific Ry.....	396,473	75			396,473	75
Eastern Extension Ry.....	462,465	68			462,465	68
Intercolonial Ry.....	211,169,540	78	16,767,386	89	227,936,927	67
International Ry. of New Brunswick.....	170,092	41	116,678	67	286,771	08
New Brunswick and Prince Edward Island Ry.....	75,834	15	38,336	75	114,170	90
National Transcontinental Ry.....	3,956,235	05	5,916,550	99	9,872,786	04
Prince Edward Island Ry.....	8,548,415	60	630,045	69	9,178,461	29
St. John and Quebec Ry.....	76,482	44	70,759	62	147,242	06
	224,855,539	86	23,539,758	61	248,395,298	47

## EXPENDITURE common to both Railways and Canals to March 31, 1917.

## INCOME ACCOUNT.

Expenditure previous to 1916-17.....	\$	1,085,578	12
Expenditure during 1916-17.....	\$	302,095	14
	\$	1,387,673	26

## EXPENDITURE common to both Railways and Canals to March 31, 1917.

## REVENUE ACCOUNT.

	Previous to 1916-17.		1916-17.		Total.	
	\$	cts.	\$	cts.	\$	cts.
Expenditure.....	69,711	05			69,711	05

RECAPITULATION—GOVERNMENT RAILWAYS.  
EXPENDITURE and Revenue to March 31, 1917.

—	Year.	Capital.		Revenue.					
				Improvements and Betterments.		Working expenses.		Revenue received.	
				\$	cts.	\$	cts.	\$	cts.
Expenditure prior to Confederation.....		13,881,460	65						
Since Confederation.....	1868	483,353	65			359,961	08	420,752	58
"	1869	282,615	18			387,548	47	455,022	76
"	1870	1,729,381	49			445,208	75	471,245	09
"	1871	2,946,930	45			442,993	31	565,713	52
"	1872	5,620,569	67			595,076	22	622,900	56
"	1873	5,763,268	81			1,011,892	60	703,458	26
"	1874	3,925,123	69			1,847,925	24	893,430	17
"	1875	5,018,427	85			1,581,934	24	886,087	42
"	1876	4,497,434	75			1,497,128	22	966,922	42
"	1877	3,209,502	16			1,890,268	80	1,285,110	27
"	1878	2,643,741	73			2,032,873	05	1,514,846	38
"	1879	2,507,053	71			2,233,496	34	1,419,955	60
"	1880	6,109,077	14			1,851,489	26	1,739,137	25
"	1881	5,577,236	73			2,220,421	39	2,200,486	25
"	1882	5,175,046	61			2,310,638	54	2,237,583	39
"	1883	11,707,619	02			2,636,551	70	2,541,205	41
"	1884	14,013,074	89			2,613,508	87	2,551,937	97
"	1885	11,224,244	54			2,749,710	53	2,624,243	07
"	1886	4,443,220	17			2,819,973	50	2,629,336	35
"	1887	1,846,887	18			3,152,650	40	2,840,747	88
"	1888	1,765,582	11			3,621,076	62	3,166,253	22
"	1889	2,709,857	37			3,513,063	67	3,167,542	67
"	1890	2,392,767	99			3,846,044	42	3,203,874	11
"	1891	1,184,317	34			3,949,263	73	3,181,888	56
"	1892	417,425	73			3,748,597	77	3,136,393	51
"	1893	712,917	44			3,288,629	62	3,262,505	62
"	1894	585,749	01			3,226,208	13	3,179,019	57
"	1895	376,814	83			3,197,846	17	3,129,450	37
"	1896	324,774	72			3,254,442	64	3,140,678	47
"	1897	204,624	31			3,195,959	58	3,060,074	38
"	1898	270,990	85			3,507,248	88	3,313,847	10
"	1899	1,112,348	47			3,696,612	31	3,940,570	11
"	1900	3,309,130	42			4,665,228	06	4,774,161	87
"	1901	3,922,989	37			5,739,051	54	5,213,381	24
"	1902	5,386,611	24			5,861,099	54	5,918,990	43
"	1903	3,083,680	86			6,474,134	20	6,584,598	77
"	1904	2,619,059	86			7,599,958	57	6,627,255	51
"	1905	6,125,481	79			8,906,154	35	7,050,892	11
"	1906	6,102,565	74			7,893,653	49	7,950,552	97
"	1907	7,174,370	17			7,328,745	65	6,509,186	49
"	1908	23,684,005	25			9,595,295	43	9,534,569	04
"	1909	29,414,227	34			9,764,586	51	8,894,420	42
"	1910	21,505,975	91			9,095,903	96	9,647,963	71
"	1911	24,532,466	18			10,037,878	77	10,249,394	38
"	1912	23,108,805	52			11,074,852	80	11,034,165	83
"	1913	17,375,968	10			12,499,925	65	12,442,203	46
"	1914	21,628,095	15			13,559,225	45	13,394,317	37
"	1915	21,865,663	92			12,474,453	85	12,149,357	32
"	1916	21,155,255	19	1,515,895	57	17,891,484	65	18,427,908	65
"	1917	12,003,649	70	1,070,334	64	24,725,571	90	23,539,758	61
Total .....		*378,661,44	95	2,586,230	21	260,913,448	42	248,395,298	47

Total amount paid on construction..... \$378,661,441 95  
Less amount received from the city of St. John, N.B., as purchase price of the Carleton Branch Railway..... 40,000 00

Cost of construction..... + \$378,621,441 95

\* Amount paid for Quebec Bridge not included.

## SESSIONAL PAPER No. 20

TOTAL EXPENDITURE and Revenue of the Department of Railways and Canals prior to and since Confederation to March 31, 1917.

	\$	cts.	\$	cts.
TOTAL EXPENDITURE .....			900,596,933	18
Expenditure on Railways .....	646,202,159	98		
"    Quebec Bridge .....	13,679,238	98		
"    Railway subsidies .....	75,117,415	47		
"    Canals .....	164,140,734	44		
"    Miscellaneous .....	1,457,384	31		
Total expenditure .....			900,596,933	18
CLASSIFICATION OF EXPENDITURE IN GENERAL—				
Capital account .....	514,803,340	63		
Revenue account .....	295,476,009	83		
Income account .....	15,200,362	25		
Consolidated fund—Railway subsidies, pages 25 to 35 .....	75,117,415	47	900,596,933	18
CLASSIFICATION OF EXPENDITURE IN DETAIL—				
Railways—				
Capital—See page 20 .....	378,639,441	95		
Income—See page 20 .....	3,968,849	43		
Revenue—See page 21 .....	263,593,868	60	646,202,159	98
Quebec Bridge—				
Capital—See page 19 .....	13,244,583	84		
Income—See page 19 .....	434,655	14		
Railway Subsidies—See pages 25 to 35 .....	75,117,415	47	13,679,238	98
Total on railways \$734,998,814.43.			75,117,415	47
Canals—				
Capital—See pages 14 and 15 .....	122,919,314	84		
Income—See pages 14 and 15 .....	9,408,989	42		
Revenue—See pages 14 and 15 .....				
"    Staff — \$18,094,522.85 .....				
"    Repairs 13,717,907.33 .....	31,812,430	18	164,140,734	44
Miscellaneous Expenditure—				
Income—See page 21 .....	1,387,673	26		
Revenue—See page 21 .....	69,711	05	1,457,384	31
Total expenditure .....			900,596,933	18
CLASSIFICATION OF EXPENDITURE INTO CAPITAL AND CONSOLIDATED FUND—				
Railways—				
Capital—Including Quebec bridge .....	391,884,025	79		
Consolidated Fund (Income and Revenue) Railway Subsidies, etc .....	343,114,788	64	734,998,814	43
Canals—				
Capital .....	122,919,314	84		
Consolidated Fund (Income and Revenue) .....	41,221,419	60	164,140,734	44
General Expenditure—				
Consolidated Fund (Income and Revenue) .....	1,457,384	31	1,457,384	31
Total expenditure .....			900,596,933	18
TOTAL REVENUE RECEIVED from July 1, 1867, to March 31, 1917—				
Railways—See page 22 .....	248,395,298	47		
Canals—See page 15 .....	16,665,271	32		
Total revenue .....			265,060,569	79

RAILWAY AND BRIDGE SUBSIDY STATEMENTS

I.—*Statement showing the Railway Subsidies paid during the year ending March 31, 1917.*

II.—*Statement of Railway and Bridge Subsidies paid from July 1, 1883, to March 31st, 1917.*

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## RAILWAY Subsidies paid during the year ending March 31, 1917.

Name of Railway.	Amount.
	\$ cts.
<i>Lake Erie and Northern Railway Co.—</i> Balance of subsidy on 50·03 miles of railway from the town of Galt to Port Dover..	185,062 40
<i>Ha-Ha Bay Railway Co.—</i> Further payment on account of subsidy on 12 miles of railway from La Terrière Junction southerly to Lake Kenogami via La Terrière Village .....	235 80
<i>Canadian Northern Ontario Railway Co.—</i> Further payment on account of subsidy on 894·48 miles of railway from Ottawa to Port Arthur .....	\$236,180 41
Subsidy on Capreol-Sellwood Junction. section being 7·5 miles .....	42,000 00
Further subsidy on 214·57 miles from Toronto to Ottawa .....	80,000 00
	358,180 41
<i>Kettle Valley Railway Co.—</i> Further and full payment of subsidy on 52·48 miles of railway from a point on the line between Merritt and Penticton Wharf, about 25 miles south of Merritt to a point on the Fraser River near Hope Station .....	\$111,674 82
Payment of full subsidy on 28·65 miles of railway from Merritt to Brookmere and 70·8 miles from Penticton Wharf to Princeton, a total of 99·45 miles .....	179,227 61
	290,902 43
<i>Edmonton, Dunvegan and British Columbia Railway Co.—</i> Subsidy on 50·11 miles, from a point on its line situated near the Spirit River Settlement to and through the Grand Prairie Land District, Alberta .....	125,202 84
	\$959,583 88

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STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1910	
Authority.	Amount.			\$	cts.
	\$	cts.		\$	cts.
46 Vic., chap. 25	156,800	00	1 International Railway, Quebec.....	156,800	00
53 " " 2					
45 " " 14	384,000	00			
46 " " 25	80,000	00			
48-49 " " 59	96,000	00			
49 " " 10	186,295	00			
50-1 " " 24	28,800	00	2 Quebec and Lake St. John Railway, Quebec.....	1,233,943	50
51 " " 3	96,000	00			
52 " " 3	64,000	00			
53 " " 2	40,000	00			
54-5 " " 8	5,250	00			
57-8 " " 4	44,800	00			
46 " " 24	89,600	00			
49 " " 10	70,000	00			
50-1 " " 24	12,800	00	3 Kingston, Napanee and Western Ry., formerly Napanee, Tamworth and Quebec Ry., Ontario...	208,732	80
52 " " 3	32,000	00			
55-6 " " 5	64,000	00			
47 " " 8	272,000	00			
51 " " 3	41,000	00	4 Pontiac Pacific Junction Railway, Quebec....	193,578	00
53 " " 2	24,000	00			
46 " " 25	115,200	00			
47 " " 8	76,800	00	5 Caraquette Railway, N.-B. ....	224,000	00
50-1 " " 24	32,000	00			
47 " " 8	32,000	00			
49 " " 10	57,600	00			
52 " " 3	22,400	00	6 Canadian Northern Quebec Ry. Co., formerly Great Northern Ry., Quebec.....	1,034,280	60
53 " " 2	48,000	00			
56 " " 2	47,000	00			
57-8 " " 4	70,400	00			
7-8 Ed. VII	63	*			
47 " " 8	48,000	00	7 Kingston and Pembroke Ry., Ontario.....	48,000	00
45 " " 14					
46 " " 26	650,000	00	8 Northern and Pacific Junction Railway, Ontario...	1,320,000	00
53 " " 2	660,000	00			
47 " " 8	128,000	00			
48-9 " " 59	19,200	00			
49 " " 10	32,000	00	9 Canada Eastern Ry., formerly Northern and West- ern Ry., N.B., including also Chatham Branch Ry .....	374,839	84
48-9 " " 59	24,439	84			
51 " " 3	140,800	00			
57-8 " " 4	35,200	00			
62-3 " " 7	*				
47 " " 8	60,342	00	10 Quebec Central Railway, Quebec.....	403,980	69
51 " " 3					
7-8 " " 63					
53 " " 2	288,000	00			
48-9 " " 59	72,000	00	11 Montreal and Sorel Railway, Quebec.....	93,757	57
53 " " 2	40,000	00			
48-9 " " 59	30,000	00			
50-1 " " 24	64,000	00	12 Montreal and Champlain Junction Ry., Quebec..	103,600	00
51 " " 3	9,600	00			
46 " " 25	38,400	00	13 Elgin Petitediac and Havelock Railway, N.B....	82,652	82
51 " " 3	44,252	82			
47 " " 8	22,400	00	14 St. Louis and Richibucto Railway, N.B.....	22,400	00
48-9 " " 59	96,000	00			
49 " " 10	38,400	00	15 Canada Atlantic Railway, Ontario.....	282,355	20
50-1 " " 24	180,000	00			
47 " " 6	750,000	00	16 Esquimalt and Nanaïmo Railway, B.C. ....	750,000	00
47 " " 8	96,000	00	17 Erie and Huron Railway, Ontario .....	96,000	00
46 " " 25	320,000	00			
47 " " 8	300,000	00	18 Baie des Chaleurs Railway, Quebec.....	620,000	00
52 " " 3					
Carried forward.....				7,248,921	02

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have been entered into and payments made up to March 31, 1917—Continued.

Payments.							Total to March 31, 1917.	Number.
1910-1911.	1911-1912.	1912-1913.	1913-1914.	1914-1915.	1915-1916.	1916-1917.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
							156,800 00	1
	27,520 00						1,261,463 50	2
							208,732 80	3
							193,578 00	4
							224,000 00	5
144,608 51	86,468 03						1,265,357 14	6
							48,000 00	7
							1,320,000 00	8
							374,839 84	9
129,320 61		8,576 00			43,161 60		585,038 90	10
							93,757 57	11
							103,600 00	12
							82,652 82	13
							22,400 00	14
							282,355 20	15
		356,440 00		405,120 00			1,520,560 00	16
							96,000 00	17
							620,000 00	18
273,929 12	113,988 03	374,016 00		405,120 00	43,161 60		8,459,135 77	

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1910.	
Authority.	Amount.			\$	cts.
			Brought forward.....	7,248,921	02
48-9 Vic, c. 59	118,400 00	1	New Brunswick and Prince Edward Island Railway.	113,440	00
50-1 " " 24	217,600 00	2	Laurentian Railway, formerly St. Lawrence, Lower Laurentian and Saguenay Railway, Quebec.....	217,600	00
49 " " 10	11,200 00	3	L'Assomption Railway, Quebec.....	11,200	00
49 " " 10	32,000 00				
50-1 " " 24	96,000 00	4	Great Eastern Railway, Quebec.....	40,345	00
56 " " 2	64,000 00				
53 " " 2	37,500 00				
47 " " 8	160,000 00	5	Irondale, Bancroft and Ottawa Railway, Ontario...	144,000	00
52 " " 3					
49 " " 10		96,000 00	6	Buctouche and Moncton Railway, N.B.....	101,600
50-1 " " 24	6,400 00				
47 " " 8	51,200 00	7	Albert Southern Railway, N.B.....	50,460	00
52 " " 3					
50-1 " " 24		65,200 00	8	Lake Temiscamingue Colonisation Ry. Quebec. ....	310,335
57-8 " " 4	274,940 00				
49 " " 10	38,400 00	9	Joggins Railway, N.S. ....	37,500	00
50-1 " " 24	4,000 00				
45 " " 14	240,000 00				
48-9 " " 58	258,000 00	10	Temiscouata Railway, N.B., and Quebec.....	645,950	00
51 " " 3	100,000 00				
53 " " 2	51,200 00				
48-9 " " 50	44,800 00	11	Leamington and St. Clair Railway, Ontario. ....	51,200	00
50 1 " " 24	6,400 00				
59 " " 10	16,000 00	12	Toronto, Grey and Bruce Railway, Ontario.....	14,656	00
50-1 " " 24	22,400 00	13	Dominion Lime Co., Quebec.....	15,360	00
49 " " 10	256,000 00	14	West Ontario Pacific Railway and Ontario and Quebec Railway.....	256,000	00
53 " " 2					
50-1 " " 24	96,000 00				
52 " " 3	14,400 00	15	Drunmond County Railway, Quebec.....	423,936	00
53 " " 2	76,800 00				
57-8 " " 4	96,000 00				
48-9 " " 59	128,000 00	16	Brockville, Westport and Sault Ste. Marie Rail- way, Ontario. ....	140,800	00
53 " " 2					
54-5 " " 8		64,000 00			
57-8 " " 4					
49 " " 10	32,000 00	17	Montreal and Lake Maskinongé Railway, Quebec..	41,280	00
53 " " 2	10,200 00				
50-1 " " 24	54,400 00	18	South Norfolk Railway, Ontario.....	54,400	00
50-1 " " 24	51,200 00	19	Guelph Junction Railway, Ontario.....	46,000	00
48-9 " " 54	22,400 00	20	Belleville and North Hastings Railway, Ontario.....	21,888	00
49 " " 19					
49 " " 10		108,800 00	21	Hereford Railway, Quebec.....	155,200
52 " " 3	48,000 00				
50-1 " " 23	118,400 00	22	Lake Erie and Detroit River Railway, Ontario. ...	475,851	00
55-6 " " 4	224,000 00				
62-3 " " 5					
50-1 " " 27	62,400 00	23	Beauharnois Junction Railway, Quebec.....	62,400	00
56 " " 4					
50-1 " " 24		138,400 00	24	St. Catharines and Niagara Central Ry., Ontario..	38,400
55-6 " " 5	108,000 00				
57-8 " " 4	108,800 00				
52 " " 3	30,000 00	25	Fredericton and St. Mary's Ry. Bridge Co., N.B....	30,000	00
50-1 " " 24	9,600 00	26	Harvey Branch Railway Co., N.B.....	5,553	57
55-6 " " 5	240,000 00	27	Nova Scotia Central Railway Co., N. S.....	235,200	00
61 " " 1					
50-1 " " 24		44,800 00	28	Cumberland Railway and Coal Co., N.S. ....	39,850
52 " " 3	19,200 00	29	Pontiac and Renfrew Railway, Ontario.....	13,600	00
52 " " 3	54,400 00	30	Thousand Islands Railway, Ontario.....	29,840	00
63 4 " " 8					
			Carried forward.....	11,072,766	54

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have been entered into and payments made up to March 31, 1917—Continued.

Payments.							Total to March 31, 1917.	Number.
1910-11.	1911-12	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
273,929 12	113,988 03	374,016 00		405,120 00	43,161 60		8,459,135 77	
							113,440 00	1
							217,600 00	2
							11,200 00	3
							40,345 00	4
							144,000 00	5
							101,600 00	6
							50,460 00	7
							310,335 95	8
							37,500 00	9
							645,950 00	10
							51,200 00	11
							14,656 00	12
							15,360 00	13
							256,000 00	14
							423,936 00	15
							140,800 00	16
							41,280 00	17
							54,400 00	18
							46,000 00	19
							21,888 00	20
							155,200 00	21
							475,851 00	22
							62,400 00	23
							38,400 00	24
							30,000 00	25
							5,553 57	26
							235,200 00	27
							39,850 00	28
							13,600 00	29
							29,840 00	30
273,929 12	113,988 03	374,016 00		405,120 00	43,161 60		12,282,981 29	

STATEMENT showing subsidies voted for Railways as to which contracts

SUBSIDIES VOTED.		Number.	Railways.	July 1, 1883, to March 31, 1910.	
Authority.	Amount.			\$	cts.
	\$	cts.		\$	cts.
			Brought forward .....	11,072,766	54
52 Vic., chap. 3	96,000	00	1 Quebec, Montmorency and Charlevoix Ry. Co., Que.	96,000	00
56 " "	375,000	00	2 St. Clair Frontier Tunnel Co., Ontario .....	375,000	00
52 " "	57,600	00	3 Brantford, Waterloo and Lake Erie Ry., Ontario...	57,600	00
50-1 " "	287,200	00	4 Port Arthur, Duluth and Western Ry., Ontario ....	271,200	00
57-8 " "					
51 " "					
53 " "					
50-1 " "	192,000	00	5 Montreal and Ottawa Railway, Ontario .....	192,000	00
53 " "					
54-5 " "					
57-8 " "					
50-1 " "	44,800	00	6 Cornwallis Valley Railway, N.S. ....	44,800	00
52 " "	320,000	00			
57-8 " "	64,000	00	7 Ottawa, Northern and Western Railway, Quebec, formerly Ottawa and Gatineau Valley Railway.	414,981	20
60-1 " "	*				
47 " "					
51 " "					
52 " "	83,612	00			
53 " "	142,400	00	8 Central Railway, N.B. ....	226,012	54
57-8 " "	48,000	00			
61 " "					
62-3 " "					
53 " "	361,270	00	9 Montreal and Western Railway, Quebec .....	361,270	00
52 " "	128,000	00	10 Parry Sound and Colonization Railway, Ontario ....	152,800	00
57-8 " "	64,000	00			
52 " "	163,200	00	11 Shuswap and Okanagan Railway, B.C. ....	163,200	00
54-5 " "	89,600	00			
53 " "	35,200	00	12 Tobique Valley Railway, N.B. ....	134,016	00
55-6 " "	9,600	00			
53 " "	112,000	00	13 Colombia and Kootenay, B.C. ....	88,800	00
53 " "	35,200	00	14 Waterloo Junction Railway, Ontario .....	32,800	00
53 " "	99,200	00	15 Orford Mountain Railway Company, Quebec .....	192,942	50
53 " "	57,600	00			
55-6 " "	25,024	00	16 St. Lawrence and Adirondack Railway, Quebec ...	149,481	60
55-6 " "	*40,000	00	17 New Glasgow Iron, Coal and Railway Co., N.S. ....	39,840	00
56 " "	102,400	00			
57-8 " "	102,400	00	18 United Counties Railway Co., Quebec .....	188,816	00
55-6 " "	*21,600	00	19 Phillipsburg Junction Ry. Quarry Co., Quebec .....	23,712	00
55-6 " "	*130,400	00	20 Ottawa, Arnprior and Parry Sound Ry., Ontario .....	779,712	00
56 " "	67,200	00			
57-8 " "	38,400	00	21 Montfort Colonization Railway, Quebec .....	167,440	00
60-1 " "	66,000	00			
55-6 " "	48,000	00			
57-8 " "	48,000	00	22 Lotbinière and Megantic Railway, Québec .....	96,000	00
56 " "	48,000	00			
55-6 " "	80,000	00	23 Grand Trunk, Georgian Bay and Lake Erie Ry., Ont.	39,744	00
57-8 " "	121,600	00	24 Can. Pac. Ry., B.C., Revelstoke to Arrow Lake .....	80,000	00
55-6 " "	89,600	00	25 Nakusp and Slocan Railway, B.C. ....	117,760	00
56 " "	22,400	00	26 Dominion Coal Company, N.S. ....	87,803	00
57-8 " "	*51,200	00	27 Oshawa Railway and Navigation Co., Ontario. ....	22,400	00
56 " "	*11,200	00	28 Tilsonburg, Lake Erie and Pacific Ry., Ontario. ....	117,431	48
57-8 " "	*38,400	00	29 St. Stephen and Milltown Ry., N.B. ....	14,848	00
57-8 " "	9,000	00	30 Gulf Shore Railway Company, N.B. ....	53,699	20
56 " "	32,000	00	31 Cap de la Magdeleine Railway, Quebec .....	7,424	00
* " "	*		32 Ontario, Belmont and Northern Ry. Co., Ontario ...	30,720	00
* " "	*		33 Coast line of N.S., now Halifax and Yarmouth Ry. ...	160,000	00
* " "	*		34 Ottawa and New York Railway Company, Ontario...	262,384	00
			Carried forward .....	16,315,359	06

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have been entered into and payments made up to March 31, 1917.—Continued.

Payments.							Total to March 31, 1917.	Number.
1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
273,929 12	113,988 03	374,016 00	.....	405,120 00	43,161 60	.....	12,282,981 29	
.....	.....	.....	.....	.....	.....	.....	96,000 00	1
.....	.....	.....	.....	.....	.....	.....	375,000 00	2
.....	.....	.....	.....	.....	.....	.....	57,600 00	3
.....	.....	.....	.....	.....	.....	.....	271,200 00	4
.....	.....	.....	.....	.....	.....	.....	192,000 00	5
.....	.....	.....	.....	.....	.....	.....	44,800 00	6
.....	.....	.....	.....	.....	.....	.....	414,931 20	7
.....	.....	.....	.....	.....	.....	.....	226,012 54	8
.....	.....	.....	.....	.....	.....	.....	361,270 00	9
.....	.....	.....	.....	.....	.....	.....	152,800 00	10
.....	.....	.....	.....	.....	.....	.....	163,200 00	11
.....	.....	.....	.....	.....	.....	.....	134,016 00	12
.....	.....	.....	.....	.....	.....	.....	88,800 00	13
.....	.....	.....	.....	.....	.....	.....	32,800 00	14
.....	.....	9,984 00	.....	.....	.....	.....	202,926 50	15
.....	.....	.....	.....	.....	.....	.....	149,481 60	16
.....	.....	.....	.....	.....	.....	.....	39,840 00	17
.....	.....	.....	.....	.....	.....	.....	188,816 00	18
.....	.....	.....	.....	.....	.....	.....	23,712 00	19
.....	.....	.....	.....	.....	.....	.....	779,712 00	20
.....	.....	.....	.....	.....	.....	.....	167,440 00	21
.....	.....	.....	.....	.....	.....	.....	96,000 00	22
.....	.....	.....	.....	.....	.....	.....	39,744 00	23
.....	.....	.....	.....	.....	.....	.....	80,000 00	24
.....	.....	.....	.....	.....	.....	.....	117,760 00	25
.....	.....	.....	.....	.....	.....	.....	87,808 00	26
.....	.....	.....	.....	.....	.....	.....	22,400 00	27
.....	.....	.....	32,640 00	.....	.....	.....	150,071 48	28
.....	.....	.....	.....	.....	.....	.....	14,848 00	29
.....	.....	.....	.....	.....	.....	.....	53,699 20	30
.....	.....	.....	.....	.....	.....	.....	7,424 00	31
.....	.....	.....	.....	.....	.....	.....	30,720 00	32
.....	.....	.....	.....	.....	.....	.....	160,000 00	33
.....	.....	.....	.....	.....	.....	.....	262,384 00	34
273,929 12	113,988 03	384,000 00	32,640 00	405,120 00	43,161 60	.....	17,568,197 81	

8 GEORGE V, A. 1918

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1910.	
Authority.	Amount.			\$	cts.
				\$	cts.
			Brought forward.....	16,315,359	06
60-61 Vic., chap. 5	3,630,000 00	1	Canadian Pacific Ry. Co., B.C. (Crow's Nest Pass)...	3,404,720	00
60-61 " " 4	500,000 00	2	Grand Trunk Ry. Co., Victoria Jubilee Bridge, Que.	500,000	00
63 " " 3	*				
7-8 Ed. VII, 63	*	3	International Ry. of New Brunswick, formerly Res- tigouche and Western Ry. Co.....	555,751	47
*	*	4	East Richelieu Railway Co., Quebec.....	69,952	00
7-8 Ed. VII, 63	*	5	South Shore Ry. (Quebec, Montreal and Southern)...	430,975	36
*	*	6	Pembroke Southern Railway, Ontario.....	64,000	00
*	*	7	Massawippi Valley Railway Co., Quebec.....	5,376	00
*	*	8	Inverness and Richmond Ry. Co., N.S., now Inver- ness Ry. and Coal Co.....	368,545	97
*	*	9	Canadian Northern Ry. Co., Ontario, Manitoba and N.W.T.....	1,909,132	00
*	*	10	Canadian Pacific Railway Co. (Pipestone Branch)...	160,000	00
6-7 Ed. VII, 40	*	11	Central Ontario Railway Co., Ontario.....	179,466	00
*	*	12	Midland Railway Co., N.S.....	399,060	40
63-3 Vic., chap. 7	1,000,000 00	13	Quebec Bridge Co., Quebec.....	374,353	33
63-4 " " 8	*				
60-1 Vic., cnap. 4	212,500 00	14	St. Mary River Railway Co., N.W.T.....	148,094	00
63-4 " " 2	*	15	Pontiac Pacific and Ottawa & Gatineau Ry. Co. (Interprovincial Bridge over Ottawa River).....	212,500	00
1 Ed. VII, chap. 7	*	16	Atlantic and Lake Superior Ry., Quebec.....	144,969	02
1 " " 7	*	17	Montreal and Province Line Railway, Quebec.....	58,560	00
62-3 Vic., chap. 7	*	18	York and Carleton Railway, N.B.....	32,896	00
62-3 " " 7	*				
63-4 " " 8	*	19	Algoma Central and Hudson Bay Ry., Ontario.....	924,976	00
1 Ed. VII, chap. 7	*				
*	*	20	Cape Breton Extension Railway, N.S.....	196,800	00
*	*	21	Can. Pac. Ry. Co. (Kootenay & Arrowhead Branch).	153,866	00
*	*	22	" (Selkirk Branch).....	83,200	00
*	*	23	" (Dyment Branch).....	22,336	00
*	*	24	" (Waskada Branch).....	64,000	00
9-10 Ed. VII, 51	*	25	Algoma Eastern Ry. Co., formerly Manitoulin and North Shore Ry. Co., Ontario.....	32,000	00
*	*	26	Bay of Quinte Railway, Ont.....	141,722	45
*	*	27	Bruce Mines and Algoma Railway, Ont.....	53,920	00
*	*	28	Magnetawan River Railway Co., Ont.....	3,552	00
*	*	29	Canadian Northern Quebec Ry., formerly Chateau- guay and Northern Ry., Quebec.....	391,819	75
*	*	30	Canadian Pacific Ry. Co. (Pheasant Hills Branch)...	435,200	00
*	*	31	Halifax and Southwestern Railway Co., N.S.....	1,238,450	93
*	*	32	Northern Colonization Railway Co., Quebec.....	355,200	00
*	*	33	New Brunswick Coal and Railway Co., N.B.....	48,000	00
*	*	34	Schomberg and Aurora Railway Co., Ont.....	46,144	00
*	*	35	Lindsay, Bobcaygeon Pontypool Ry. Co., Ont.....	185,173	06
*	*	36	Middleton and Victoria Beach Ry. Co., N.S.....	125,760	00
Ed. VII, chap. 57	*	37	Nicola, Kamloops and Similkameen Coal & Ry. Co.	300,800	00
4 " " 34	*	38	Canadian Pacific Ry. (Staynerville Branch).....	13,024	00
6 " " 43	*	39	Klondike Mines Railway.....	197,184	00
6 " " 43	*	40	Kettle Valley Ry. Co., B.C.....	97,771	52
6 " " 43	*	41	Colchester Coal and Ry. Co., N.S.....	12,800	00
3 " " 57	*	42	Minudie Coal Co., N.S.....	18,544	00
6 " " 43	*	43	Atlantic, Quebec and Western Ry. Co., Quebec.....	365,568	00
9-10 " " 51	*				
6 " " 43	*	44	Napierville Junction Ry. Co., Quebec.....	173,440	00
6-7 " " 40	*	45	Edmonton, Yukon and Pac. Ry. Co., Alberta.....	91,200	00
6-7 " " 40	*	46	Canadian Northern Ontario Ry. Co.....	2,123,942	40
7-8 " " 63	*				
			Carried forward.....	33,230,105	32

† Of this amount, \$16,164.43 was in connection with subsidy to Montreal and Sorel Railway.

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have been entered into and payments made up to March 31, 1917—Continued.

Payments.							Total March 31, 1917.	Number.
1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
273,929 12	113,988 03	384,000 00	32,640 00	405,120 00	43,161 60		17,568,197 81	
							3,404,720 00	1
							500,000 00	2
169,536 00					791 93		726,080 00	3
							69,952 00	4
60,000 00	23,835 70						1514,811 06	5
							64,000 00	6
							5,376 00	7
							368,545 97	8
							1,909,132 00	9
							160,000 00	10
24,601 32	826 17		969 30				205,862 79	11
							399,060 40	12
							374,353 33	13
							148,094 00	14
							212,500 00	15
				18,449 17			163,418 19	16
							58,560 00	17
							32,896 00	18
	133,584 00	394,859 44	456,304 00	138,980 56			2,048,704 00	19
							196,800 00	20
							153,866 00	21
							83,200 00	22
							22,336 00	23
							64,000 00	24
68,638 72		254,089 40	179,897 01	13,022 87			547,648 00	25
							141,722 45	26
							53,920 00	27
							3,552 00	28
							391,819 75	29
							435,200 00	30
							1,238,450 93	31
							355,200 00	32
							48,000 00	33
							46,144 00	34
							185,173 06	35
							125,760 00	36
							300,800 00	37
							13,024 00	38
							197,184 00	39
	148,800 00	107,138 40	699,389 60	369,497 28	460,691 49	290,902 43	2,174,190 72	40
							12,800 00	41
							18,544 00	42
31,334 40	91,279 60	414,618 00					902,800 00	43
							173,440 00	44
							91,200 00	45
116,889 60			8,948,809 47	2,243,335 80	495,604 83	358,180 41	14,386,762 51	46
744,929 16	512,313 50	1,554,705 24	10,318,009 38	3,288,405 68	1,000,249 85	649,082 84	51,297,800 97	

a Amount actually paid after deductions amounting to \$1,521.82 made in 1905-06 (being for refunds, etc.,) from the total of \$146,490.84, previously reported, for which cheques had issued.

8 GEORGE V, A. 1918

## STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to Mar. 31, 1910.	
Authority.	Amount.			\$	cts.
			Brought forward. ....	33,230,105	32
7-8 Ed. VII. c.	63	*	1 Maritime Coal and Railway Co. ....	3,200	00
7-8 "	63	*	2 St. Mary's and Western Ontario Ry. Co., Ont. ....	67,344	00
7-8 "	63	*	3 North Shore Ry. Co., formerly Beersville Coal and Ry. Co. ....	27,616	00
7-8 "	63	*	4 St. Maurice Valley Ry. Co.—Three Rivers to Grand Mère, Que. ....	112,640	00
7-8 "	63	*	5 Grand Trunk Pacific Ry. Co. ....	917,800	96
6	43	*	6 Can. Pacific Ry. Co., Teulon to Icelandic River. ....	30,800	00
7-8 "	63	*	7 Canadian Pacific Ry. Co., Moosejaw northwesterly. ....	303,360	00
7-8 "	63	*	8 Canadian and Gulf Terminal Ry. Co. ....		
6-7 "	40	*	9 Liverpool and Milton Ry. 5 miles, N.S. ....		
7-8 "	63	*	10 Thessalon and Northern Ry. Co., Ont. ....		
7-8 "	34	*	11 Vancouver and Lulu Island Railway Co., B.C. ....		
7-8 "	51	*	12 Quebec and Saguenay Ry. Co., Que. ....		
7-8 "	63	*	13 Canadian Pacific Ry., Winnipeg to Gimli, Man. ....		
9-10 "	51	*	14 Ha-Ha Bay Railway Co., Que. ....		
2 Geo. V	47	*	15 Northern New Brunswick and Seaboard Ry. Co., N.B. ....		
3-4 "	46	*	16 Can. Northern Pacific Ry. Co., B.C. ....		
2 "	9	*	17 Fredericton and Grand Lake Ry. Co., N.B. ....		
2 "	48	*	18 Southampton Railway Co., N.B. ....		
2 "	48	*	19 St. John and Quebec Railway Co., N.B. ....		
2 "	7	*	20 Canadian Northern Alberta Ry. Co., Alta. ....		
3-4 "	10	*	21 Central Ry. of Canada, Que. ....		
2 "	48	*	22 Temiskaming and Northern Ont. Ry. Co., Ont. ....		
3-4 "	53	*	23 Lake Erie and Northern Ry. Co., Ont. ....		
2 "	48	*	24 Can. Pac. Ry., Bridge at Outlook. ....		
2 "	48	*	25 Can. Pac. Ry., Bridge at Edmonton, Alta. ....		
2 "	48	*	26 Alberta Central Railway, Alta. ....		
3-4 "	46	*	27 Kootenay Central Ry. Co., B.C. ....		
2 "	48	*	28 Can. Pac. Ry., Gimli to Icelandic River Bridge. ....		
3-4 "	46	*	29 Edmonton, Dunvegan and British Columbia Ry., Alta. ....		
			Total. ....	34,692,866	28
37 Vic. chap.	14		30 Atlantic and Northwestern Railway. ....	3,732,000	00
46 "	2		31 Central Canada Railway. ....	1,525,250	00
47 "	8		32 Canadian Pacific Extension. ....	1,500,000	00
48-9 "	58		Total. ....	41,450,116	28
	186,500 annu- ally for 20 yrs.	30			
	1,525,250 00	31			
	1,500,000 00	32			

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have been entered into and payments made up to March 31, 1917.—*Concluded.*

Payments.							Total March 31, 1917.	Number.
1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
744,929 16	512,313 50	1,554,705 24	10,318,009 38	3,288,405 68	1,000,249 85	649,082 84	51,297,800 97	
	365 00						3,200 00	1
							67,709 00	2
							27,616 00	3
60,480 00							173,120 00	4
302,679 04							1,220,480 00	5
		81,200 00					112,000 00	6
	78,432 00		103,682 27				485,474 27	7
144,803 84	65,249 75						210,053 59	8
32,000 00							32,000 00	9
	6,112 00						6,112 00	10
	61,760 00						61,760 00	11
	104,992 00	27,641 60	116,167 68				248,801 28	12
	30,176 00	4,346 43					34,522 43	13
		148,148 20	66,919 28	16,158 72		235 80	231,462 00	14
		86,528 00	21,632 00				108,160 00	15
		2,705,378 00	2,520,281 00	178,077 80	244,889 57		5,648,626 37	16
		104,996 04		111,579 96			216,576 01	17
		48,442 88	32,837 12				81,280 00	18
		174,120 96	364,617 42	59,581 32			598,319 70	19
			2,832,024 00	262,080 00			3,094,104 00	20
			30,145 02				30,145 02	21
			2,134,080 00				2,134,080 00	22
			135,129 60			185,062 40	320,192 00	23
			115,000 00				115,000 00	24
			126,000 00				126,000 00	25
			119,712 00	209,768 00	75,000 00		404,480 00	26
				1,065,856 00			1,065,856 00	27
					80,032 00		80,032 00	28
						125,202 84	125,202 84	29
1,284,892 04	859,400 25	4,935,507 35	19,036,236 77	5,191,507 48	1,400,171 42	959,583 88	68,360,165 47	30
							3,732,000 00	31
							1,525,250 00	32
							1,500,000 00	32
1,284,892 04	859,400 25	4,935,507 35	19,036,236 77	5,191,507 48	1,400,171 42	959,583 88	75,117,415 47	

## APPENDIX II

## GOVERNMENT RAILWAYS.

## REPORT OF C. A. HAYES, GENERAL MANAGER.

YEAR ENDED MARCH 31, 1917.

## INTERCOLONIAL RY. DIVISION.

## CAPITAL ACCOUNT.

The cost of the road and equipment, on March 31, 1916, was.....		\$115,766,560 24	
The additional expenditures during the year were.....		4,490,472 56	
		<hr/>	
Making the total cost to March 31, 1917 .....		\$120,257,032 80	
		<hr/>	
The gross earnings and working expenses for the year compare as follows—			
Gross earnings—I. C. R. Rail Account .. ..	\$16,570,186 31		
Water Account.. .. .	197,200 58		
	<hr/>		
N.B. and P.E.I. Ry. Account.	\$16,767,386 89		
	38,336 75		
	<hr/>		
Working expenses—I. C. R. Rail Account ..	\$15,528,188 04	\$16,805,723 64	
Water Account..	123,969 74		
	<hr/>		
N.B. and P.E.I. Ry. Account.	\$15,652,157 78		
Interest on purchase price.	72,357 80		
Vale Railway (rental) .. ..	5,673 42		
	1,200 00		
	<hr/>		
		15,731,389 00	
		<hr/>	
Surplus gross earnings over working expenses.....		\$1,074,334 64	
		<hr/>	
From this surplus, \$4,000 was expended as gratuities, and the balance, under authority of 1-2 George V, chapter 3, has been charged to Improvements and Betterments and credited to equipment renewal account .. .. .		\$1,070,334 64	

## REVENUE.

The gross earnings, including water line, compare as follows with those of the previous year—		
1915-16 (Water Line, \$ 50,619.83).....	\$14,068,791 41	
1916-17 ( " " 197,200.58).....	16,767,386 89	
	<hr/>	
Increase.....	\$2,698,595 48	
	<hr/>	
The earnings from passenger traffic (rail) compare as follows—		
1915-16.....	\$4,010,879 58	
1916-17.....	5,587,666 53	
	<hr/>	
Increase.....	\$1,576,786 95	
	<hr/>	
The earnings from freight traffic, including Water Line, com- pare as follows—		
1915-16 (Water Line, \$ 50,619.83).....	\$ 9,200,339 21	
1916-17 ( " " 197,200.58).....	10,743,137 93	
	<hr/>	
Increase.....	\$1,542,798 72	
	<hr/>	

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Miscellaneous earnings, including mails and express, compare as follows—	
1915-16.. . . . .	\$857,572 62
1916-17.. . . . .	436,582 43
Decrease.. . . . .	\$420,990 19
The rail earnings per mile of railway, compare as follows—	
1915-16.. . . . .	\$ 9,181 53
1916-17.. . . . .	10,913 00
Increase.. . . . .	\$1,731 47
The earnings per train mile compare as follows—	
1915-16.. . . . .	\$1'87
1916-17.. . . . .	1'94
The number of passengers carried compare as follows—	
1915-16.. . . . .	4,124,387
1916-17.. . . . .	4,537,454
Increase.. . . . .	413,067
The weight of revenue-producing freight compares as follows—	
1915-16.. . . . . tons.	5,447,220
1916-17.. . . . . " "	6,770,224
Increase.. . . . . " "	1,323,004

A number of statements which give detailed information are appended to this report.

## WORKING EXPENSES.

The working expenses, including Water Line, compare as follows with the previous year—	
1915-16 (Water Line, \$ 50,619.83) . . . . .	\$12,551,495 84
1916-17 ( " " 123,969.74) . . . . .	15,652,157 78
Increase.. . . . .	\$3,100,661 94
The averages, not including Water Line, compare with those of last year as follows—	
Per mile run by engine in 1915-16 . . . . .	1'29
" " " 1916-17 . . . . .	1'39
" " " 1915-16 . . . . .	1'58
" " train 1915-16 . . . . .	1'58
" " " 1916-17 . . . . .	1'81
The working expenses per mile of railway—	
1915-16.. . . . .	\$ 8,187 74
1916-17.. . . . .	10,226 75

The mileage of the railway for the year 1916-17 was 1,518.39.

During the year ended March 31, 1917, 497,019 ordinary ties were put in the track; 178.39 miles of track ballasted, and a total of 72.76 miles of ditching completed to provide better drainage for the roadbed; 20.50 miles of additional business sidings and 5.12 miles of private sidings were provided. Bridges, culverts, wharves, fences and buildings were repaired, and 49.12 miles of standard woven-wire fence erected.

## STORES.

The value of general stores carried over from the previous year was:—

Intercolonial Ry. . . . .	\$1,755,994 47	
New Brunswick and Prince Edward Island Ry. . . . .	3,680 10	
International Railway of New Brunswick. . . . .	15,788 89	
Prince Edward Island Railway. . . . .	54,045 50	
Transcontinental Railway. . . . .	518,850 24	
		\$ 2,348,359 20
The value of stores purchased and charges from other departments. . . . .		
		16,265,215 35
Total of. . . . .		\$18,613,574 55
The value of stores used and sold. . . . .		13,795,471 81
Balance of general stores on hand, March 31, 1917. . . . .		\$4,818,102 74

## PRINCE EDWARD ISLAND RAILWAY.

The length of railway in operation at the end of the year 1916-17 was 275.2 miles. The gauge is 3 feet 6 inches.

The cost of road and equipment, March 31, 1916, was. . . . .	\$10,841,372 44
The expenditure during year 1916-17, was. . . . .	609,751 71
Making a total cost on March 31, 1917. . . . .	\$11,451,124 15
Gross earnings (including water line, \$185,215.40). . . . .	\$630,045 69
Working expenses (including water line, \$246,259.49) . . . . .	833,853 02
Deficiency. . . . .	\$203,807 33
The gross earnings compare with the previous year as follows—	
1915-16. . . . .	\$390,920 82
1916-17. . . . .	630,045 69
Increase. . . . .	\$239,118 87
The working expenses compare with the previous year as follows—	
1915-16. . . . .	\$545,026 62
1916-17. . . . .	833,853 02
Increase. . . . .	\$288,832 40

The necessary work to maintain the railway in a state of efficiency, the renewing of the track and switch ties, and ballasting of several miles of track, has been carried out.

## NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

The cost of road and equipment, March 31, 1916, was. . . . .	\$224,211 23
The expenditure during year 1916-17, was. . . . .	46,579 38
Making a total cost on March 31, 1917. . . . .	\$270,790 66
The gross earnings and working expenses to March 31, 1917, compare as follows—	
Gross earnings. . . . .	\$38,336 75
Working expenses. . . . .	72,357 80
Deficiency. . . . .	\$34,021 05

In addition to amount of working expenses, there was paid \$5,673.42 as interest on purchase price.

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## INTERNATIONAL RAILWAY OF NEW BRUNSWICK.

The expenditure on road and equipment, March 31, 1916, was	\$3,937 47
The expenditure during the year 1916-17, was. . . . .	3,724 98
	<hr/>
Making a total cost on March 31, 1917. . . . .	\$7,662 45
	<hr/>
Gross earnings and working expenses to March 31, 1917, compare as follows—	
Gross earnings. . . . .	\$116,678 67
Working expenses. . . . .	165,107 26
	<hr/>
Deficiency. . . . .	\$48,428 59
	<hr/>

In addition to amount of working expenses, there was paid \$90,000 as interest on purchase price.

## VALE RAILWAY.

The Vale Railway, running from New Glasgow to Thorburn, N.S., a mileage of 5.35 miles, was leased May 31, 1916, from the Acadia Coal Company at an annual rental of \$1,200.

## NATIONAL TRANSCONTINENTAL RAILWAY.

This line extends from Moncton to Winnipeg and is 2003.03 miles in length, which includes the Grand Trunk Pacific branch line from Fort William to Lake Superior Junction.

The gross earnings and working expenses to March 31, 1917, compare as follows—	
Gross earnings. . . . .	\$5,916,550 99
Working expenses. . . . .	7,206,922 20
	<hr/>
Deficiency. . . . .	\$1,290,371 21
	<hr/>

In addition to amount of working expenses there was paid the sum of \$600,000 on account of rental Lake Superior Branch.

## ST. JOHN AND QUEBEC RAILWAY.

The gross earnings and working expenses to March 31, 1917, compare as follows—	
Gross earnings. . . . .	\$70,759 62
Working expenses. . . . .	98,300 42
	<hr/>
Deficiency. . . . .	\$27,540 80
	<hr/>

CANADIAN GOVERNMENT RAILWAYS—Year ending March 31, 1917.

Statement of Averages.	Intercolonial Ry.	Prince Edward Island Ry.	New Brunswick and Prince Edward Island Ry.	International Ry. of N. B.	National Trans-continental Ry.	Canadian Govt. Rys.	St. John and Quebec Ry.
Mileage of railways.....	1,518.39	275.20	36.05	111.30	2,003.03	3,943.97	119.87
Total engine mileage.....	11,178,943	458,376	65,611	86,516	3,942,535	15,731,981	77,597
" train mileage.....	8,357,782	368,495	40,101	78,894	3,367,485	12,412,757	72,531
" car mileage.....	131,874,021	2,143,610	288,004	663,821	69,429,569	204,369,625	396,623
<i>Earnings.</i>							
Transportation—Rail.....	\$ 16,570,186.31	\$ 424,974.29	\$ 38,336.75	\$ 116,678.67	\$ 5,916,550.99	\$ 23,066,727.01	\$ 70,759.62
" Water.....	197,206.58	185,215.40	19,836.00	116,678.67	382,415.98	19,856.00	
Incidentals.....	16,767,386.89	630,045.69	38,336.75	116,678.67	5,916,550.99	23,468,938.99	70,759.62
Total.....	\$ 15,652,157.78	\$ 833,853.02	\$ 72,357.80	\$ 165,107.26	\$ 7,206,922.20	\$ 23,930,398.06	\$ 98,300.42
<i>Operating Expenses.</i>							
Total.....	p.c. 98.82	p.c. 67.45	p.c. 100.00	p.c. 100.00	p.c. 100.00	p.c. 98.37	p.c. 100.00
	1.18	29.40				1.63	
		3.15					
<i>Ratio of Earnings to Gross Earnings.</i>							
Earnings from transportation (rail).....	\$ 10,913.00	\$ 1,616.39	\$ 1,063.43	\$ 1,048.33	\$ 2,933.80	\$ 5,853.38	\$ 590.30
" engine mile.....	1.48	97	58	1.35	1.50	1.47	91
" train mile.....	1.94	1.21	96	1.48	1.76	1.86	98
" car mile.....	12.57	20.75	16.07	17.06	8.52	11.90	17.84
Total.....	p.c. 93.35	p.c. 132.35	p.c. 188.74	p.c. 141.51	p.c. 121.81	p.c. 101.07	p.c. 138.92
<i>Expenses Per Train Mile.</i>							
Total.....	cts. 181.45	cts. 159.46	cts. 180.44	cts. 209.40	cts. 214.01	cts. 189.81	cts. 135.53
<i>Expenses Per Mile of Railway.</i>							
Total rail.....	\$ 10,226.75	\$ 2,135.15	\$ 2,007.15	\$ 1,483.44	\$ 3,598.01	\$ 5,973.72	\$ 820.06
Repairs of locomotives.....	\$ 1,060,224.10	\$ 34,843.97	\$ 4,530.18	\$ 5,925.97	\$ 697,896.41	\$ 1,803,420.63	\$ 1,327,376.99
" freight cars.....	818,898.76	9,357.88	1,418.24	4,179.52	493,522.59	1,327,376.99	721,547.50
" passenger cars.....	466,008.15	16,525.85	1,103.32	2,557.52	255,352.66	721,547.50	4,417.07
Cost of repairs per locomotive.....	2,797.43	1,124.06	1,510.06	1,481.49	4,417.07	3,136.38	74.83
" freight car.....	75.83	17.01	40.52	25.80	74.83	3.73.00	1,038.20
" passenger car.....	882.59	280.10	367.77	255.75	2,477.40	1,038.20	

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SUMMARY of the Passenger and Freight Traffic on the Canadian Government Railways and Steamers.  
Year ending March 31st, 1917.

	Intercolonial Railway.	Prince Edward Island Railway.	Ocean Steamships to Mainland.	New Brunswick and Prince Edward Island Railway.	International Railway of N.B.	National Transcontinental Railway.	Canadian (Government Railways.	St. John and Quebec Railway.
Passenger Traffic.....	5,587,666.53	177,888.85	69,113.52	8,682.74	37,015.11	824,713.53	6,705,080.28	28,733.00
Freight Traffic.....	10,545,937.35	219,442.74	108,508.13	30,834.71	93,866.04	5,643,869.19	16,642,458.16	50,385.99
Mails, Express, etc.....	436,582.43	47,498.70	7,593.75	3,766.69	2,734.82	166,783.65	664,910.04	2,296.64
Total.....	16,570,186.31	444,830.29	185,215.40	43,284.14	133,615.97	6,635,316.37	24,012,448.48	81,325.63
Ocean Service.....	197,200.58	.....	.....	4,947.39	.....	.....	382,415.98	.....
Total.....	16,767,386.89	444,830.29	185,215.40	43,284.14	133,615.97	6,635,316.37	24,209,649.06	81,325.63
Less Hire of Equipment.....	.....	.....	.....	.....	16,357.30	718,765.38	740,650.97	10,566.01
Net Revenue.....	16,767,386.89	444,830.29	185,215.40	38,336.75	116,678.67	5,916,550.99	23,468,998.99	70,759.62
<i>Passenger Statement.</i>								
Local Traffic—	.....	.....	.....	.....	.....	.....	.....	.....
Number of Passengers.....	4,189,134	383,886	48,712	14,434	32,916	646,513	5,305,095	43,143
Mileage.....	162,368,608	9,049,535	1,903,929	285,083	1,347,003	16,201,965	191,156,123	1,147,093
Through Traffic—	.....	.....	.....	.....	.....	.....	.....	.....
Number of Passengers.....	357,320	18,230	.....	.....	592	82,913	459,075	781
Mileage.....	164,468,120	881,701	.....	.....	40,818	33,119,148	198,509,787	9,925
Total Number of Passengers.....	4,537,454	401,636	48,712	14,434	33,508	728,426	5,764,170	43,928
Total Mileage.....	325,836,728	9,931,236	1,903,929	285,083	1,387,821	49,321,113	389,665,910	1,157,018
<i>Freight Statement.</i>								
Local Traffic—	.....	.....	.....	.....	.....	.....	.....	.....
Local Tons.....	4,297,773	106,638	75,314	67,533	88,571	969,524	5,605,403	33,510
Local Mileage.....	846,631,987	3,693,402	3,340,376	1,437,952	3,583,379	320,700,716	1,179,387,812	988,801
Through Traffic—	.....	.....	.....	.....	.....	.....	.....	.....
Through Tons.....	2,472,451	43,413	.....	.....	36,473	2,191,736	4,744,073	19,986
Through Mileage.....	962,889,340	2,047,215	.....	.....	2,781,576	865,088,697	1,832,756,828	1,129,352
Total Tons.....	6,770,224	150,101	75,314	67,533	125,044	3,161,260	10,349,476	53,496
Total Mileage.....	1,809,471,327	5,740,617	3,340,376	1,437,952	6,364,955	1,185,789,413	3,012,144,640	2,118,153

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## REPORT OF C. B. BROWN, CHIEF ENGINEER.

## HALIFAX OCEAN TERMINALS.

The chief engineer reports that the works under contract have been steadily continued and excellent progress has been made both on the railway and the docks.

*Grading.*—Grading has been completed, and between Rockingham and Fairview, Terminal Junction Yards, the sea slopes have been riprapped to the extent of 9,000 feet.

Raising the main line to new elevation was commenced in May, and 85 pound rails were laid on part of the new inbound line in September. Tracks were laid in terminal yards to provide accommodation for about 1,000 additional cars.

On the main line, from Fairview to Young avenue the grading was completed, as well as all other work, and the line put into service.

Between Young avenue and Halifax harbour, all the excavation on the main line and the lower benches of the proposed freight yard was completed. Several tracks, with a capacity of about 400 cars, were laid.

*Breakwater, Point Pleasant.*—This breakwater has been satisfactorily completed.

*Drainage.*—Drainage at Prince Arthur street, also culvert No. 290, and at Point Pleasant yard was completed. The culverts in terminal yard were extended, and the drainage required at stations 115 to 125 partly completed. The Coburg and the Pleasant street sewers were completed, and the Atlantic street sewer is 10 per cent complete.

*Houses.*—Where necessary, houses were moved, placed on new foundations, and necessary repairs and alterations made.

*Bridges.*—There are twelve concrete and reinforced-concrete overgrade bridges and subways under construction, of which two concrete arches have been completed. The remainder will be completed as soon as the construction material is received.

*Dredging—Basin No. 1.*—Dredging for the 30-foot and 35-foot depths has been completed, and the 45-foot depth is dredged to 40 feet.

*Basin No. 2.*—The northern half is complete to the 45-foot level, and the southern half is 80 per cent complete, as well as the dredging east of the bulkhead passenger landing quay.

*Foundations.*—The dredging for foundations is complete, 201,403 cubic yards having been dredged out. During the year, 4,227 lineal feet of foundations were prepared. With the exception of about 400 lineal feet, all the foundations of the quay walls are prepared ready for the concrete pedestals.

*Quay Walls.*—Some 2,900 lineal feet were built to the top of the block work, and 1,654 lineal feet of the granite work of the quay was set to full height. About 100,000 cubic yards of borrowed filling has been placed in pier "A," and about 30,000 cubic yards behind the bulkhead passenger landing quay.

About 75 per cent of the granite for the face work of the quay walls is dressed.

*Concrete Work.*—The following concrete blocks have been made: Shells, 1,578; total volume concrete cubic yards, 46,246; total pounds steel used, 7,540,691; 199 concrete key-posts and 580 piles were made. The key posts contain 481 cubic yards of concrete and 237,800 pounds of reinforcing steel, while the piles contain 1,184 cubic yards of concrete and 591,000 pounds of steel.

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*Steamship Accommodation.*—Three steamship berths, one of 500, one of 600, and one of 700 feet, have been in use during the winter. Two of these are equipped with temporary sheds of 440 and 396 feet each in length by 90 feet in width.

*Plant.*—The plant in use has been increased by the addition of a 150-ton locomotive crane.

Notwithstanding difficulties in transportation, a very successful year's work was accomplished, the contract having been completed to the extent of 68 per cent.

ROADBED AND TRACK—Table of Mileages.

	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
Intercolonial Ry.....	1,518·39	66·92	146·55	378·88
Prince Edward Island Ry.....	275·20		7·95	25·93
National Transcontinental Ry.....	1,811·23	9·29	130·20	203·72
Grand Trunk Pacific Ry. (Leased Lines).....	191·75		20·69	42·07
New Brunswick and Prince Edward Island Ry.....	36·05		·93	3·37
International Ry. of N. B.....	111·30		1·13	4·29
St. John and Quebec Ry.....	119·87		3·37	4·63
Total.....	4,063·84	76·21	310·82	662·89

MILEAGE of the various weights of rails.

Weight.	I. C. R.	Trans-continental.	P. E. I. Ry.	N. B. and P. E. I. Ry.	International	Vale Ry.	G. T. P. Ry.	St. J. and Q.
50 lb.....	4·40		3·6					
52 ".....			95·1					
56 ".....	19·48	3·50	40·1	15·69	14·1	3·35		
58 ".....			134·2					
60 ".....					52·8			
67 ".....	231·31	1·16	1·3		44·4	2·0		
70 ".....	19·75							
72 ".....							4·34	
75 ".....							6·00	
80 ".....	1,037·13	1,819·19	0·6	20·36			181·41	119·87
85 ".....	273·24							

*New and relaid rails laid.*—The main line of the I.C.R. was laid with 85-pound rails for a distance of 51½ miles and 8·96 miles were relaid with 80-pound relay rails; 3·59 miles were relaid on the main-line branch lines with 67-pound relay rails, and three-tenths of a mile with 80-pound relay rail.

*New Brunswick and Prince Edward Island Railway Line.*—11·12 miles were relaid with 80-pound relay rail, releasing 56-pound and 67-pound rail.

*The Vale Railway* was relaid with 67-pound rail for 2 miles.

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*Grand Trunk Pacific Railway.*—The main line was relaid with new 80-pound rail for 4.53 miles.

TIE Renewals, Ballasting, New Sidings, Ditches, etc.

Railways.	Tie Renewals.	Ballast-ing.	Ditches.	Widen Banks.	Tile Drain.	Protec-tion to embank-ments and cuts	New Sidings	
							Passing and Busi-ness.	Private.
	No.	Miles.	Miles.	Miles.	Ft.	Ft.	Ft.	Ft.
Intercolonial. ....	497,019	178.39	72.76	66.99	2,600	2,500	100,756	27,054
P. E. Island Ry.....	21,715	9.2	5.50			700		856
Nat. Transcontinental Ry.....	558,842	61.5	39.34	0.73	11,876	Several points.	6,158	48,529
N. B. & P. E. I. Ry..	9,840	12.0						115
International of N.B.....	35,619							2,731
Vale Ry.....	2,112							7,011
G. T. Pac. Ry. ....	51,384	10.0	0.75				2,240	795
	1,176,531	271.09	109.35	67.72	14,476	3,200	109,154	87,091

The cleaning out of 20 miles of ditches, the building of 1,502 track feet of private sidings on the St. John and Quebec Railway are not included in the above statement.

WATER SERVICE.

*Intercolonial Railway.*—All along this railway the water service has received the necessary attention to keep it in efficient order. The tanks and piping were repaired where necessary. A 40,000-gallon tank was installed at North Sydney and a 15-horse-power gasolene pump installed at the Newcastle reservoir. A water meter was installed at Lévis, and a 4-inch Warren steam pump installed at St. Pascal.

*National Transcontinental Railway.*—A steam pump and a 5,000-gallon tank was installed near Cap Rouge, Que. At Transcona 1,000 feet of 6-inch cast-iron pipe was laid to new elevator. The 50,000-gallon tank, at Glendyne, which was destroyed by fire, was replaced by taking down the tank in the N.T.R. yard at Moncton and re-erecting it at Glendyne. Other necessary light repairs and alterations have been carried out.

*Grand Trunk Pacific Railway.*—A 4-inch cast-iron water pipe, 1,300 feet long, was laid to the coach and repair yard at Mission.

BUILDINGS.

*Intercolonial Railway.*—The necessary additions and alterations, repairs and painting to buildings, stations, and freight sheds have been carried out.

At Rivière-du-Loup, general repairs and painting to power-house, round-house, machine shop, and stores building were carried out.

*Prince Edward Island Railway.*—Coal shed floors renewed at Charlottetown, and the part of the stores building which had been destroyed by fire rebuilt. Other minor repairs were also carried out.

*National Transcontinental Railway.*—Four section tool-houses were erected, and seven shelter stations. The station buildings destroyed by fire at Casey and St. Anselme were rebuilt, and a portable station built at Smooth Rock Falls, Ont.

## SESSIONAL PAPER No. 20

A contract has been given for five double cottages at Cochrane and five at Grant. Those at Cochrane are nearly finished.

A temporary wooden grain elevator 46 by 32 feet, with the necessary cleaning machinery, has been established at Transcona.

The machinery of this elevator will be used in a 1,000,000-bushel elevator now building, and soon to be ready.

Standard concrete rail-racks have been built at one mile intervals in districts 2 and 3.

*Grand Trunk Pacific Railway.*—The necessary maintenance repairs were made to all buildings requiring them.

## TERMINAL IMPROVEMENTS.

*Intercolonial Railway.*—The capacity of the Ste. Rosalie yard was increased by 12,900 lineal feet of track (230 cars), and a new coaling crane and air compressor installed. Alterations and improvements were also carried out at Rivière-du-Loup, and Chaudière Junction, where 27,900 lineal feet of siding were installed (580 cars). General repairs and improvements were also carried out at this point.

Moncton: Yard capacity increased by 15,840 feet (316 cars), and storage tracks extended 1,000 feet. A 528-ton ice-house was erected near the new shops. Several alterations and improvements to electric light and telephone circuits were also carried out.

St. John: Two berths adjoining long wharf were dredged to give 30 feet of water at low tide. A contract was entered into for a 500,000-bushel reinforced concrete elevator, and work on foundation started. The heating of the station was improved, and the electric lighting of the rail yard increased. A temporary flour shed built.

Slight alterations and improvements have also been carried out at Pointe du Chêne, Point Tupper, Mulgrave, and Stellarton.

Truro: 14,500 feet of sidings (282 cars) were installed, and general repairs to coaling and car-heating plant carried out.

Halifax: old pier No. 2, damaged by fire in 1916, was rebuilt on the north and the south sides, giving accommodation for two tracks. The power-house, engine-house, heating, and car-cleaning plants, freight and cattle sheds, etc., elevator grain chutes, and 6 piers received general repairs.

Dartmouth, S.D.: Railway owned telephones were installed at three stations.

*Prince Edward Island Railway.*—Summerside: Wharves damaged by storm are being rebuilt. Georgetown wharf, damaged by ice, has been rebuilt.

*National Transcontinental Railway.*—Several additions and improvements are being constantly carried out on this line, of which the briefest report is herewith made.

Leonard shops: Two boiler feed pumps installed, and a feed water heater.

Bridge: Considerable machinery from the Transcona shops were erected at this point. It consists of three lathes, one crane, one pipe machine, one shaper, and other machinery. Six hydrant houses were installed, and additional hose furnished to extent of 1,250 feet.

Cochrane: Car-repair facilities have been improved. Siding for the auxiliary crane constructed. Cross-over and coal tracks built. Fire protection was also increased.

At Hearst, Grant, Armstrong Fitzpatrick, Parent, Doucet, and O'Brien: The fire protection was increased by the installation of several hydrants and several thousand feet of hose.

Graham: Wooden foundations under five machines in the machine shop were replaced by concrete foundations.

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Redditt: A cross-over line was built to reduce time in changing eastbound passenger engines. A coaling track was constructed on the south side of the coal chute. A gasoline-driven electric generator was also installed.

Transcona: The work on the 1,000,000-bushel elevator is 25 per cent complete; 2,100 feet of railway track and a 6-inch water supply pipe have been built to serve this elevator.

The electric light system, the compressed air system, and the steam line to the passenger-coach yard have all been repaired and improved.

Moncton (N.T.R.): A 50-k.w. engine generator set and switchboard has been installed after being removed from Edmundston, where arrangements were made for the purchase of current from an outside source.

*New Brunswick and Prince Edward Island Railway.*—Cape Tormentine: Terminal facilities to handle Prince Edward Island traffic when car ferry is put into operation were commenced.

*Grand Trunk Pacific.*—At Mission terminals a coach storage track, 1,000 feet long, with water service for watering and cleaning cars, has been built. Five car storage sidings (586 feet) were built.

## SURVEYS.

Surveys and track profiles have been completed on the I.C.R. Dartmouth S.D. to the extent of 67 miles, and also 3.48 at other points: Forty-two stations, grounds, and yard plans have also been surveyed; 398 bridges have been surveyed.

*Prince Edward Island Railway.*—One hundred and eighty-one miles of road have been resurveyed, 8 miles of track profile completed, and two station-grounds plans made.

*New Brunswick and Prince Edward Island Railway.*—Resurveys have been made of twelve station-grounds and three yard plans made.

## TRACK CENTERING.

The track has been recentred and curves spiralled for 134 miles on the Intercolonial Railway and 18 miles on the Prince Edward Island Railway.

## FENCING ERECTED.

*Intercolonial Railway.*—Forty-nine miles new wire fence.

*Prince Edward Island Railway.*—Fifteen miles new wire fence.

*National Transcontinental Railway.*—5.68 miles new wire fence and 9.49 miles snow fencing.

*Grand Trunk Pacific Railway.*—Forty-six miles new wire fence.

## DAMAGES.

No damages of very considerable extent took place either by flood or fire. The new washouts which occurred were soon repaired to cause the least possible delay to traffic.

## BRIDGES AND CULVERTS.

The bridges and culverts of the railways are being systematically repaired, strengthened, or renewed where necessary, steel and concrete being mostly used for renewals; 109 culverts were replaced on the I.C.R., 12,313 feet of culvert piping having been made by the railway forces. At mile 60, Winnipeg S.D., a 792-foot frame trestle was replaced by fill and 36-inch pipe culvert.

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## SUNDRIES.

A new turntable was installed at Boiestown, I.C.R. Ash pits at Ste. Rosalie and Chaudière Junction and Island yard were extended. A new track scale installed at Denmark, and others at Harvey Junction, La Tuque and St. Leonards, National Transcontinental Railway. The electrical lighting has been added to or improved where necessary.

## SIGNALS AND INTERLOCKING.

A mechanical interlocking plant was erected to protect the swing span of Grand Narrows bridge, and another at Ashton Junction, I.C.R. Fifty-three standard two-direction train-order signals were installed, and all other signals and crossings received the necessary care to be kept in good order.

## CAR FERRIES.

These steamers have received only slight repairs or alterations, such as repairs to heating or sanitation systems mostly. The bridge of steamer *Scotia No. 1* was moved forward to give better control of the vessel. Repairs to machinery were made to steamer *Scotia No. 2*.

## REPORT OF G. R. JOUGHINS, SUPERINTENDENT OF ROLLING STOCK.

## Equipment Renewals:—

62 locomotives, 55 of which were new, and 7 second-hand.

## N.T.R. Consolidated Fund:—

51 locomotives, 30 of which were new, and 21 second-hand.

## Passenger Cars—Equipment Renewals:—

18 sleeping cars, 8 new and 10 second-hand;

2 parlor, second-hand;  
2 Dining, second-hand;  
3 colonist, second-hand;  
2 first-class coaches, second-hand;  
4 postal; 2 new, 2 second-hand;  
1 baggage, second-hand;

10 hospital cars, second-hand; making a total of 42.

## N.T.R. Consolidated Fund:—

6 sleeping,  
6 lining,  
7 colonist,  
3 first-class coaches,  
4 second-class,  
5 baggage; all second-hand, making a total of 31.

## Freight Cars—Equipment renewals:—

108 Hart convertible cars; second-hand;  
1 Gas tank and car, new.

## N.T.R. Consolidated Fund:—

200 new stock cars;  
537 new steel-frame-50-ton box cars;  
239 Hart convertible cars, second-hand;  
131 Platform, second-hand;  
58 box, second-hand;  
3 gondolas, second-hand;  
2 steel coal cars, second-hand.

## Work Equipment—Equipment Renewals:—

10 all-steel snow ploughs, new;  
1 rail unloader, new;  
2 ballast side ploughs, second-hand;  
2 steam shovels, second-hand;  
1 Lidgerwood unloader, second-hand;  
1 center ballast plough, second-hand.

## Consolidated Revenue Fund:—

10 all-steel snow ploughs, new;  
2 wrecking cranes, new;  
2 rail unloaders, new;  
3 side ploughs, second-hand;  
1 center ballast plough, second-hand.  
4 ballast ploughs, second-hand;  
3 Rodger spreaders, second-hand;  
3 Jordan spreaders, second-hand;  
7 steam shovels, second-hand;  
1 track layer, second-hand;  
1 rotary plough, second-hand;  
1 wrecking crane, second-hand;  
1 steam locomotive crane, second-hand.

General Statement of work done in the Canadian Government Railways' shops during year ending March 31, 1917:—

## Locomotive Department:—

325 Engines received repairs.  
28 Engines were converted to superheat.  
Steam shovels, ditchers, unloaders, pile-drivers, cranes and other machinery received the necessary repairs.

## Car Department:—

50 new flat cars were built at Moncton.  
10 wrecking outfits were built at Moncton.

2 rail unloaders were built at Moncton.  
255 Other cars were either rebuilt or converted to other styles. Several freight and passenger cars received the necessary repairs. Other cars of all descriptions were also brought into proper condition for traffic.  
744 Freight cars were equipped with safety appliances.

A force of about two thousand men is employed to keep the rolling stock into proper condition for traffic.

CANADIAN GOVERNMENT RAILWAYS.

EASTERN AND WESTERN LINES—Statement showing the number of Locomotives and the various classes of other Rolling Stock on the Line, March 31, 1916, and March 31, 1917.

	Passenger Cars.										Freight Cars.																			
	Locomotives	Sleeping cars.	Parlour cars.	Dining cars.	Colonist cars.	First class passenger cars.	Second class passenger cars.	Postal cars.	Baggage cars.	Hospital cars.	Vision test cars.	Box baggage cars.	Air brake instruction cars.	Steam motor cars.	Total passenger cars.	Box Cars.	Refrigerator cars.	Platform cars.	Pulp wood cars.	Oil tank cars.	Hopper cars.	Gondola cars.	20-ton coal cars.	Hart (Oris steel dump cars.	Stock cars.	Hart convertible dump cars.	Pit cars.	Vans.	Total freight cars.	
On hand, serviceable and repairing, Mar. 31, 1916..	433	66	10	21	65	169	96	36	75		26	1	1	566	991	190	27	42	4	34	494	4	169	526	168	300	4	171	14783	
To be replaced, March 31, 1916 .....	1													186	8	497			4	1	146	1	207	17			13	1080		
Total equipment, March 31, 1916 .....	434	66	10	21	65	169	96	36	75		26	1	1	566	1009	198	323	52	55	640	5	376	526	185	300	4	184	15863		
Purchased and built during the year on New	55	8																												
Equipment Renewals Account. / Sec. hand.	7	10	2	2	3	2								42	50				1						108			159		
Purchased during the year on Consolidated New	30														537															
ted Re-venue Account. / Sec. hand.	21	6	6	7	3	3	4	5						31	58	131					3		5		200		6	1176		
Rebuilt on Consolidated Revenue Account from box															66															
to vans 65, to stores car 1 .....															25															
Rebuilt on Equipment Renewals Account from box																														
to vans 25 .....																														
Converted in shops: box to boarding 11, to shanty																														
10, to pulp wood 175, to road repairs 7 .....																														
Total 203 .....															203				175										175	
From flat to cinder cars 49 .....																													203	
Converted in shop, passenger to vision test 1 .....																													49	
Sleeper to baggage 2, parlour to baggage 2 .....		2	2					4		1																				
*Total equipment, March 31, 1917 .....	547	88	10	29	75	173	100	50	85	10	1	26	1	639	10400	198	337	227	56	640	8	376	528	385	647	4	281	17121		

\*Total equipment, March 31, 1917.







PRINCE EDWARD ISLAND RAILWAY.

STATEMENT showing the number of Locomotives and the various classes of other Rolling Stock on the line, on March 31, 1916 and March 31, 1917.

	Passenger Cars.							Freight Cars.							Work Cars.						
	Locomotives.	1st class passenger cars.	2nd class passenger cars.	Combined 2nd class and baggage cars.	Postal and smoking cars.	Combined postal and baggage cars.	Baggage cars.	Total passenger cars.	Box cars.	Refrigerator cars.	Stock cars.	Oil tank cars.	Hart convertible.	Coal cars.	Platform cars.	Vans.	Total freight cars.	Snow plows.	Flangers.	Steam shovels.	Total work cars.
On hand, serviceable and repairing March 31, 1916	22	18	9	5	4	3	6	45	308	3	22	1	15	11	150	3	519	9	8	1	18
To be replaced at March 31, 1916		9	4	2		1	2	14	5					1	4	1	11	2			2
Total equipment at March 31, 1916	31	23	13	7	4	4	8	59	313	3	22	1	15	12	154	4	530	11	8	1	20
To be replaced at March 31, 1916 as above	9	5	4	2		1	2	14	5					1	4	1	11	2			2
Condemned during the year 1917																					
Total condemned at March 31, 1917																					
Rebuilt during the year																					
To be replaced at March 31, 1917		9	5	4	2		2	14	5					1	4	1	11	2			2
Add serviceable and repairing	22	18	9	5	4	3	6	45	308	3	22	1	15	11	150	3	519	9	8	1	18
Total equipment at March 31, 1917	31	23	13	7	4	4	8	59	313	3	22	1	15	12	154	4	530	11	8	1	20

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## REPORT OF J. E. LONG, SAFETY ENGINEER.

Meetings have been held monthly at different points on the railway, which has resulted in keeping up the interest in safety work. The correction of unsafe conditions and practices is being attended to promptly.

The grave danger of careless habits in the discharge of duties has been demonstrated by moving pictures at all important points, to over 10,000 employees, with most excellent results.

During the year the reports show that there were only thirteen employees killed and 629 injured. No passengers were reported killed, and only twenty-one reported injured.

A weekly bulletin service offering many suggestions for increased safety measures is being maintained.

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## CANADIAN GOVERNMENT EMPLOYEES' RELIEF AND INSURANCE ASSOCIATION.

STATEMENT of Receipts and Expenditure during the year ended March 31, 1917.

	\$	cts.
Credit balance on June 30, 1916.....	56,890	59
The total receipts for the year from all sources were.....	135,671	05
	192,561	64
The total expenditures were.....	129,914	22
	62,647	42
Leaving a credit balance of.....	10,250	00
Less estimated outstanding liabilities.....	52,397	42
Net surplus, June 30, 1917.....		

*Sickness and Accident Fund.*

The expenditures in this fund last year were \$51,924.42, and this year they are shown to be \$53,556.97, an increase of \$1,632.55. A credit balance of \$39,085.82 is shown in this fund on June 30, 1917.

*Temporary Employees' Accident Fund.*

The expenditures in this fund during the year are shown to have been .....\$ 18,293 50

*Death and Total Disability Fund.*

This statement shows that one hundred and twenty-four death and total disability claims were assessed and paid during the year.

Eighty-seven death claims due to natural causes, aggregating.....	\$	36,750	00
Fourteen death claims due to accidental injuries, aggregating.....		4,250	00
Seventeen death claims due to war, aggregating.....		6,500	00
	\$	47,500	00
Six total disability claims, aggregating.....		4,500	00
	\$	52,000	00
Amount paid last year from this fund was.....		53,000	06

Certified Correct,

C. B. TRITES,  
*Secretary.*

W. P. SEARS,  
*Auditor.*

STATEMENT showing the amount credited to the Canadian Government Railways Employees' Relief and Insurance Association, by the Canadian Government Railways, during the year ended June 30, 1917.

Amount of premiums collected from the Canadian Government Railways' pay lists.....	\$	112,418	23
Premiums collected from railways' vouchers.....		738	59
Annual contribution from the Canadian Government Railways.....		13,333	32
Canadian Government Railways' cash premiums.....		10	98
Total.....	\$	126,501	12

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INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS  
EMPLOYEES' PROVIDENT FUND.

STATEMENT of Receipts and Expenditure during the year ended March 31, 1917.

	\$ cts.	\$ cts.
Balance at the credit of the Fund on March 31, 1916.....		348,502 74
The contributions made by the Employees during the year, being one and one-half per cent of their monthly salary and wages, were.....	163,141 28	
The contributions made by the Can. Government Railways were.....	100,000 00	
		263,141 28
Amounts received for refunds, etc.....		973 83
Interest accrued (at three per cent).....		9,555 18
		622,173 03
<p>The amount contributed by the Employees is shown to exceed by \$63,141.28 the amount contributed by the Railways.</p> <p>By reference to Section No. 4 of the Provident Fund Act, it will be noted that the maximum sum the Railways are authorized to contribute to the Fund in any one year must not exceed \$100,000.</p> <p>The Expenditures were:</p>		
For Retiring Allowances.....	257,888 52	
For contributions refunded in cases of deceased employees.....	5,620 69	
"    "    "    which were deducted in error.....	3,276 82	
"    "    "    to discharged employees, etc.....	744 91	
Medical examinations for probationers entering the service, etc.....	2,744 00	
"    "    "    employees retiring from service.....	103 50	
For Election Expenses.....	888 69	
"    Salaries and Travelling Expenses, Secretary's Office, and proportion of salary Chief Medical Officer.....	6,293 63	
"    Board Members—Time lost and Travelling Expenses.....	8 16	
"    Stationery, Printing, Postage, etc., etc.....	1,050 39	
		278,619 31
Balance to the credit of the Fund on March 31, 1917.....		343,553 72
<p>It will be noted by the above Statement of Receipts and Expenditures that the amount of the contributions received from the Railways and from the Employees during the year, were.....</p>		
And the Expenditures were.....	263,141 28	
	278,619 31	
Showing that during the year the Expenditures exceeded the Receipts.....	15,478 03	
The gross surplus, including interest, to the credit of the Fund on March 31, 1917, was.....		343,553 72

C. A. HAYES, *Chairman.*C. B. TRITES, *Secretary.*



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To Bridges—to strengthen. . . . .	\$ 3,046 70			
Surveys and inspections. . . . .	1,000 00			
Increased accommodation and facilities along the line. . . . .	1,028 15			
Provide car ferry and necessary connections. . . . .	604,676 86	609,751 71	11,451,124 15	
<i>New Brunswick and Prince Edward Island Railway.</i>				
To Cost of New Brunswick and Prince Edward Island to March 31, 1916. . . . .	224,211 28			
Bringing line up to Intercolonial branch line standard. . . . .	46,579 38		270,790 66	
<i>International Railway.</i>				
To Cost of International Railway, March 31, 1916. . . . .	3,437 47			
Bringing line up to Intercolonial branch line standard. . . . .	3,724 98		7,662 45	
<i>National Transcontinental Railway.</i>				
To Grain elevator—Winnipeg terminals. . . . .	279,949 83		279,949 83	
Consolidated revenue during the year. . . . .			3,514,308 04	
			135,780,867 93	
		1917.		8,944,786 50
		Mar. 31	By Dominion of Canada . . . . .	135,780,867 93

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## CANADIAN GOVERNMENT RAILWAYS.

## REVENUE ACCOUNT.

Working Expenses	\$ cts.	Earnings.	\$ cts.
Maintenance of way and structures..	4,727,351 83	Freight .....	16,839,658 74
Maintenance of equipment .....	4,426,200 05	Passenger .....	6,705,080 28
Traffic expenses .....	418,425 03	Mail and express .....	1,066,502 98
Transportation—Rail line .....	13,227,794 53		24,611,242 00
Transportation—Water line .....	370,229 23	Less miscellaneous .....	1,142,243 01
Miscellaneous operations .....	316,661 94		23,468,998 99
General expenses .....	443,735 45	Balance .....	1,158,272 49
Rental of leased lines .....	696,873 42		24,627,271 48
	24,627,261 48		

## CANADIAN GOVERNMENT RAILWAYS.

## GENERAL BALANCE.

DR.	\$ cts.	CR.	\$ cts.
To Cash .....	02	By Dominion of Canada .....	6,311,368 39
General stores .....	4,818,102 74	Equipment Renewal Account ..	1,661,208 89
Cash in transit .....	49,343 29	Intercolonial and Prince Edward Island Railway Employees Provident Fund .....	343,553 72
Loss and damage freight suspense ..	31,071 05	Rail Renewal Account .....	342,083 04
Unclaimed freight .....	3,522 64	Fire Renewal Account .....	297,442 59
Auditor's suspense .....	222,594 30	Unclaimed Wages Account ...	2,048 30
Receiver General, Provident Fund Account .....	1,899,989 53	Employees Medical Fund Ac- count .....	5,501 55
Receiver General, Unclaimed Wages Account .....	4,514 36	Expenditure for Road and Equip- ment Suspense—Stores .....	18,672 95
Receiver General, Medical Fund Account .....	35,176 36	Apprentice Fund .....	2,509 76
Receiver General, Apprentice Fund Account .....	2,509 76	Suspense Account—Rental of Leased Roads .....	550,000 00
Commissary Stock .....	32,990 04	Freight in transit .....	71,776 62
Station Agents .....	495,514 05	Individuals and Companies Led- ger .....	109,927 93
Rail Loan Account .....	89,342 24	Individuals and Companies Led- ger—Suspense .....	29,499 64
Commissary Stock—Moncton Res- taurant .....	405 46	Traffic Ledger .....	31,253 32
Commissary Stock—Newcastle Restaurant .....	317 59	Car Service Ledger .....	10,255 20
Railway Equipment Service .....	7,009 38	Rents Ledger .....	166 74
Expenditure for Road and Equip- ment Suspense—Grand Trunk Pacific Railway .....	18,354 34		
Halifax Ocean Terminals .....	375,589 78		
Individuals and Companies Led- ger .....	1,352,816 63		
Individuals and Companies Led- ger—Suspense .....	54,396 61		
Traffic Ledger .....	212,754 41		
Car Service Ledger .....	19,517 41		
Rents Ledger .....	6,743 19		
Advances .....	54,693 46		
	9,787,268 64		9,787,268 64

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## GENERAL STORES ACCOUNT.

DR.	\$	cts.	\$	cts.	CR.	\$	cts.	\$	cts.
To balance March 31, 1916.....			2,348,359	20	By issues during year ended March 31, 1917.....	13,104,399	57		
Purchases during year ended March 31, 1917.....	10,166,227	12			Sales of material, fuel, etc.....	358,383	71		
Charges from other departments.....	5,889,595	44			Sales old material.....	332,688	53	13,795,471	81
Labour.....	128,891	95							
Staff pay rolls.....	80,500	84			Balance—				
			16,265,215	35	Ordinary stores including fuel.....	4,071,207	71		
			18,613,574	55	Roadway and bridge material.....	746,895	03	4,818,102	74
								18,613,574	55

## STATEMENT OF CASH RECEIVED.

DR.	\$	cts.	CR.	\$	cts.
To Balance on hand April 1, 1916....		02	By Amount deposited to the credit of the Honourable the Receiver General of Canada during the year ended March 31, 1917....	31,036,533	99
Amounts received during year and credited as follows:—			Leaving a balance on hand at March 31, 1917, as follows.....		02
Station agents .... \$19,222,288	90				
Traffic ledger.....	6,708,998	04			
Car Service ledger..	169,597	98			
Individuals and Companies ledger	4,384,526	59			
General ledger.....	517,795	47			
Rents ledger.....	33,327	01			
	31,036,533	99			
	31,036,534	01			
				31,036,534	01

## RAIL RENEWAL ACCOUNT.

	\$	cts.
On April 1, 1916, there was a balance to the credit of the Rail Renewal Account of.....	340,000	00
There was transferred from the N. B. & P. E. Island Railway an amount to the credit of the Rail Renewal Account of.....	2,083	04
Leaving a credit balance to the credit of Rail Renewal Account on March 31, 1917, of.....	342,083	04

## FIRE RENEWAL ACCOUNT.

	\$	cts.
On April 1, 1916, there was a balance to the credit of the Fire Renewal Account of.....	307,943	21
There has been charged during the year against the above amount.....	10,500	62
Leaving a credit balance to the credit of the Fire Renewal Account on March 31, 1917.....	297,442	59

## EQUIPMENT RENEWAL ACCOUNT.

	DR.	CR.
	\$ cts.	\$ cts.
There was a credit balance at April 1, 1916 to the credit of Equipment Renewal Account of.....		3,064,700 62
During the year ended March 31, 1917, there was credited to the Equipment Renewal Account on account of charges to Improvements and Betterments.....		1,070,334 64
Cash received from sale of old Rolling Stock.....		40,266 01
		4,175,301 27
There has been charged during the year against the above account for Rolling Stock purchased:—		
10 Pacific Type Locomotives.....	247,720 05	
10 Santa Fé Locomotives.....	520,371 56	
20 Mikado Freight Locomotives.....	776,545 00	
1 Second-Hand Locomotive.....	19,000 00	
1 Locomotive, balance of contract of six from Canadian Allis-Chalmers, Ltd.....	21,575 00	
Balance on 15 Freight Locomotives, contract of 1915-16.....	187,058 41	
Applying Superheaters to Locomotives.....	97,497 10	
Freight charges on Locomotives purchased in 1915-16.....	716 80	
Repairs to Locomotives in transit purchased in 1915-16.....	341 50	
Pneumatic tools for Moncton Shops.....	840 00	
7 Steel Sleeping Cars.....	\$194,910 88	
2 Postal Cars.....	8,964 61	
	203,875 49	
12 Second Hand Sleeping Cars.....	18,000 00	
Repairs and alterations.....	18,240 14	
	36,240 14	
8 Second Hand Sleeping Cars.....	12,000 00	
Alterations and changing 6 to Hospital Cars.....	15,150 93	
	27,150 93	
2 Second Hand Dining Cars.....	14,000 00	
Repairs and alterations.....	1,354 72	
	15,354 72	
2 Second Hand Parlor Cars.....	3,000 00	
Alterations.....	262 21	
	3,262 21	
1 Second Hand Baggage and Mail Car.....	2,000 00	
1 " " " Passenger Car.....	2,000 00	
1 " " " Mail Car.....	2,000 00	
Changing to Dining Cars.....	1,475 68	
	7,475 68	
2 Second Hand Day Coaches.....	2,000 00	
Repairs and alterations.....	1,104 46	
	3,104 46	
2 Second Hand Tourist Cars.....	3,713 46	
1 " " " ".....	1,745 95	
Alterations to 10 Second Hand Tourist and 8 Second Hand Sleeping Cars, purchased in 1915-16.....	13,500 00	
Linen for 10 Second Hand Sleeping Cars.....	9,139 12	
Cost of changing 4 Sleeping Cars to Hospital Cars.....	3,500 06	
Bedding and Equipment for Sleeping Cars changed to Hospital Cars..	1,427 41	
Changing Postal Cars from oil to gas lighting.....	5,430 00	
Changing 3 Commissary Cars to Commissary and Dining Cars combined Equipment for " " ".....	1,228 70	
Freight charges paid on Second Hand Rolling Stock.....	236 00	
Expressage and Expenses Account Cars.....	1,163 26	
50 Platform Cars built in Moncton Shops.....	6 50	
Changing 25 Box Cars to Vans.....	12,409 82	
Equipping 490 Box Cars with draft arms and steel buffers.....	23,322 83	
Changing Centre Dump to Side Dump Cars.....	45,522 62	
Fitting up an old Box Car for the Electrical Department.....	800 87	
10 Steel Snow Plows.....	94 60	
1 Rail Loading Machine.....	67,873 59	
1 Gas Tank and Car.....	448 54	
	5,100 00	

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EQUIPMENT RENEWAL ACCOUNT—*Con.*

	Dr.	Cr.
	\$ cts.	\$ cts.
Rolling Stock purchased from the O'Brien Companies for Transcontinental Railway in 1915-16 and transferred to Intercolonial Railway:		
108 Hart Cars.....	\$ 83,700 00	
1 60-ton Lidgerwood Unloader.....	4,300 00	
2 Ballast Side Plows.....	1,200 00	
1 Ballast Centre Plow.....	600 00	
6 Locomotives.....	45,000 00	
1 70-ton Bucyrus Shovel.....	8,000 00	
1 60-ton Marion Shovel.....	6,500 00	
	149,300 00	
		2,514,092 38
Leaving a credit balance to the credit of Equipment Renewal Account on March 31, 1917.....		1,661,208 89

## NEW BRUNSWICK AND PRINCE EDWARD RAILWAY.

## RENTAL ACCOUNT.

DR.	\$ cts.	CR.	\$ cts.
Mar. 31, 1917..	To rental of New Brunswick and Prince Edward Island Railway from August 1, 1915, to October 22, 1915—82 days—4% on \$170,000.....	Mar. 31, 1917. By Dominion of Canada	5,673 42
	1,527 67		
	From October 22, 1915, to March 3, 1916—4% on \$120,000.....		
	1,749 04		
	From March 3, 1916, to November 1, 1916—4% on \$90,000.....		
	2,396 71		
	5,673 42		5,673 42

## INTERNATIONAL RAILWAY OF NEW BRUNSWICK.

## RENTAL ACCOUNT.

1917.	DR.	\$ cts.	1917.	CR.	\$ cts.
Mar. 31	To rental of International Railway of New Brunswick from February 1, 1916, to January 31, 1917.....	90,000 00	Mar. 31	By Dominion of Canada.....	90,000 00
		90,000 00			90,000 00

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## TRANSCONTINENTAL RAILWAY.

## RENTAL ACCOUNT.

	\$	cts.
Amount paid to Grand Trunk Pacific Railway for rental of Lake Superior branch from April 1, 1916, to March 31, 1917, inclusive, at \$50,000.00 per month .....	600,000	00

## VALE RAILWAY.

## RENTAL ACCOUNT.

1917.	DR.	\$	cts.	1917.	CR.	\$	cts.
March 31.	Amount paid Acadia Coal Company for one year's rental of the Vale Railway, from May 1, 1915, to April 30, 1916 .....	1,200	00	March 31.	By Dominion of Canada .....	1,200	00
		1,200	00			1,200	00

## ST. JOHN AND QUEBEC RAILWAY.—Revenue Account, Year ended March 31, 1917.

Expenditure.	\$	cts.	Earnings.	\$	cts.
Maintenance of ways and structures .....	31,237	01	Passenger .....	28,733	00
Maintenance of equipment .....	3,813	32	Freight .....	50,385	99
Traffic .....	3,007	57	Mail and express .....	1,614	27
Transportation—Rail line .....	56,534	45		80,733	26
General .....	3,708	07	LESS miscellaneous .....	9,973	64
			Balance .....	70,759	62
	98,300	42		27,540	80
				98,300	42

## ST JOHN AND QUEBEC RAILWAY—General Balance, year ended March 31, 1917.

Dr.	\$	cts.	Cr.	\$	cts.
To General Stores .....	104	33	Dominion of Canada .....	7,414	09
Cash in transit .....	65	23	Rails suspense .....	358	30
Freight in transit .....	70	53	Traffic ledger:		
Auditor's suspense .....	25	37	Canadian Government Railways .....	6	11
Province of New Brunswick .....	2,977	51	I. & C. ledger .....	626	02
Station agents .....	2,334	51			
Traffic ledger:					
Dept. of Militia and Defence .....	10	26			
I. & C. ledger suspense .....	145	60			
I. & C. ledger .....	2,671	18			
	8,404	52		8,404	52

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## ST. JOHN AND QUEBEC RAILWAY—Statement of Cash received, year ended March 31, 1917.

Dr.	\$ cts.	Cr.	\$ cts.
To Balance on hand April 1, 1916.....	Nil.	By Amounts deposited to the credit of the Honourable Receiver General of Canada during the year ended March 31, 1917.....	85,218 74
Station agents.....	\$ 59,538 83		
Traffic ledger.....	21,067 95		
Individuals and Compan- ies ledger.....	4,436 96		
Rents ledger.....	175 00		
	85,218 74		
	85,218 74		85,218 74

## ST. JOHN AND QUEBEC RAILWAY—General Stores Account.

Dr.	\$ cts.	Cr.	\$ cts.
To Balance March 31, 1916.....	68 26	By Issues during year ended March 31, 1917.....	1,285 82
To Purchases during the year ended March 31, 1917.....	1,321 89	Balance March 31, 1917.....	104 33
	1,390 15		1,390 15

## APPENDIX III

## REPORT OF THE CHIEF ENGINEER OF THE DEPARTMENT.

OTTAWA, April 1, 1917.

SIR.—I have the honour to submit my annual report for the fiscal year ending March 31, 1917.

Attached hereto will be found the annual report of the Superintending Engineers of the several canals, the Superintendent of the Trent Canal, the acting Engineer in Charge of the Welland Ship Canal, the Engineer in Charge of the car ferry terminals at Cape Tormentine, the Chief Engineer of the Hudson Bay Railway, the Engineer in Charge of the Hudson Bay Railway terminus at Port Nelson.<sup>1</sup>

## CANALS.

The through water route between Montreal, at the head of ocean navigation, and Fort William and Port Arthur, on the west shore of Lake Superior, comprises 74 miles of canal, with forty-eight locks, and 1,155 miles of river and lake waters, or a total 1,229 miles. The minimum depth of water on this route is 14 feet. From Montreal to Duluth, on the southwest end of Lake Superior, the total distance is 1,354 miles, and to Chicago 1,286 miles. A summary of this route will be found in part VII, together with details of the several works thereon.<sup>1</sup> Connection is made with the Canadian Pacific Railway from points west and south at Fort William and Port Arthur (6 miles apart). From Fort William, connection with the main transcontinental line of the Canadian Government Railways is made by the branch line originally constructed by the Grand Trunk Pacific Railway, but now leased to and operated by the Canadian Government Railways.

On this through route the approaches to the canals and the channels of the intermediate river reaches are well defined and are lighted with gas buoys under the control of the Department of Marine and Fisheries, admitting of safe navigation, in the hands of competent pilots, both by day and night. The Lachine, Soulanges, Cornwall, Welland and Sault Ste. Marie canals are lighted throughout by electricity, and electrically operated. The Farran's Point canal is lighted by acetylene gas.

Of the minor systems, the Murray, Trent, Rideau and Ottawa River Canals may be considered geographically as branches of the through east and west route. In operation, however, these canals serve a distinct traffic of more local nature. Isolated from the systems just mentioned, the navigation of the Richelieu River, from its junction with the St. Lawrence at Sorel to Lake Champlain, is effected by means of the St. Ours lock and the Chambly canal; while in the extreme east the St. Peter's canal provides communication between the Bras d'Or lakes of Cape Breton Island and the Atlantic Ocean.

Detailed information respecting the several canals is contained in an appendix.

<sup>1</sup> These reports are not printed.

<sup>2</sup> Not printed.

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With the exception of the Trent canal, where the construction of an extension of the present system to an outlet on Lake Ontario is still in progress, and the Welland Ship Canal, fully described further on in this report, the work executed during the past year has been almost wholly of the nature of improvements and repairs of existing works.

## LACHINE CANAL.

Traffic was carried on uninterruptedly during the entire season except during ten days of July, when repairs were being made at weir No. 2. The foundation of this weir had become undermined and a sudden collapse ensued. It was found necessary to reconstruct the weir and make other somewhat heavy repairs, all of which work was satisfactorily completed by the close of the navigation season. In addition to the foregoing, the tail-race at the Mill Street power station was rebuilt in concrete and its discharge capacity doubled, the head-race was widened for half its length, and the site of the dry dock was lowered 2 feet so that vessels of 12 feet draught can now be admitted.

## SOULANGES CANAL.

Small repairs and improvements only have been made on this canal during the past season. Among these might be mentioned the substitution of incandescent for arc lamps on the guard pier at Coteau Landing and the installation of cast-iron mooring posts set in concrete at various points between Rouge River bridge and the guard lock.

## ST. ANNE'S LOCK

The repairs made during the year at this lock were of minor importance. Navigation was maintained without interruption.

## ST. OURS' LOCK.

With the exception of the rebuilding of a pair of lock gates, the repairs made at this lock during the year do not merit special mention.

## CARILLON AND GRENVILLE CANALS.

A pair of gates for lock 6 were rebuilt during the year, and the gate lifter renewed. Beyond this no other repairs or improvements were made beyond those required for the usual maintenance of locks, buildings, roads, etc.

## CHAMBLY CANAL.

All syphon culverts under the canal were cleaned; the lower wing-wall of lock 4 on the west side was rebuilt, and the wooden site of lock 6 was renewed in concrete; the passing basin near bridge 6 was widened and deepened. Other lesser repairs were also attended to.

## BEAUHARNOIS CANAL.

This canal has been under lease to the Canadian Light and Power Company since 1907, and is, with the exception of a few minor works connected with it, no longer under the control of this department. Of these minor works the Hungry Bay and Ste. Barbe dikes, however, received some attention during the past year. The macadamized road on the top of the Hungry Bay dike was thoroughly repaired, as also was the stone

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protection wall which follows this road. Certain weak spots along the Ste. Barbe dike are to be repaired during the coming season with clay deposited at various points along it last summer.

## CORNWALL CANAL.

During the entire season the canal was operated without any serious interferences to traffic through accident or other cause.

Among the more important improvements and repairs effected during the past year the following may be noted: The old wooden service bridge over the large waste weir south of lock 17 was replaced by a reinforced concrete bridge. A reinforced concrete service bridge, 150 feet long, was constructed over the supply weir at lock 21. All the service bridges over the weirs and intakes of this canal, as well as the beams carrying valve-operating machinery, have now been reconstructed in reinforced concrete. Above the head of old lock 17, a pile dock, 180 feet by 24 feet, was built, replacing the former floating dock. The floor and floor timbers of the swing bridge over the canal at Cornwall were entirely renewed. In addition to the foregoing, a large number of minor renewals and repairs were attended to.

## FARRAN'S POINT CANAL.

Repairs of a minor nature only were found necessary for the efficient maintenance of this canal during the past season.

## RAPIDE PLAT CANAL.

A reinforced concrete service bridge, 80 feet long, was constructed over the supply weir to lock 24, and the wooden beams carrying the machinery for lifting valves in this supply weir were replaced by reinforced concrete beams. A number of minor repairs were also attended to.

## GALOPS CANAL.

On the south bank of this canal west of Iroquois, 2,300 feet of the stone protection was taken down and rebuilt, and on the north bank similar repairs for a length of 330 feet were made. The masonry wing walls of the south abutment of the headrace bridge at Iroquois, the foundations of which had badly settled, were taken down and rebuilt. A corrugated galvanized steel culvert, 92 feet long, was laid under the highway west of the Cardinal bridge, by means of which the land on the north side of the highway is now efficiently drained. The usual minor repairs and improvements to the canal lands were also attended to.

## MURRAY CANAL.

This canal was operated without accident or delay to navigation during the entire season. Stone protection walls were repaired or relaid for a length of 11,400 feet. Along the north bank the highway was regraded and gravelled. All bridges crossing the canal were painted and many other lesser repairs and renewals attended to.

## RIDEAU CANAL.

The repair and maintenance works were of the same character as in previous years. The chamber of lock 5 at Ottawa and the lower entrance at Jones' Falls were rebuilt. The old stone waste weir at Black Rapids was rebuilt in concrete, and the sill of the lock at this point renewed in concrete. The swing span of the Wellington bridge, and the west approach pier of Becketts Landing bridge were renewed.

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## TRENT CANAL.

The route of the Trent canal as now in operation and under construction lies between Trenton on the bay of Quinté, where direct connection is made with Lake Ontario and Honey Harbour on Georgian Bay, from which port the waters of the upper Great Lakes are at once accessible. The portions of the canal now under construction lie between Trenton and Rice Lake and between Lake Couchiching and Georgian Bay.

*Canal in Operation.*—The extent of the waterway open to navigation lies between Trent bridge and Washago, a distance of 160 miles. In addition to this, other channels maintained would approximate a total of 90 miles.

Of the various repairs and improvements made during the past year, the following may be noted as among the more important: In the river below Bobcaygeon considerable work was done in widening and straightening the channel, the rock being blasted and removed over an area of 49,000 square feet. The reservoir dams at Paint and Percy lakes, and the dam at Elliotts Falls were rebuilt. At the Boundary Road crossing of Grass river between the townships of Bealey and Eldon, the bridge heretofore maintained was replaced by a rock dump. The work of deepening and widening the channel of the Otonabee river below Peterborough was continued, and similar work carried on at Howden's bar, between George street, Peterborough, and Little Lake, and at Robinson's Island bar.

Satisfactory water conditions prevailed during the entire navigation season.

*Canal under construction.*

*Ontario.—Rice Lake Division.*—Under this division is included the portion of the canal which lies between Trenton and the easterly end of Rice Lake, a total distance of 56½ miles. For construction purposes this division has been subdivided into seven sections or contracts. The line of the river Trent has been followed throughout, and this portion of the system when completed will comprise 9½ miles of canal, 13 miles of subaqueous channels, and 34 miles of deep-river waterway. From the mouth of the canal at Trenton where the waters of Lake Ontario are connected with, to the normal navigation level of Rice Lake, there is a total rise of 369 feet. This difference of level is to be overcome by eighteen locks. For control of the river and canal levels, fourteen dams will be required. The locks have now all been completed and the lock gates put in place on the first seven locks above Trenton. Work on the dams is now fully completed with the exception of five sluices in the bottom of dam No. 10 which are not likely to be finished until the high-level Grand Trunk Railway bridge at Campbellford has been constructed. Nineteen bridges in all will be required on this division. Seventeen of these are already completed. Of the two remaining, one is the high-level bridge at Campbellford already mentioned, and the other the Gilmour Siding bridge below lock 1, part of the substructure of which has already been built. All these bridges with the exception of that at Campbellford are of either swing or bascule type. The locks are constructed of monolithic concrete, are 175 feet long and 33 feet wide, and provide for a depth of water over the sills of 8 feet. The entire work of this division of the canal will, when completed, have involved the removal of 1,500,000 cubic yards of earth, and 1,250,000 cubic yards of solid or loose rock, and the placing of 400,000 cubic yards of concrete. The estimated cost of this work is placed at \$5,100,000, of which sum 97 per cent has been expended to date. Very complete and interesting details in regard to the foregoing will be found in the report of the superintending engineer, appended hereto.<sup>1</sup>

<sup>1</sup> Not printed.

*Severn Division.*—Under this division is included the portion of the canal between Lake Couchiching and Port Severn, on Georgian Bay, a total distance of 43 miles. In this distance there will be included 4 miles of canal,  $5\frac{1}{2}$  miles of subaqueous channel, and  $33\frac{1}{2}$  miles of deep river and lake navigation. The rise of about 139 feet between the level of Lake Huron and that of Lake Couchiching will be overcome by five locks. For the regulation of the river levels, thirteen dams will be required. The route of the canal will be crossed by eight steel bridges, five for highway and three for railway traffic. Five of these bridges will be fixed spans, and the remainder swing spans. For construction purposes this division has been subdivided into four sections or contracts known as Sections 1, 2 and 3, and the Port Severn section. Section 1 is not yet under contract, and it is not likely that tenders on it will be called for until the close of the war. The work to be undertaken will include the construction of three locks and two regulating dams and will extend from deep water in Georgian Bay near Island No. 181, 17 miles easterly to a point a little above the Big Chute near the mouth of the Severn River. Section 2, now under contract, extends from the Big Chute to a point above McDonald's Rapids, a distance of  $11\frac{1}{2}$  miles. The work included in the contract comprises principally the construction of a dam at Pretty Channel, a dam lock and power-house at Swift Rapids, and the reconstruction of the Canadian Northern Railway bridge at Ragged Rapids. The dam at Pretty Channel was completed towards the close of 1915. The dam at Swift Rapids is about half finished, and will, it is anticipated, be completed during the coming season; the power-house was completed last December. Good progress has been made on the Swift Rapids lock, and it is expected that the work will be well advanced towards completion by the end of the coming navigation season. Work in connection with the railway bridge at Ragged Rapids is still under way. Section 3, which is about  $15\frac{1}{2}$  miles in length, extends from the easterly end of Section 2 to deep water in Couchiching Lake. The contract for the work to be undertaken includes the construction of a lock just north of Lake Couchiching, two highway swing bridges, one railway swing bridge, and several small dams near Washago, as well as a large amount of rock and earth excavation. The excavation for the lock has been taken out, and the concrete work will probably be completed this coming season. Of the two highway bridges included in the contract, that at Muskoka road was completed in 1915, as also the substructure of the Hamlet Highway bridge. The railway swing bridge was practically completed last January, but is not yet in commission. The excavation of the canal prism between the lock and Lake Couchiching is well advanced towards completion, as also is the dredging of the lake channel.

#### WELLAND CANAL.

During the past navigation season a total of 2,552 vessels passed through this canal, a decrease of a little over 8 per cent on the traffic of the year before. Of the various repairs and improvements carried out during the year, the following may be noted as among the more important: On the new canal a large number of arc lights were replaced by nitrogen-tungsten lights, a considerable economy being effected thereby. On the old canal, wooden foot bridges at four of the locks were replaced by reinforced concrete structures. At Thorold, concrete sidewalks were laid on both sides of the Albert Street bridge, and a concrete wing-wall constructed at the easterly abutment. The damages sustained last year at Dunnville, by bridges and other works on the canal feeder, were fully repaired. A small wooden highway bridge over the canal feeder at the Forks Road was renewed in reinforced concrete.

#### PORT COLBORNE ELEVATOR.

Although in actual bushels handled, the business of the grain elevator again showed a decrease owing to existing war conditions, the net earnings on the season's work were slightly in excess of those of the 1915 season, a fact that may be ascribed to

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the revenue derived from the sacking of oats for European shipment, a new undertaking for this elevator. Only slight repairs of a very unimportant nature were required during the past fiscal year.

## WELLAND SHIP CANAL.

Work on the new ship canal was continued up to the end of the fiscal year 1916-17, when, on account of the unusual conditions brought about through the present war, the department notified all contractors to suspend work for a period of one year. The work as carried on up to then was divided into nine sections, numbered in order from the Lake Ontario end of the canal. Up to the end of 1916, operations had been under way on sections 1, 2, 3, and 5.

*Section No. 1.*—The work included in this section covered principally the construction of the new harbour at the Lake Ontario end of the canal, and the lock and entrance to the canal connected therewith. Work had progressed very favourably up to the time of closing down, and is now two-thirds completed.

*Section No. 2.*—The work which has been carried on on this section has comprised the excavation of the canal prism and the building of embankments, the construction of two single locks with entrance walls, weirs, etc., and the building of the substructure of a number of bridges crossing the canal. Good progress was made on all these works, and of the total amount included in the contract more than half had been completed when work ceased.

*Section No. 3.*—The work which has been in progress on this section has included the excavation of canal prism and lock sites and the formation of embankment, the construction of one single and three twin locks, the building of a large earth dam with concrete core wall, and a diversion of a portion of the Welland Division of the Grand Trunk Railway to permit of a more satisfactory location for the canal. The work covered by this contract is about one-third completed.

*Section No. 5.*—The work on this section has included the widening, and deepening of the existing canal between Allanburg and Port Robinson, or for a distance of about  $2\frac{1}{2}$  miles. Work progressed satisfactorily up till the closing down of operations at the end of last year, when the undertaking covered by the contract was about two-thirds completed.

In the annual report of the engineer in charge, appended hereto,<sup>1</sup> complete and interesting details regarding the various works carried out up to the close of the 1916 season have been gone into. A full description of the whole scheme of the ship canal route will be found in the report of the engineer in charge for the year 1912-13.

## ST. PETER'S CANAL.

This canal, the reconstruction of and improvements to which are now nearing completion, connects the Bras d'Or lakes of Cape Breton island with St. Peter's Bay and the Atlantic Ocean on the south coast. It is operated by one tidal lock. During the season of 1916 the various works which have been under way since May, 1912, were practically brought to completion. The principal items of work yet to be done are the finishing of the dredging at the Atlantic end of the canal, the construction of a small crib, the building of a few hundred feet of concrete wall, and the general grading and trimming up of the entire work, all of which, it is confidently expected, will be accomplished during the coming season.

<sup>1</sup> Not printed.

## SAULT STE. MARIE CANAL.

During the past year there has been a very marked increase in the traffic which has passed through this canal, an increase of nearly 30 per cent having been shown over the previous year's figures. This increase may be ascribed both to the unusually heavy demand for iron ore and to the very favourable water conditions which prevailed throughout the season. Only one accident of importance occurred during the navigation season, and the damage caused thereby was repaired at slight expense. The work of renewing the top of the lower south pier, which was commenced two years ago, was continued; about 175 feet of pier was taken down to below water level, and the timber cribwork replaced by concrete walls filled with stone. A little over 300 feet of pier still remains to be reconstructed in a similar manner.

## RAILWAYS.

## CAR FERRY TERMINALS—NORTHUMBERLAND STRAIT.

This undertaking comprises the construction of harbour works, landing piers, etc., at Cape Tormentine, New Brunswick, and at Carleton Point, Prince Edward Island, and the building of about 3 miles of railway connecting the Cape Traverse branch of the Prince Edward Island Railway with the Carleton Point terminal. The width of Northumberland strait between Cape Tormentine and Carleton Point is 3 miles.

At Cape Tormentine, all work has now been completed except at the breakwater, where a considerable quantity of stone filling and capping stone will have to be placed during the coming season. The installation of an electric lighting plant, for which a contract has been let, has also still to be effected.

At the Carleton Point terminal all work is now complete except the dredging of the turning basin, which it is expected will be finished this year.

The Carleton Point Branch railway has been completed.

The transfer bridges at both terminals, which have been constructed under contract by the Dominion Bridge Company, are now practically ready for operation.

## HUDSON BAY RAILWAY.

During the past year grading has been carried as far as Port Nelson with the exception of a few gaps which amount, in all, to only 11 miles. Over a million yards of material have been handled. Main-line track, with the necessary sidings, has been laid to the second crossing of the Nelson river at Kettle rapids, distant about 90 miles from Port Nelson. Track is therefore now laid for upwards of 80 per cent of the entire 424 miles between Le Pas and Port Nelson. Ballasting and surfacing have been carried as far as mile 295, and sufficient deposits of suitable gravel have been found at convenient points to complete the ballasting of the entire line. The telegraph line has been installed as far as Kettle rapids. Water tanks have already been erected at two points. Work was begun on the substructure of the Kettle Rapids bridge last November, but only a commencement could be made before work was stopped by the severity of the winter weather. Work during the past year has been very much hampered through a shortage of labour.

## HUDSON BAY TERMINUS.

The deep-water development of this harbour, consisting of an artificially constructed island situated near the outer edge of the tidal flats, about one-half mile from shore, connected with the mainland by seventeen steel spans of 140 feet in length each, has progressed satisfactorily, considering the natural disadvantage of the climate and

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the handicap of an unusually stormy season. The supporting bridge piers were completed, as were the steel spans themselves, and the former withstood this year's spring ice shove successfully, a test which had been awaited with great interest. These piers had received large amounts of stone protection, which had been dredged 11 miles up the river, and every precaution had been taken to render them stable against the enormous forces of the Nelson River ice-shoves, but it was satisfactory to have their stability actually proven.

Of the island itself, about 1,600 feet of cribwork, 23 feet high, was completed and partially protected by backfilling for the winter.

Dredging was continued during the season, considerable timber was cut, driven down the Airhole river and rafted down the Nelson a total distance of 136 miles to the works, and various buildings, warehouses, and scows were built.

Navigation of the harbour for the season commenced on June 14, 1916, and the local dredging fleet, with attendant vessels, was floated and at work during the ensuing week. The steamer *Sheba* and *Durley Chine* each made two round trips from Halifax to Port Nelson, the first arrival from sea being on August 8, and the last to leave on October 10.

During the winter months the construction forces were reduced to about one hundred men, which number will be increased to 600 or 700 during the 1917 season.

W. A. BOWDEN,  
*Chief Engineer.*

## APPENDIX IV.

## REPORT OF THE CHIEF ENGINEER OF THE WESTERN DIVISION OF THE NATIONAL TRANSCONTINENTAL RAILWAY.

I have the honour to submit my annual report for the fiscal year ended the 31st of March, 1917, upon the Western division of the National Transcontinental Railway—Winnipeg to Prince Rupert—1,748 miles, including the  $3\frac{1}{4}$  miles on the shore line of the terminal grounds at the latter point.

The amount of certificates of expenditure up to the 31st of December, 1916, amounted to:—

Prairie section, 915 miles. . . . .	\$ 37,910,534 88
Mountain section, 833 miles. . . . .	93,160,195 76
Total . . . . .	<u>\$131,070,730 64</u>

Estimated value of work remaining to be executed to comply with the Acts of Parliament, contract and specification:—

Prairie section. . . . .	\$2,297,500 00	
Mountain section. . . . .	2,330,385 00	
		\$ 4,627,885 00
Total cost. . . . .		<u>\$135,698,615 64</u>

Or 1,748 miles at a cost of \$135,698,615.64 = \$77,630.79 per mile.

No further payments have been made up to this date.

There are, in my opinion, many items included in the certificates, which, under the usual term of cost of construction, would not be so treated, but under the contract, etc., they are covered as cost of construction.

I may here remark that the entire Western division is in good safe condition for operation of public traffic, although the track is not up to grade at certain points, embankments being narrow and certain temporary trestles yet to be made into solid embankments, but it must be kept in mind that it is absolutely necessary the road should be kept up to its present standard by careful and judicious maintenance.

The following is a detailed statement of the work remaining to be executed to bring the road up to the standard called for by the Acts of Parliament, contract, and specification:—

Between zero at Winnipeg and 280th mile west thereof, making the structures of a permanent character; and from the 280th mile to the crossing of Long Lake and Saskatchewan Railway, making 25 per cent of the open and box culverts and 50 per cent of pile bridges of a permanent character. . . . .	\$1,200,000 00
Filling embankments up to subgrade and widening to specification width between Winnipeg and Wolf Creek. . . . .	62,500 00
Building a mile of railway through Edmonton, and purchasing property therefor. . . . .	435,000 00

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Ballasting to be done to bring road up to specification standard between Winnipeg and Wolf Creek. . . . .	\$ 600,000 00
Temporary trestles to be made into solid embankments, widening embankments and taking care of slides between Wolf Creek and Prince Rupert. . . . .	310,500 00
Ballasting to bring road up to requirements of specification between Wolf Creek and Prince Rupert. . . . .	375,000 00
Three divisional station houses to be built at Prince George, Endako and Smithers. . . . .	75,000 00
Way station houses to be rebuilt at Lake Kathlyn and Ritchie. . . . .	4,000 00
Round house to be completed at Pacific. . . . .	10,000 00
Round house at Prince Rupert to be built. . . . .	125,000 00
Machine shop at Prince Rupert to be built. . . . .	75,000 00
Car shop at Prince Rupert to be built. . . . .	9,000 00
Boiler shop at Prince Rupert to be built. . . . .	90,000 00
Freight shed at Prince Rupert to be built. . . . .	55,000 00
Dock for heavy shipping at Prince Rupert to be built. . . . .	500,000 00
Bridges to be erected on foreshore at terminal yard to be erected. . . . .	47,500 00
Station house at Prince Rupert to be erected. . . . .	176,000 00
Stock yards to be built at Prince Rupert. . . . .	2,000 00
Miscellaneous buildings at Prince Rupert to be built. . . . .	30,000 00
Carpenter shop at Prince Rupert to be built. . . . .	10,000 00
Warehouse on dock at Prince Rupert to be built. . . . .	10,000 00
Riprapping to be done along line west of Wolf Creek. . . . .	45,000 00
Fencing to be erected. . . . .	36,000 00
Steel rails to be provided west of Wolf Creek. . . . .	98,685 00
Track fastenings to be provided west of Wolf Creek. . . . .	12,000 00
Switches to be provided west of Wolf Creek. . . . .	15,750 00
Replacing second quality steel rails with those of first quality. . . . .	1,950 00
Tracklaying in divisional yards west of Wolf Creek. . . . .	10,000 00
Four divisional freight houses to be built at Prince George, Endako, Smithers and Pacific. . . . .	16,000 00
Water services to be completed at Morricetown, New Hazelton and Tyee. . . . .	15,000 00
To provide water service at Prince Rupert. . . . .	25,000 00
Machinery and tools to be provided at divisional points west of Wolf Creek. . . . .	100,000 00
Tool houses to be erected at Cariboo, Fort Fraser, Lake Kathlyn and Beamont. . . . .	400 00
Divisional repair shops to be built at Smithers and Prince George. . . . .	20,000 00
Bunk houses to be erected at Cariboo, Penny, Willow River, Fort Fraser, Burns Lake, Hazelton, Kitwanga and Terrace. . . . .	4,800 00
Section houses to be erected at Cariboo, Penny, Willow River, Fort Fraser, Burns Lake, Hazelton, Kitwanga, Terrace and Prince Rupert. . . . .	10,800 00
Machine shops to complete at divisional points. . . . .	5,000 00
Miscellaneous buildings at divisional points. . . . .	10,000 00
Total. . . . .	\$4,627,885 00

I trust I have placed the position of the works of construction and the condition of the road for the operation of public traffic thereon on the 31st of December, 1916, in a plain and concise manner in which it can be readily understood.

COLLINGWOOD SCHREIBER,  
*Chief Engineer West. Div. N.T.Ry.*

## APPENDIX V.

## REPORT OF THE CHAIRMAN AND CHIEF ENGINEER, BOARD OF ENGINEERS, QUEBEC BRIDGE.

I beg to report progress of work in connection with the construction of the Quebec bridge for the fiscal year ending March 31, 1917, as follows:—

During the past season, fabrication of the entire structure was completed, as well as the erection of the south cantilever arm and the suspended span, thus completing the erection of the entire bridge with the exception of floating in and connecting up of the suspended span to the cantilever arms. The failure of a portion of the contractor's erection equipment at the time when the suspended span was being lifted into place, September 11, 1916, resulted in the loss of the suspended span, or about 5,000 tons of bridge material. As reported at the time, the St. Lawrence Bridge Company assumed the entire responsibility for the loss, and took immediate steps to replace this portion of the structure, at their own expense. Orders for the raw material were immediately placed at the mill in Pittsburgh, and, considering the overcrowded condition of all the mills at the time, remarkably quick delivery was promised, and at the present time, 95 per cent of the material has been rolled and delivered at the shops.

Fabrication has also been going ahead rapidly, and at the present time some 75 per cent of the bridge members have been manufactured and shipped to the site. It is expected that a start on the erection will be made about the middle of April, and that the span can be erected in place early in September.

C. N. MONSERRAT,

*Chairman and Chief Engineer.*

## REPORT OF THE BOARD OF ENGINEERS QUEBEC BRIDGE.

OCTOBER 19th, 1916.

Your Board begs to submit herewith report on the accident which occurred on the morning of September 11th., resulting in the loss of the centre span while it was being lifted into position between the two cantilever arms of the Quebec Bridge.

A brief resumé of the operations leading up to this accident is as follows:

The span itself and the entire erection equipment and installation had been completed a week or ten days before the date of floating. During this time repeated studies of the whole programme were made, and the men specially drilled in all the mechanical operations that would be required in connection with the lifting of the span. Test loads were applied to the jacks up to 50% in excess of the loads they would have to carry under actual working conditions. Picked men were employed for all the mechanical operations and each man was assigned to a special post.

The centre span had been erected at Sillery, about  $3\frac{1}{2}$  miles below the bridge site, and supported during erection on steel falsework. This span was to be floated on six scows, each 132'-0" x 65'-0" and 11'-0" deep, three being placed under each end of the

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span. Valves were provided in the bottom of these scows and were kept open after being placed in position in order that the water would flow into them, providing against any lifting movement from the tides, before the appointed time. At one o'clock Monday morning, September 11th., the valves in the scows were closed, and as the tide rose the weight of the centre span was gradually transferred to the scows until at 3.40 a.m. they floated clear of the bottom. At 4.40 a.m. when the scows had lifted about  $2\frac{1}{2}$  feet the tugs began moving the span into the river. Four small tugs and one large tug were attached to the downstream side and two smaller tugs on the upstream side. One large tug was held in abeyance for emergencies, but was not required. At 5.15 a.m. the span had maneuvered into midstream and a start was made for the bridge site, the span being guided by the lower tugs against the current, and the speed being slightly accelerated by the two upper tugs. A quarter of a mile below the bridge site the speed of the span was checked in order to ascertain if it was under perfect control. The span was brought to a standstill within two or three minutes and held in that position without difficulty. At 6.35 a.m., the span reached its position between the cantilever arms. Steel cables from the hanging mooring trusses were then attached to the span and by means of hoisting engines it was warped into position and held there while the connection between the plate hangers and the span was made. At 7.40 a.m. all the plate hangers on the four corners had been connected up to the pins on the centre span, and a few minutes later the tugs cast off. The entire operation of floating the span and connecting it up to the plate hangers worked exactly in accordance with the schedule that had been mapped out. Nothing occurred that had not been foreseen and provided for. The weather was all that could be desired. There was very little wind and every condition was favourable. At 8.25 a.m. the hanger bars began to take some load as the tide continued to fall. At 8.50 a.m. the jacks began lifting and during the third lift of 2 feet the scows floated clear, leaving the span suspended about 20 feet above the water. As the remaining work of lifting the span into place was simply a repetition of mechanical operations which had already been successfully performed, it was felt by the officials and engineers present that the most difficult part of the work had been satisfactorily accomplished, and after one more lift of the jacks further operations were suspended for an hour to allow the men to go to breakfast.

At 10.30 a.m. lifting operations were resumed until five complete lifts were made on the north side and six on the south. The pins had been inserted connecting the links to the fixed jacking girders, thus transferring the load from the jacks direct to the cantilever trusses. The jacks had been released and the upper jacking girders were being lowered for another lift when a sharp report was heard and the span was seen to tilt towards the west and disappear into the river.

Immediately after the accident your Board, in conjunction with the officials of the St. Lawrence Bridge Company, started an investigation to determine the cause of the accident.

An examination of the main lifting apparatus was made immediately. The lifting hangers, lower supporting girders, jacking girders, jacks and upper supporting girders were in place, and although the lower lifting girders were scarred and scratched and the hangers slightly bent in a few places, this portion of the apparatus showed no sign of failure. (See photos 7 and 8.) As the jacks were idle at the time and the upper jacking girders were being lowered to take the next lift, the cause of the accident could not be ascribed to any failure in the lifting mechanism.

The theory that the span could have slipped off its supports due to some horizontal force created by the lifting operations was investigated. To effect a sliding motion on the supporting pin in the shoe, a very considerable horizontal force will be required. An eccentric concentration of the load on the lifting girders would, if sufficiently eccentric, tend to tip the girders and induce a horizontal force sufficient to cause sliding. Extreme care was taken throughout to prevent any such eccentric loading.

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After the span was lifted off the falsework at Sillery, the loading girders were suspended from the ends of the centre span by means of pin-connected bridles "A" (Drawing CS3) which would allow the girder to adjust itself by gravity in an exactly central position under its bearing. While the span was being towed to the site special centering plates "B" (Drawing CS3) were attached to the lower casting "C" (Drawing CS3) and fitted against the ribs of the middle casting "D" (Drawing CS3) in order to insure that both castings and pins must take their exact theoretical positions. These plates were fitted in the shop, match-marked, and shipped loose to the site. It was impossible, therefore, that the load could be distributed to the girder in any other way than as designed. The plates, castings and bearings were examined by our inspectors after being put in place on the morning of the 11th., and also after the load had been taken on the hangers. They were also examined by officials of the Bridge Company within twenty minutes of the time of the accident, and everything was found to be absolutely normal at these points. As there were no other conditions existing which could have created a horizontal force of any consequence, the theory that there was any eccentric load under the conditions existing up to the time of the accident or that there was any horizontal force sufficient to cause movement in a longitudinal direction must, therefore, be dismissed.

The lifting of one corner of the span more rapidly than another would produce a torsional deformation of the span. The trusses of the span are supported by their portal and lateral bracing. If one corner were allowed to deflect or were lifted higher than the other, the bracing would be subjected to further stress due to this movement, and if this action were allowed to go to extreme limits the bracing would fail. Such failure would leave the trusses unsupported, allowing them to buckle laterally. Every precaution, however, was taken to provide against any unequal movement of this nature. "Tell-tales" were attached to each jack at each corner. The "tell-tales" from each set of jacks at one corner were arranged so that, by means of a scale and pointers placed directly in front of the man operating the regulating valves of the jacks, it could be determined at all times during the movement whether the jacks were lifting at the same rate of speed. By manipulating the valves leading to the jacks the fingers of the "tell-tale" from each jack were kept absolutely opposite each other during the lifting operation. If one finger tended to advance ahead of the other this was corrected instantly by means of the controlling valves. "Tell-tales" were also placed at the centre of the operating platform where other controlling valves were situated and connected with each corner of the centre span. In the same way the operator at this point kept the fingers on the scale board exactly opposite, regulating the movement by means of the valves controlling the hydraulic system. This movement of these "tell-tales" was also carefully watched by Engineers of the Bridge Company. Special drills were held several days in advance covering this operation, and the men were thoroughly conversant with the working of the apparatus. When the jacks were raised the two feet required for each movement, as indicated on the gauge by the "tell-tales", the pins in each corner were inserted without further operation of the jacks. This shows conclusively that the "tell-tales" accurately indicated the actual movement of the jacks and that the corners at each end of the span were kept level at all times.

The theory that the span failed as a span from its own weight can be dismissed. There are no exceptional problems in the design of this span. It was designed on the same specification as the cantilevers, which withstood successfully the very severe shock to which they were subjected. Furthermore, it was not carrying at the time more than one-half of the load for which it was designed. The original stress sheets were checked and re-checked several times before this span was manufactured. A re-calculation has again been made, and the results agree with the original calculations. The estimated weight upon which the original dead load calculations were made checks within one-half of one per cent with the actual scale weights.

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Photograph No. 1 published a few days after the accident, showing the span actually falling, furnished indisputable evidence that the southwest corner fell first, and corroborated the conclusion that your Board had previously reached. The evidence of eye-witnesses, which is borne out by markings on the lifting girders, would indicate that the southeast corner fell next, and that the northeast and northwest corners fell last and practically simultaneously. In view of these facts, primary evidence to account for the loss of the span would naturally be sought at the southwest corner.

A minute examination of the southwest lower lifting girder (see photos 10 and 11 and Drawing CS1) furnishes unmistakable evidence of a failure of one of the erection steel castings which was temporarily supporting the span while being lifted. The strongest evidence of this fact is contributed by the centering plates "B" and "B1" and the suspender bridle "A". The northwest centering plate "B" has been crushed down vertically and across the pin with two of its bolts sheared off and two intact. The suspension bridle plates "A" have also been crushed down vertically and are lying over the centering plate. No evidence of sliding on these plates is to be seen as the paint has not been disturbed except from the effect of crushing. The southeast centering plate "B1" has been sheared off completely and is lying adjacent to its original position. This plate is also crumpled up, giving evidence of a vertical blow. The southwest and northeast centering plates have disappeared, but the bolts of these, as well, as of the southeast plate, have been sheared in a vertical direction, giving further evidence of a vertical blow. It is impossible that the middle casting "D" (Drawing CS3 and photo 9) could have slipped off the pin in its normal position without having carried away the northwest centering plate "B". The evidence is positive that the damage done to this latter plate was prior to any longitudinal movement of the truss or girder tending to dislodge this corner of the span from its support. Scoriations on the pin show a diagonal movement of some rough surface towards the northeast and the pin also rotated eastward on top about  $1\frac{1}{2}$ ", showing that the effect of whatever action took place kicked the girder south and rotated it horizontally through an angle of about  $30^\circ$ . The hitch angles "A1" for the east suspension bridle plate have been cut through at the same angle, showing the line of travel of the girder in relation to the truss. The south tie-plates "G1" of the box hangers "G" were bent slightly outward due to the rotation of the supporting girders about pin "X" (Drawing CS1) just above the lifting girders, but the connections "G2" of the box hangers to this girder were undisturbed. The lower end of the east plate hangers (See Drawing CS1) was also bent outward and scored, due to the action of cutting their way through the heavy horizontal strut joining the two ends of the trusses of the centre span.

On the assumption that the central erection casting "D" (Photo No. 9) at this corner, failed,—it is possible—in view of the further evidence at hand, to deduce the successive steps in the fall of the span. The failure of this casting would allow the southwest corner of the span to drop on the lower pin "P", or the top flange of the girder "G3" in such a manner as to kick it back towards the south and cause it to rotate about its upper pins. This rotation if sufficiently great, would allow this corner of the span to slip off the supporting girder. The immediate effect of this corner of the span being unsupported would be to cause a momentary rotation of the span about a diagonal axis extending from the northwest corner to the southeast corner and producing an overload at these two corners equal to the capacity of the bracing and end portal to transfer this load. As the bracing was not designed for any such emergency the southwest corner of the span would settle rapidly, tending to turn the span over on its side towards the west. As this movement increased the bracing would crumple up with the inevitable result that the chords would go out of line and trusses thus fail. As the bracing of the span would not be strong enough to distribute the distortion at the south end to the north, the latter ends of the trusses would remain on their bearing until both south ends had disappeared in the water, finally sliding off longitudinally, the inside lifting hangers tearing through the end cross strut in doing so. The

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evidence on the other three lifting girders substantially confirms this theory. An examination of the southeast lifting girder (See photos 12 and 13 and Drawing CS1) shows the lower pin missing and, what is somewhat remarkable, the upper pin "P1" resting in the lower casting "C". The four centering plates "B" are in place, three of them being flared outward at an angle of about 45°. The fourth, the northwest centering plate "B1", is still securely bolted to the casting, but its upper portion has been flattened downward into a horizontal position. The east suspension bridle is missing but the west bridle "A" is in place, but crushed downward. The east box hanger and plate hangers above are practically undamaged. The west hangers are badly bent outward and scored. The top of the girder is also badly marked and the west end of the girder has its flange angles and plates bent downward. The position and condition of the centering plates show that there could not have been any direct longitudinal sliding motion or the two plates towards the north would have been sheared off. The evidence indicates that when the southwest corner dropped there was a lateral rotation of the southeast end of the span on the lower longitudinal pin. When this motion had continued to such an extent that a lateral rather than a vertical force was directed against the lower pin, this pin was kicked out. The kicking out of the lower pin probably carried the middle casting with it, and the upper pin falling lodged in the pin groove of the lower casting. The rotation of this corner accounts for the crushing of the northwest centering plate and suspension bridles. The dropping of the southwest corner and the turning movement of this end of the span carried the east truss against the inside hanger, bending and mutilating it as it finally tore through the heavy end strut, as indicated by the markings on this hanger.

The condition of the northwest supporting girder and hangers is practically identical with that of the northeast corner. (See photos 14-15-16-17 and Drawing CS2). In each case the two north centering plates "B" (Photos 14 and 16) are in place and undamaged. The south centering plates have their bolts sheared off horizontally and one plate of each girder is missing. In both cases the inside plate hangers are bent to a certain extent and scored "H" (Photo 15) where they tore through the horizontal strut of the centre span. The outside box hangers and plate hangers are undamaged "H1" (Photo 16), with the exception that the north tie plate on the east box hanger is slightly bent outward due to rotation about the pin. The tops of the girders themselves were only slightly damaged on the south face due to the final slipping off of the span.

In view of the foregoing evidence your Board is satisfied that the primary cause of the accident was the failure of one of the temporary erection steel bearing castings (see photo 9) supporting the southwest corner of the centre span. These steel castings were manufactured at the works of the Canadian Steel Foundries, Ltd., Montreal, and the results of the specimen tests showed that the material had met the requirements of the specification in all respects. The machining of the castings was done at the works of the St. Lawrence Bridge Company, where they received careful inspection. They had also been subjected to a test load while at Sillery of about 10% in excess of the loads carried during lifting operations, due to the weight of material trains and temporary track, this track having been removed before floating. At the moment of the accident the castings under the other corners were subjected to an overload of from 70 to 100%, as evidenced by the elongation of the plate hangers supporting the ends of the span. Notwithstanding this fact there are no indications that any of the castings failed at these points. It is, therefore, your Board's opinion that the failure of the erection casting at the southwest corner was due to a flaw or other imperfection which could not be detected, and further that had the casting been sound no failure would have occurred.

The member that failed (Photo-No. 9) was a part of the contractor's erection equipment, in use only during the erection and lifting into position of the centre span,

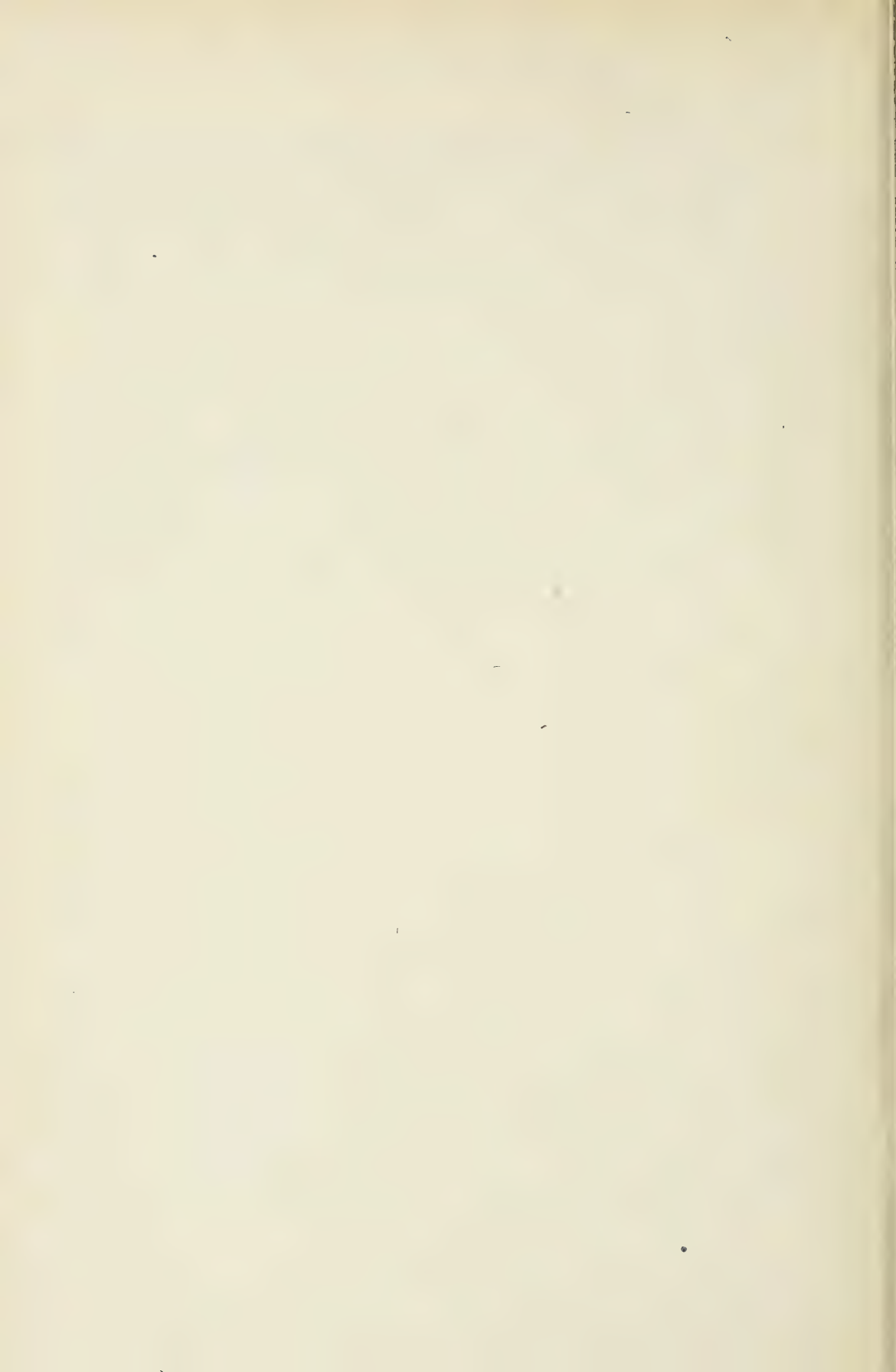
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and formed no part of the permanent structure. The St. Lawrence Bridge Company have advised your Board that they assume entire responsibility for the failure of this member and the resulting loss of the span, and have already taken the necessary steps towards replacing the lost structure. The length of time required to complete this work will depend upon the deliveries that can be obtained for raw material. We are advised, however, by the St. Lawrence Bridge Company that the mills have undertaken to complete delivery within five months and that rolling has already started. Since the proportion of the steelwork lost amounts to only 8% of the whole, and 92% is at present completely erected, there should be very little delay in the completion of the bridge if these promises are fulfilled.

When the weight of the centre span was taken up by the cantilevers, it caused an estimated deflection at the ends of the latter of about  $7\frac{1}{2}$  inches. The sudden release of this load caused the cantilevers to spring violently upward, setting up severe vibrations which were sufficient to throw persons off their feet. A very thorough examination of the cantilevers has since been made with the result that no sign of injury or movement has any where been found. The elevations of the pins in the trusses, as well as the alignment of the trusses and main posts have been checked by instruments and found unchanged. All joints and connections in the cantilevers, including bracing, have been examined and no evidence of any action can be detected. Rivets in sway bracing and other important connections have been carefully inspected and no loose rivets have been found. Your Board are absolutely satisfied that no damage of any kind has been done to the cantilevers.

Herewith is attached list of plans and photographs accompanying this report.

C. N. MONSARRAT,  
RALPH MODJESKI,  
H. P. BORDEN



DEPARTMENT OF RAILWAYS AND CANALS

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# CANAL STATISTICS

FOR THE

SEASON OF NAVIGATION

1917

*PRINTED BY ORDER OF PARLIAMENT*



OTTAWA  
J. DE LABROQUERIE TACHÉ  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

1918

[No. 20a—1918]



*To His Excellency the Duke of Devonshire, K.G., P.C., G.C.M.G., G.C.V.O., etc.,  
etc., Governor General and Commander in Chief of the Dominion of Canada*

MAY IT PLEASE YOUR EXCELLENCY,—

The undersigned has the honour to present to Your Excellency, Canada<sup>1</sup>  
Statistics for the year ended December 31, 1917.

All of which is respectfully submitted.

J. D. REID,

*Minister of Railways and Canals.*

To the Honourable J. D. REID,

Minister of Railways and Canals.

SIR,—I have the honour to submit the annual report of the Comptroller of Statistics in relation to the operations of the Canals of the Dominion for the year ended December 31, 1917.

I have the honour to be, sir,

Your obedient servant,

A. W. CAMPBELL,

*Deputy Minister of Railways and Canals.*

OFFICE OF THE COMPTROLLER OF STATISTICS,  
OTTAWA, May 1, 1918.

A. W. CAMPBELL, Esq., C.E.,  
Deputy Minister of Railways and Canals.

SIR,—I have the honour to submit herewith Canal Statistics for the year ended December 31, 1917.

ABRIDGED REPORT.

Owing to war conditions, it has been deemed expedient for the year 1917 to materially reduce the volume of statistical matter published. The complete facts, however, have been tabulated and will be available when required.

VOLUME AND DISTRIBUTION OF TRAFFIC.

	Tons.	Increase.	Decrease.
		Tons.	Tons.
Sault Ste. Marie.....	15,447,092		1,366,557
Welland.....	2,490,542		54,422
St. Lawrence.....	3,391,144	23,080	
Chambly.....	434,818	35,841	
St. Peter's.....	62,254	52,625	
Murray.....	57,603	10,923	
Ottawa.....	214,835		22,816
Rideau.....	84,549		20,881
Trent.....	48,924	3,915	
St. Andrews.....	7,174		6,264
Total.....	22,238,935	126,384	1,470,940

GROSS TRAFFIC SINCE 1915.

	Tons.
1905.....	9,371,744
1903.....	10,523,185
1907.....	20,543,639
1903.....	17,502,820
1903.....	33,720,743
1910.....	42,990,603
1911.....	38,030,353
1912.....	47,587,215
1913.....	52,053,913
1914.....	37,023,237
1915.....	15,193,303
1916.....	23,583,491
1917.....	22,238,935

## ANALYSIS OF TRAFFIC.

Canals.	Agricultural Products.	Animal Products.	Manufactures.	Products of Forest.	Products of Mines.	Total.
1917.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Sault Ste. Marie.....	2,670,744	172	322,113	32,889	12,421,174	15,447,092
Welland.....	562,669	.....	184,290	243,965	1,499,618	2,490,542
St. Lawrence.....	564,185	4,899	236,197	469,433	2,116,430	2,391,144
Chambly.....	15,280	138	18,664	259,713	141,023	434,818
St. Peter's.....	6,601	2,721	6,931	2,218	43,783	62,254
Murray.....	325	.....	6,956	9	50,313	57,603
Ottawa.....	3,467	3,410	24,682	98,539	84,737	214,835
Rideau.....	3,225	1,872	10,779	11,826	56,847	84,549
Trent.....	1,191	220	2,384	44,810	319	48,924
St. Andrews.....	5	7	162	7,000	.....	7,174
Total.....	3,827,692	13,439	813,158	1,170,402	16,410,856	22,238,935
—	1912.	1913.	1914.	1915.	1916.	1917.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Agricultural products.....	14.51	16.40	21.51	34.11	21.96	17.21
Animal products.....	.04	.04	.04	.07	.04	.06
Manufactures.....	4.68	3.61	3.29	7.21	3.53	3.65
Products of forest.....	3.43	3.22	4.38	9.83	5.87	5.26
Products of mine.....	77.34	76.73	70.78	48.78	68.60	73.82

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## CANADIAN AND AMERICAN TRAFFIC.

Neither the canals of Canada nor those of the United States impose tolls. Perfect reciprocity prevails in the use of these artificial waterways.

## COMPARISON OF TRAFFIC.

Year.	Canadian Vessels.		U.S. Vessels.		Freight Tonnage.		
	No.	Tonnage.	No.	Tonnage.	Canada.	United States.	Total.
1908.....	29,040	6,780,789	7,489	4,835,320	5,012,147	12,190,673	17,502,820
1909.....	22,507	7,811,578	9,996	16,459,322	7,378,057	26,342,691	33,720,748
1910.....	25,337	8,931,790	11,462	21,777,297	7,883,614	35,106,994	42,990,608
1911.....	25,585	9,172,192	10,370	18,231,622	7,792,907	30,237,446	38,030,353
1912.....	27,371	10,237,335	11,785	24,636,190	9,376,529	38,210,716	47,587,245
1913.....	28,654	12,078,041	10,739	24,238,788	11,130,875	40,923,038	52,053,913
1914.....	26,125	12,050,856	7,742	15,636,414	9,382,206	27,641,031	37,023,237
1915.....	21,575	9,398,207	6,415	7,355,101	6,789,423	8,409,380	15,198,803
1916.....	23,002	9,839,029	6,809	10,650,839	7,486,962	16,096,529	23,583,491
1917.....	21,588	9,831,694	6,534	10,259,772	5,964,369	16,274,566	22,238,935

## TRANSPORTATION OF CANADIAN WHEAT.

Since 1895 the volume of Canadian wheat annually carried through the Canadian canal at Sault Ste. Marie has been as follows:--

	Bushels.
1895.....	1,087,800
1896.....	7,274,090
1897.....	9,130,167
1898.....	3,456,934
1899.....	7,699,267
1900.....	5,573,267
1901.....	5,893,034
1902.....	19,896,900
1903.....	25,807,800
1904.....	25,250,969
1905.....	22,603,500
1906.....	26,361,400
1907.....	34,602,000
1908.....	41,793,300
1909.....	48,047,833
1910.....	51,774,833
1911.....	63,641,000
1912.....	83,743,034
1913.....	101,066,133
1914.....	77,467,833
1915.....	48,727,911
1916.....	82,807,342
1917.....	60,551,243

## COMPARISON OF 1915, 1916 AND 1917.

	1915.	1916.	1917.
	Bushels.	Bushels.	
Through the Canadian canal.....	48,727,911	82,807,342	60,551,243
Through the American canal.....	121,389,950	102,196,325	98,023,019
Total.....	170,117,861	185,003,667	158,574,262

Canadian wheat, in the form of flour, had a total of 13,230,850 bushels. There were 2,940,189 barrels of flour, which were calculated into wheat on the basis of  $4\frac{1}{2}$  bushels to barrel.

The total volume of waterborne wheat in 1917 would thus be made up as follows:—

	Bushels.
Through the Canadian canal.....	60,551,243
Through the American canal.....	98,023,019
In the form of flour.....	13,230,850
Total.....	171,805,112

The distribution of Canadian wheat, moved through the Canadian and American canals at Sault Ste. Marie from Port Arthur-Fort William, was as follows:—

From	1915.	1916.	1917.
Port Arthur-Fort William.	Bushels.	Bushels.	Bushels.
To Montreal.....	3,512,410	1,233,982	1,280,170
“ Georgian Bay ports.....	25,065,999	46,406,749	52,453,042
“ other Canadian ports.....	33,067,613	28,029,847	31,369,487
“ Buffalo.....	106,784,542	106,349,943	72,872,692
Total.....	168,430,564	182,020,521	157,975,391

To the foregoing total for 1917 should be added 598,871 bushels of Canadian wheat shipped from Duluth to Montreal.

“Other Canadian ports” practically means Port Colborne at the western entrance to the Welland Canal.

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## WHEAT MOVEMENT BY MONTHS, 1917.

1917.		April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
<i>Canadian Canal.</i>											
Fort William-Port Arthur to Montreal			45,000	205,500	158,980	129,000	164,266	304,800	17,200	40,000	1,064,746
" " Georgian Bay			5,728,500	6,393,880	1,653,806	1,020,640	277,000	4,157,397	5,113,678	2,860,700	27,210,601
" " Other Canadian Ports											
" " Buffalo			2,427,000	1,549,402	2,650,883	2,126,000	1,960,675	2,476,000	3,657,700	573,000	17,420,660
Duluth-Superior to Montreal			4,088,087	2,177,213	363,600	276,500	567,630	2,608,087	4,428,850	345,219	14,855,236
" " Georgian Bay											
" " Other Canadian Ports											
" " Buffalo											
Total			12,288,587	10,325,995	4,832,269	3,532,140	2,969,621	9,546,284	13,217,428	3,818,919	60,551,243
<i>American Canal.</i>											
Fort William-Port Arthur to Montreal			1,502,575	2,510,750	56,724	1,680,939	57,000	56,700	45,000		215,424
" " Georgian Bay					2,365,280		748,000	7,251,390	6,545,220	2,838,287	25,242,441
" " Other Canadian Ports											
" " Buffalo			1,266,525	1,760,000	562,436	2,012,414	1,876,995	3,607,289	2,286,168	577,000	13,948,827
Duluth-Superior to Montreal			15,121,962	8,263,059	1,779,359	1,032,204	784,496	10,651,162	12,177,958	8,207,255	58,017,456
" " Georgian Bay											
" " Other Canadian Ports											
" " Buffalo			387,991	210,880							598,871
Total			18,079,053	12,744,689	4,763,799	4,725,557	3,466,491	21,566,541	21,054,347	11,622,542	98,023,019
<i>Canadian and American Canals.</i>											
Fort William-Port Arthur to Montreal			45,000	205,500	215,701	129,000	221,266	361,500	62,200	40,000	1,280,170
" " Georgian Bay			7,031,075	8,904,670	4,024,056	2,701,579	1,025,000	11,408,787	11,658,898	5,698,987	52,453,042
" " Other Canadian Ports											
" " Buffalo			3,693,525	3,309,402	3,213,319	4,138,414	3,837,670	6,083,289	5,943,868	1,150,000	31,369,487
Duluth-Superior to Montreal			19,210,049	10,440,272	2,142,959	1,508,704	1,352,176	13,259,249	16,606,809	8,552,474	72,872,692
" " Georgian Bay											
" " Other Canadian Ports											
" " Buffalo			387,991	210,880							598,871
Grand Total			30,367,640	23,070,684	9,596,068	8,277,697	6,436,112	31,112,825	34,271,775	15,441,461	158,574,262

8 GEORGE V, A. 1918

There was a large volume of wheat moved during the year 1917 from Port Colborne to Montreal, which might properly be added to the foregoing total for Fort William-Port Arthur to Montreal. Port Colborne was used as a port of transfer. It might, in fact, be assumed that nearly all the wheat moved from the head of the Great Lakes to "other Canadian ports" actually went to Montreal.

A helpful light is thrown on the foregoing table when the monthly totals are reduced to a percentage basis, as follows:—

	1915.	1916.	1917.		1915.	1916.	1917.
April.....	4.8	8.6	....	September.....	7.3	6.1	4.1
May.....	5.5	16.9	19.2	October.....	27.5	8.7	19.6
June.....	2.0	11.9	14.5	November.....	29.7	12.0	21.6
July.....	1.9	14.4	6.1	December.....	20.0	9.6	9.7
August.....	1.3	11.8	5.2				

#### FREIGHT RATES BY WATER.

Carriers by water obtained exceptionally high rates on wheat during the season of 1917, which may be accepted as indicating heavy tolls for all commodities.

The rates of freight over the different routes during the year were as follows:—

	1915.	1916.	1917.
Port Arthur—Fort William to Montreal—			
Per ton per mile.....	0.132 cent.	0.205 cent.	0.265 cent.
Per bushel.....	4.99 "	7.55 "	9.78 "
Per ton.....	\$1.66	\$2.52	\$3.26
Port Arthur—Fort William to Georgian Bay—			
Per ton per mile.....	0.282 cent.	0.264 cent.	0.270 cent.
Per bushel.....	3.54 "	4.10 "	4.25 "
Per ton.....	\$1.18	\$1.37	\$1.42
Port Arthur—Fort William to other Canadian ports—			
Per ton per mile.....	0.124 cent.	0.169 cent.	0.185 cent.
Per bushel.....	2.84 "	3.68 "	4.18 "
Per ton.....	\$94.80	1.22	\$1.39
Port Arthur—Fort William to Buffalo—			
Per ton per mile.....	0.159 cent.	0.159 cent.	0.196 cent.
Per bushel.....	3.97 "	4.27 "	5.000 "
Per ton.....	\$1.32	\$1.42	\$1.67

The rates from Duluth were substantially the same as Port Arthur-Fort William.

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In order that the bearing of the foregoing freight rates may be properly understood in their relationship to gross earnings, allowance should be made for the following charges paid by ship owners on all cargoes of wheat moved between Fort William and Montreal :—

Clearing house at Fort William.....	:01 to	:03 cent per bush.
Trimmers at Fort William.....	:06	“ “
Elevation at Montreal.....	:30	“ “
Shovelling at Montreal.....	:20	“ “
Total.....		:59 cent per bushel.

To Port Colborne the average deductions would amount to :44 per bushel to Buffalo :41, and to Georgian Bay ports :38.

## MOVEMENT OF OTHER GRAIN.

A considerable volume of other grain than wheat passed through the Canadian and American canals at Sault Ste. Marie in 1917. The facts for the past three years are as follows :—

	1915.	1916.	1917.
	Bushels.	Eushels	Bushels.
Oats.....	26,798,488	57,743,636	37,014,644
Barley.....	4,496,509	8,679,607	5,149,725
Flax seed.....	2,068,582	4,931,569	5,073,760
Total.....	33,363,579	71,354,812	47,238,129

VESSEL AND FREIGHT TONNAGE PASSED THROUGH THE SAULT STE. MARIE CANAL.

Years.	Canadian Vessels.		U.S. Vessels.		Total No.	Vessel Tonnage.	Freight Tonnage.		Lockages.		Days Open.	Remarks.	
	No.	Tonnage.	No.	Tonnage.			Canadian.	United States.	Total.	No.			No.
1895.	609	126,534	583	623,092	1,192	749,626		595,837	699	87	Canal first opened Sept. 9, 1895.		
1896.	2,070	589,407	3,066	3,805,749	5,136	4,395,156		4,577,399	3,042	218			
1897.	1,908	405,546	2,359	3,391,936	4,268	3,797,482		4,947,065	2,604	238			
1898.	1,811	403,931	1,864	2,353,699	3,675	2,757,630		3,055,387	2,520	243			
1899.	2,000	558,552	1,769	2,389,457	3,769	2,948,009		3,006,664	2,610	239			
1900.	1,790	577,310	1,291	1,617,438	3,081	2,194,748		2,035,677	2,205	238			
1901.	2,796	775,151	1,408	1,674,597	4,204	2,449,748		2,820,394	2,910	246			
1902.	3,080	1,306,930	1,964	3,237,372	5,044	4,604,302		4,729,268	3,418	264			
1903.	2,711	1,615,939	1,640	3,146,897	4,351	4,762,746		5,511,868	3,242	256			
1904.	2,637	1,555,042	1,325	2,675,663	3,962	4,230,705		5,030,705	3,022	241			
1905.	3,970	1,803,299	1,692	2,734,349	5,662	5,537,637		5,473,406	4,031	255			
1906.	3,922	1,959,252	1,758	4,399,872	5,680	6,359,124		6,574,039	4,152	253			
1907.	3,217	2,154,688	3,132	9,961,281	6,349	12,115,969		15,588,165	4,596	238			
1908.	3,289	2,603,232	3,204	7,035,655	6,493	9,638,887	2,092,231	10,666,985	3,667	235			
1909.	2,597	988,936	3,734	14,850,738	6,331	17,839,674	3,366,495	24,494,750	5,046	240			
1910.	2,744	3,173,494	5,228	20,187,704	7,972	23,361,198	2,345,619	33,050,068	6,110	248			
1911.	2,713	3,108,880	4,068	16,252,340	6,781	19,361,220	3,177,581	27,774,128	6,802	236			
1912.	2,643	3,296,229	5,213	22,536,015	7,856	25,832,244	4,090,362	35,579,293	6,200	240			
1913.	3,279	3,793,434	5,066	22,181,007	8,345	25,974,441	4,954,734	37,744,500	6,266	246			
1914.	3,011	3,473,292	2,966	13,827,870	6,977	17,301,162	3,603,737	23,989,437	4,712	239			
1915.	3,000	3,041,003	1,331	5,443,812	4,331	8,484,815	2,561,734	5,189,223	4,374	248			
1916.	4,595	4,089,937	2,094	8,703,187	6,689	12,793,124	4,155,911	12,657,738	4,777	245			
1917.	3,199	3,182,962	2,138	8,712,694	5,337	11,895,564	2,875,530	12,571,593	4,142	237			

Origin of cargo first shown.

I have the honor to be, sir,

Your obedient servant,

J. L. PAYNE,

Comptroller of Statistics.

# CANAL STATISTICS

TABLE 1.—Comparative Statement of Grand Total Freight passed through the undermentioned Canals during the Seasons of Navigation 1916 and 1917.

	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total tons.		Origin of Cargo.		
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Canadian.	United States.	
<b>1916.</b>															
Sault Ste. Marie.....	333,901	2,886,970	887,239	11,467,241	704,378	141,056	1,430,543	15,383,106	16,813,649	4,155,911	12,657,738				
Welland.....	157,060	675,282	3,057	55,361	1,350	1,311,613	499,621	2,045,313	2,544,964	1,054,480	1,490,484				
St. Lawrence.....	242,920	881,418	430,157	40	5,405	1,787,743	698,522	2,653,542	3,308,061	1,581,195	1,786,869				
Chambly.....	4,169	10,504	242,508			141,796	246,677	152,300	398,977	257,181	141,796				
St. Peters.....	5,471	4,158					3,471	4,158	9,629	9,629					
Murray.....	42,563	2,542				1,575	42,563	4,117	46,680	45,085	1,595				
Ottawa.....	11,796	160,809	54,474		10,572		22,368	215,283	237,651	226,381	11,270				
Rideau.....	58,488	40,165			6,777		58,488	46,942	105,430	98,653	6,777				
Trent.....	17,767	27,242					17,767	27,242	45,009	45,009					
St. Andrews.....	12,913	525					12,913	525	13,438	13,438					
Grand total.....	892,048	4,689,615	888,640	11,522,602	721,705	3,391,190	3,034,933	20,548,558	23,583,491	7,486,962	16,096,529				
<b>1917.</b>															
Sault Ste. Marie.....	248,394	1,946,779	13,848	676,264	886,465	112,094	1,598,417	13,848,675	15,447,092	2,875,590	12,571,502				
Welland.....	134,586	689,810	158,609	1,585	6,057	1,403,995	313,186	2,177,356	2,490,542	981,914	1,508,628				
St. Lawrence.....	263,933	795,258	292,214	29,769	5,257	2,004,666	561,421	2,829,733	3,391,144	1,370,533	2,020,611				
Chambly.....	3,200	8,906	253,353	15,518		153,841	256,553	178,265	434,818	281,292	153,526				
St. Peters.....	14,520	47,734					14,520	47,734	62,254	62,254					
Murray.....	51,987	2,418				3,198	51,987	5,616	57,603	54,405	3,198				
Ottawa.....	12,404	141,681	48,392		12,051		24,455	190,380	214,835	200,953	13,882				
Rideau.....	52,285	29,284				2,980	52,285	32,264	84,549	81,330	3,219				
Trent.....	15,678	33,246					15,678	33,246	48,924	48,924					
St. Andrews.....	7,003	171					7,003	171	7,174	7,174					
Grand total.....	803,990	3,695,267	718,024	771,528	909,830	3,741,081	2,895,505	19,343,430	22,238,935	5,904,369	16,274,566				

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TABLE 2.—Statement showing the Number, Tonnage and Nationality of Vessels passed through the several Canals during the Season of Navigation in 1917.

Vessels.	Total Number		From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total tons.
	Total Number	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	
<b>CANADIAN VESSELS.</b>													
<i>Steam and Sail.</i>													
Sault Ste Marie.....	3, 199		1, 259, 940	113, 847	152, 676	71, 498	106, 081	39, 535	233, 702	1, 624, 728	1, 558, 232		3, 182, 960
Welland.....	2, 554		436, 537	612, 605	1, 079	25, 952	3, 328	727, 406	1, 897	1, 116, 523	1, 168, 330		2, 284, 873
St. Lawrence.....	7, 327		929, 503	912, 546	164	37		876, 970	308	1, 722, 306	1, 789, 680		3, 511, 986
Chambly.....	400		24, 393	24, 956						31, 411	34, 395		65, 806
Ottawa.....	1, 514		144, 320	144, 247				9, 439	224	146, 486	147, 511		293, 997
Rideau.....	1, 504		50, 889	54, 724	3, 040				2, 166	50, 942	54, 724		105, 666
St. Peter's.....	1, 144		41, 032	41, 373						41, 032	41, 373		82, 405
Trent Valley.....	2, 967		72, 571	70, 408						72, 571	70, 408		142, 979
Murray.....	866		70, 285	62, 307				759		71, 863	63, 066		134, 929
St. Andrews.....	113		14, 895	11, 198						14, 895	11, 198		26, 093
Total, Canadian.....	21, 588		3, 029, 638	3, 018, 236	156, 959	97, 487	109, 409	238, 073	1, 654, 333	4, 892, 757	4, 938, 937		9, 831, 694
<b>UNITED STATES VESSELS.</b>													
Sault Ste. Marie.....	2, 138		79, 323	78, 850	274, 018	3, 046, 816	4, 833, 094	2, 790	354, 750	3, 523, 852	5, 188, 752		8, 712, 604
Welland.....	697		6, 437	4, 383	140, 171	38, 626	33, 070	261, 823	6, 671	191, 905	299, 483		491, 388
St. Lawrence.....	1, 374		16, 445	11, 192	332, 565	10, 141	4, 594	424, 972	3, 930	369, 203	449, 899		819, 102
Chambly.....	2, 060			487	3, 713			100, 104		98, 666	101, 304		202, 970
Ottawa.....			7, 436		13, 766			6, 322		13, 758	15, 327		29, 085
Rideau.....	16		982							982	982		1, 964
St. Peter's.....	2		89							89			89
Trent-Valley.....													
Murray.....	25		12	158	1, 916	81	25		146				2, 570
St. Andrews.....													
Total, United States.....	6, 594		110, 724	96, 052	616, 281	3, 101, 786	4, 869, 783	791, 477	371, 819	4, 200, 610	6, 059, 162		10, 259, 772
Grand total, Canadian and United States.....	28, 182		3, 140, 362	3, 114, 288	2, 143, 840	3, 199, 273	4, 979, 192	609, 892	2, 445, 810	9, 093, 367	10, 998, 099		20, 091, 496

TABLE 3—Statement showing the Number, Tonnage and Nationality of Vessels passed through the several Canals, during the season of Navigation in 1917.

Vessels.	Total Number.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.
		Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	
<b>SAULT STE. MARIE CANAL.</b>												
Canadian Vessels, Steam.....	2,923	1,181,697	1,239,275	111,081	152,496	71,498	106,081	233,702	39,187	1,597,978	1,537,039	3,135,017
“ Sail.....	276	23,984	20,665	2,766	180				348	26,750	21,193	47,943
Total Canadian.....	3,199	1,205,681	1,259,940	113,847	152,676	71,498	106,081	233,702	39,535	1,624,728	1,558,232	3,182,960
<b>United States Vessels, Steam.....</b>												
“ Sail.....	2,107	78,688	78,793	42,963	271,593	3,046,811	4,833,084	353,550	2,790	3,522,012	5,186,230	8,708,242
“ Sail.....	51	635	87	2,425	10	5	10	1,200		1,840	2,522	4,362
Total, United States.....	2,158	79,323	78,850	42,96	274,018	3,046,816	4,833,094	351,750	2,790	3,523,852	5,188,752	8,712,604
Grand total, Sault Ste. Marie.....	4,337	1,285,004	1,338,790	156,810	426,694	3,118,314	4,939,175	588,452	42,325	5,148,530	6,746,984	11,895,564
<b>WELLAND CANAL.</b>												
Canadian Vessels, Steam.....	2,096	359,101	338,008	555,909	1,079	22,697	3,328	1,897	650,669	939,604	993,084	1,932,688
“ Sail.....	458	116,968	98,529	56,696		3,255			76,737	176,919	175,266	352,185
Total, Canadian.....	2,554	476,069	436,537	612,605	1,079	25,952	3,328	1,897	727,406	1,116,523	1,168,350	2,284,873
<b>United States Vessels, Steam.....</b>												
“ Sail.....	631	2,732	2,047	128,236	117	36,709	31,391	6,271	242,294	173,948	275,849	449,797
“ Sail.....	66	3,705	2,336	11,935	90	1,917	1,679	400	19,529	17,957	23,634	41,591
Total, United States.....	697	6,437	4,383	140,171	207	38,626	33,070	6,671	261,823	191,905	299,483	491,388
Grand total, Welland Canal.....	3,251	482,506	440,920	752,776	1,286	64,578	36,398	8,568	989,229	1,308,428	1,467,833	2,776,261
<b>ST. LAWRENCE CANALS.</b>												
Canadian Vessels, Steam.....	4,068	558,115	532,455	657,214	164				734,285	1,215,366	1,266,902	2,482,268
“ Sail.....	3,259	371,388	380,093	135,244		37		308	142,685	506,940	522,778	1,029,718
Total Canadian.....	7,327	929,503	912,548	792,458	164			308	876,970	1,722,306	1,789,680	3,511,986
<b>United States Vessels, Steam.....</b>												
“ Sail.....	1,026	1,161	1,484	328,781		16,263	3,294	223	423,428	346,428	427,206	773,634
“ Sail.....	348	15,284	9,708	3,784	10,141		300	3,707	2,544	22,775	22,693	54,468
Total, United States.....	1,374	16,445	11,192	332,565	10,141	16,263	3,594	3,930	424,972	369,203	449,899	819,102
Grand total, St. Lawrence Canals.....	8,701	945,948	923,738	1,125,023	10,305	16,300	3,594	4,238	1,301,942	2,091,509	2,239,579	4,331,088

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CHAMBLY CANAL.												
Canadian Vessels, Steam	142	19,973	20,285	7,018					9,439	19,973	20,285	40,258
“ Sail	258	4,420	4,671							11,438	14,110	25,548
Total, Canadian	400	24,893	24,956	7,018					9,439	31,411	34,395	65,806
United States Vessels, Sail												
United States Vessels, Sail	2,060		487	98,665	3,713				100,104	98,666	104,304	202,970
Total, United States	2,060		487	98,666	3,713				100,104	98,666	104,304	202,970
Grand total, Chamblay Canal	2,460	24,393	25,443	105,684	3,713				109,543	130,077	138,699	268,776
OTTAWA CANALS.												
Canadian Vessels, Steam	693	73,990	68,961		1,344			1,120	224	75,110	70,529	145,639
“ Sail	821	70,330	25,286		1,696			1,046		71,376	76,982	148,358
Total, Canadian	1,514	144,320	144,247		3,040			2,166	224	146,486	147,511	293,997
United States Vessels, Sail												
United States Vessels, Sail	282	7,436			13,766			6,322	1,561	13,758	15,327	29,085
Total, United States	282	7,436			13,766			6,322	1,561	13,758	15,327	29,085
Grand total, Ottawa Canals	1,696	151,753	144,247		16,806			8,488	1,785	160,244	162,838	323,082
RIDEAU CANAL												
Canadian Vessels, Steam	1,350	41,401	45,698	53						41,454	45,698	87,152
“ Sail	154	9,488	9,026							9,488	9,026	18,514
Total Canadian	1,504	50,889	54,724	53						50,942	54,724	105,666
United States Vessels, Sail												
United States Vessels, Sail	16	982	982							982	982	1,964
Total United States	16	982	982							982	982	1,964
Grand total, Rideau Canal	1,520	51,871	55,706	53						51,924	55,706	107,630
ST. PETER'S CANAL												
Canadian Vessels, Steam	316	17,285	14,319							17,285	14,319	31,604
“ Sail	828	23,747	27,054							23,747	27,054	50,801
Total, Canadian	1,144	41,032	41,373							41,032	41,373	82,405
United States Vessels, Steam												
United States Vessels, Steam	1	8								8		8
“ Sail	1	81								81		81
Total, United States	2	89								89		89
Grand total St. Peter's Canal	1,146	41,121	41,373							41,121	41,373	82,494

TABLE 3—Statement showing the Number, Tonnage and Nationality of Vessels passed through the several Canals, during the season of Navigation in 1917—*Concluded*.

Vessels.	Total number.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.
		Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	
<b>TRENT VALLEY CANAL</b>												
Canadian Vessels, Steam.....	2,548	60,939	59,329							60,939	59,329	120,268
"    "    Sail.....	419	11,632	11,079							11,632	11,079	22,711
Total, Canadian.....	2,967	72,571	70,408							72,571	70,408	142,979
Grand total Trent Valley Canal.....	2,969	72,571	70,408							72,571	70,408	142,979
<b>MURRAY CANAL</b>												
Canadian Vessels, Steam.....	669	41,478	38,431	544				318		42,022	38,749	80,771
"    "    Sail.....	197	28,807	23,876	1,034				441		29,841	24,317	54,158
Total Canadian.....	866	70,285	62,307	1,578				759		71,863	63,066	134,929
United States Vessels, Steam.....	25	12	158	1,916	5	81	25	146		2,155	415	2,570
Total United States.....	25	12	153	1,916	5	81	25	146		2,155	415	2,570
Grand total Murray Canal.....	891	70,297	62,465	3,494	5	81	25	146		74,018	63,481	137,499
<b>St. ANDREWS CANAL</b>												
Canadian Vessels, Steam.....	85	7,440	6,150							7,440	6,150	13,590
"    "    Sail.....	28	7,455	5,048							7,455	5,048	12,503
Total Canadian.....	113	14,895	11,198							14,895	11,198	26,093
Grand total St. Andrews Canal.....	113	14,895	11,198							14,895	11,198	26,093

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TABLE 7 (No. 1)—General Statement showing the Quantity of each Article Transported on the Sault Ste. Marie Canal during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to U. States Ports.		From U. States to U. States Ports.		From U. States to Canadian Ports.		Tons.		Total Tons.		Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Canadian.	U. States.
Agricultural imple- ments	10,718								10,750				10,718	32
Barley		57,858		11,394	32	18,884		432					69,252	19,316
Cement, bricks, etc.	219				200				419				219	200
Coal, hard	150				70,050			99,500	169,550					169,550
Coal, soft	607				333,649			744,538	1,078,337					1,078,337
Coke								2,100	2,707					2,707
Dressed meats		1							1					1
Flax		9,892		9,895		10,108			29,895				19,787	10,108
Flour	20	277,974		1,023		54,030			333,027				279,017	54,030
Hay		65							65				65	
Iron, pig and bloom.	2,961								2,961				2,961	
Iron and steel, all other.	7,876				6,968				14,844				6,600	9,268
Merchandise.	212,079			4,135	24,646	4,715	19,502	219	258,511	14,640			220,322	52,829
Oats.	175,673			2,284		3,274	3,400		231,118	231,118			226,994	4,124
Other mill products.	29,656			48,771		240			29,896				29,656	240
Other woods.	883								1,036				3,417	153
Ore, all other.				11,466	1,106	8,644			6,121	11,466			11,466	6,121
Ore, copper.														
Ore, iron														
Petroleum	501			143,922	2,000	10,865,107	15,457	100,548	17,457	11,109,577	11,127,034		137,706	10,989,338
Poultry, game and fish.									560				501	59
Pulpwood	1,500									57				57
Rye	411			11,564		7,500			13,064	8,250			13,814	7,500
Sawed lumber.						5,733				5,733				5,733
Shingles						1,167		2,827	411	6,175			3,667	2,919
Sugar	1,508					1,419			1,419					1,419
Salt	5,747								1,508				1,508	
Sand and stone.									16,747				16,747	
Wheat	3,000				11,000			200	16,700	17,115			17,115	11,000
Wines, liquors and beers.				445,658		132,717		4,968	3,000	1,949,422			1,814,737	137,685
Wool	149								149				149	
Total Freight.	248,394			13,848	449,710	11,113,538	886,465	112,094	1,598,417	13,848,675	15,447,092		2,875,590	12,571,502

TABLE 7 (No. 2) —General Statement showing the Quantity of each Article Transported on the Welland Canal during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to U. States Ports.		From U. States to U. States Ports.		From U. States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
Agricultural Implements	10,958								10,958		10,958		
Barley		24,437						1,434		25,871	25,871		
Coal, Hard			2,026				6,057		8,083		8,083		
Coal, Soft					1,292,584		2,200		1,292,584		1,292,584		8,083
Coke					2,200				2,200		2,200		1,292,584
Corn		6,393							7,706		7,706		2,200
Flax		3,060			1,316				3,060		3,060		7,706
Flour		7,348			1,100				8,448		8,448		3,060
Iron, Pig and Bloom	1,651								1,651		1,651		7,348
Iron and Steel, all other	5,084		16 <sup>00</sup>						5,244		5,244		1,651
Merchandise	43,292		200		25 <sup>00</sup>			73	45,000		45,383		5,244
Oats		80,747					1,853		82,600		82,600		43,492
Other Woods							28		28		28		80,143
Ore, all other					8,206				9,106		9,106		
Ore, Iron					1,014				1,014		1,014		
Petroleum	60					300			60		119,731		97,058
Pulpwood	70,923		154,664						225,587		225,587		22,673
Staved Lumber								4,176	18,330		18,330		
Square Timber	20								20		20		1,585
Sugar	860								860		860		
Sand and Stone	1,275				1,120				5,080		176,478		50,021
Wheat		428,553							434,984		434,984		428,553
Wines, Liquors and Beers	463								463		463		6,431
Total Freight	134,586	689,810	158,009	1,585	13,934	21,966	6,057	1,463,995	313,186	2,177,356	2,490,542	981,914	1,508,628

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TABLE 7 (No. 3)—General Statement showing the Quantity of each Through Article Transported on the Welland Canal during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canada.	U.S.
Agricultural implements	10,958								10,958		10,958	10,958	
Barley		24,437									25,871	25,871	
Coal, hard			2,026				6,057	1,434	8,083	25,871	8,083	8,083	8,083
" soft								2,200	1,259,263	1,259,263	1,259,263	1,259,263	1,259,263
Coke									7,706	7,706	7,706	7,706	7,706
Corn		6,330		1,316					3,060	3,060	3,060	3,060	
Flax		3,060							8,448	8,448	8,448	8,448	
Flour		7,348		1,100					1,651	1,651	1,651	1,651	1,100
Iron, pig and bloom		1,651							5,244	5,244	5,244	5,244	
Iron and steel, all other.		5,084						73	323	323	45,333	43,442	1,891
Merchandise	43,242		1,568	250				1,833	45,010	82,600	82,600	80,143	2,457
Oats		80,747						28		28	28	28	
Other woods									9,106	9,106	9,106	9,106	
Ore, all other		900							1,014	1,014	11,167	11,167	
" Iron								10,153	1,014	10,153	105,844	83,171	22,673
Petroleum	60	79,327					26,157		60	105,784	105,844	83,171	22,673
Pulpwood	2,835								157,499	157,499	157,499	157,499	
Sawed lumber		154,664		1,585			4,176		18,330	18,330	18,330	1,585	16,745
Square timber	20								20	20	20	20	
Sugar	860								860	860	860	860	
Sand and stone			1,120				300		3,805	3,805	4,105	2,685	1,420
Wheat		428,553		6,431					434,984	434,984	434,984	428,553	6,431
Wines, liquors and beers	463								463	463	463	463	
Total Freight..	65,173	629,862	158,609	1,585	13,934	21,966	6,057	1,305,637	243,773	1,959,050	2,202,823	852,553	1,350,270

TABLE 7 (No 4)—General Statement showing the Quantity of each Article Way Transported on the Welland Canal during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
	Coal, soft.....								33,321			33,321	
Merchandise.....	50								50		50		50
Petroleum.....	68,088	13,887							68,088		13,887		13,887
Pulpwood.....	1,275	46,001							1,275		68,088		68,088
Sand and Stone.....								125,037			172,373		125,037
Total Freight.....	69,413	59,948						158,358	69,413	218,306	287,719	129,361	158,358

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TABLE 7 (No. 5)—General Statement showing the Quantity of each Article Transported on the St. Lawrence Canals during the Season of Navigation 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total tons.		Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Canadian.	U. States.
Agricultural Implem'ts.	133	1							133	1			134	
All other Animals	991	3,140							991	3,140			4,131	
Barley		23,075								23,075			23,075	
Buckwheat	4	5											9	3
Cement, Bricks, &c.	19,266	383					1,157	708	20,423	1,091			18,903	2,551
Coal, Hard	1,676	405					524,940		1,676	405			526,121	525,693
Coal, Soft	5,064	7,223	600				1,446,933		7,007	1,454,756			12,626	1,449,137
Corn	3,912	3,912					3,849		43	7,761			7,804	46
Dressed Meats.	19	34							19	34			53	7,758
Flax		2,276								2,276			2,276	
Flour	1,104	9,900					1,100		1,104	11,000			11,004	1,100
Fruits and Vegetables.	332	356							332	356			688	
Hay	5,019	1,943							5,019	1,943			6,962	
Hides and Leather.	2	33			1				3	33			35	1
Household Goods.	1,704	3,710	1						1,705	3,710			5,414	1
Iron, Pig and Bloom.	2,234	208					56		2,234	258			2,442	50
Iron and Steel, all other	5,765	15,180	200						5,966	15,180			21,146	1
Live Stock	123	368			1				125	368			491	2
Merchandise	45,230	48,272	15						47,114	51,897			99,011	
Oats	1,173	82,140			12				1,173	82,140			83,313	7,341
Other Mill Products.	168	848							168	848			1,016	
Packing House														
Products	115	52			2				117	52			169	2
Woods	2,328	2,081							2,328	2,109			4,409	28
Ore, all other	150								150				150	
Iron														
Peas	5	26							5	26			31	
Petroleum	15,336	42,088							15,336	63,578			78,914	21,490
Poultry, Game and Fish	17								25	176			201	
Potatoes	25	176							25	176			17	
Pulpwood	70,134		291,974						362,108				362,108	
Rye	3								3				3	
Sawed Lumber	23,637	49,134							23,637	78,303			101,940	
Shingles		3							20	3			18	5
Square Timber	65	860							65	860			925	
Sugar	3,454	117							3,454	117			3,571	
Salt	1,318	200							1,318	200			1,518	
Sand and Stone	54,987	70,216					675		55,387	70,891			126,178	3,230
Wheat	449	426,251							1,449	426,251			426,700	
Wines, Liquors & Beers.	1,877	605							1,877	605			2,482	
Total Freight	203,933	795,238	292,214	50	17		5,257	2,004,666	561,421	2,829,723	3,391,14		1,370,533	2,020,611





TABLE 7 (No. 8)—General Statement showing the Quantity of each Article Transported on the Chambly Canal during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From U. States to U. States Ports.		From U. States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	
Agricultural implements.	147								147		147	147	
Cement, bricks, etc.	206								206		206	206	
Coal, hard.	68					124, 137			68	124, 137	124, 205	68	124, 137
Coal, soft.						5, 017				5, 017	5, 017		5, 017
Corn.	105								105		105	105	
Dressed meats.		2								2	8	8	
Flour.	705								705		705	705	
Fruits and vegetables.	118	1, 151				195			118	1, 346	1, 464	1, 464	
Hay.	9	5, 951	6, 081						6, 089	5, 951	12, 040	12, 040	
Household goods.	6	11							6	11	17	17	
Iron and steel, all other.	215	25							215	25	240	240	
Live stock.	12	109							12	109	121	121	
Merchandise.	393	785	3, 260			13, 311			3, 653	14, 096	17, 749	4, 558	13, 191
Oats.	65	282							65	282	347	347	
Other Mill products.	417	123							417	123	540	540	
Other packing house products.	6	1							6	1	7	7	
Other woods.	29	212	6, 826						6, 855	212	7, 067	7, 067	
Peas.	8	18							8	18	26	26	
Petroleum.	78								78		78	78	
Poultry, game and fish.											2	2	
Potatoes.	49	2							49	2	51	51	
Pulpwood.			69, 844						69, 844		67, 844	69, 844	
Sawed lumber.	26	25	167, 103	15, 518					167, 129	15, 543	182, 672	182, 672	
Shingles.	130								130		130	130	
Sugar.	81	5							81	5	86	86	
Salt.	125								125		125	125	
Sand and stone.	180	200	24C			11, 181			420	11, 381	11, 381	620	11, 181
Wheat.		2								2	2	2	
Wines, liquors and beers.	16								16		16	16	
Total Freight.	3, 200	8, 906	253, 353			153, 841			256, 553	178, 265	434, 818	281, 292	153, 626

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TABLE 7 (No. 9)—General Statement showing the Quantity of each Article Transported on the St. Peter's Canal during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
Agricultural implements	2								2		2		
All other animals	74								74		74		
Barley		4								4			4
Cement, bricks, etc.	176	47							176	47	223		
Coal, hard	88								88		88		
" soft	140	41,805							140	41,805	41,945		
Corn	12								12		12		
Dressed meats	12								12		12		
Flour	1,399	16							1,399	16	1,415		
Fruits and vegetables	676	6							676	6	682		
Hay	209	1							209	1	210		
Hides and leather	1								1		1		
Household goods	20	10							20	10	30		
Iron and steel, all other	106								106		106		
Live stock	7								7		7		
Merchandise	2,566	1,450							2,566	1,450	4,016		
Oats	713	5							713	5	718		
Other mill products	622	29							622	29	651		
" packing house products													
Other woods	260	5							260	5	265		
Ore, all other	122	20							122	20	142		
Ore, iron		865								865	865		
Ore, iron		80								80	80		
Peas	5								5		5		
Petroleum	632	27							632	27	659		
Poultry, game and fish	172	2,188							172	2,188	2,360		
Potatoes	2,872	31							2,872	31	2,903		
Sawed lumber	1,589	199							1,589	199	1,798		
Shingles	1,190	84							1,190	84	1,274		
Square timber	4								4		4		
Sugar	131	16							131	16	147		
Salt	1,708	40							1,708	40	1,748		
Sand and stone		805								805	805		
Wheat	1								1		1		
Wool	1								1		1		
Total Freight	14,520	47,734							14,520	47,734	62,254		

TABLE 7 (No. 10)—General Statement showing the Quantity of each Article Transported on the Murray Canal, during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
Coal, soft.....	90	100							90	3,298	3,388	190	3,198
Fruits and Vegetables.....	325								325		325	325	
Merchandise.....	4,539	2,309							4,539	2,309	6,848	6,848	
Sawed Lumber.....		9								9	9	9	
Sugar.....	108								108		108	108	
Sand.....	46,925								46,925		46,925	46,925	
Total Freight.....	51,987	2,418							51,987	5,616	57,603	54,405	3,198

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TABLE 7, No. 11—General Statement showing the Quantity of each Article Transported on the Ottawa Canals during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
											Up.		
Agricultural implements	123	8					123	8			131	131	
All other animals	147	2,625					147	2,625			2,772	2,772	
Buckwheat	4						4				4	4	
Cement, bricks, &c.	1,643	115					1,643	115			1,758	1,758	
Coal, hard	1,632	775					949	775			1,724	8	1,716
" soft	135				317		3,808	307	307		4,115	125	3,990
Corn	30	1					30	1			31	31	
Dressed meats	14	7					14	7			21	21	
Flax	1						1				1	1	
Flour	526	106					526	106			632	632	
Fruits and vegetables	185	68					185	68			253	253	
Hay	40	1,352					40	1,352			1,392	1,392	
Hides and leather	2	38					2	38			40	40	
Household goods	144	85					144	85			229	229	
Iron, pig and bloom	211	16					211	16			227	227	
Iron and steel, all other	799	159					799	159			949	949	
Live stock	97	349					97	349			446	446	
Merchandise	4,554	5,719					12,005	5,719	8,051		18,324	10,148	8,176
Oats	93	120					93	120			213	213	
Other mill products	108	502					108	502			610	610	
" packing house products													
Other woods	87	29					87	29			116	116	
Peas	4	10,139					4	10,139			10,139	10,139	
Petroleum	536	27					536	27			563	563	
Poultry, game and fish	15	15					15	15			15	15	
Potatoes	9	173					9	173			182	182	
Rye	5						5				5	5	
Sawed lumber	52	37,420					52	37,420			84,498	84,498	
Shingles	20						20				20	20	
Square timber	19	2,497					19	2,497			3,830	3,830	
Sugar	376						376				442	442	
Salt	1,051	94					1,051	94			1,145	1,145	
Sand		78,898						78,898			78,898	78,898	
Wheat	80	24					80	24			114	114	
Wines, liquors and beers	695	156					695	156			854	854	
Total	12,404	141,681					24,455	190,380	12,051	307	214,835	200,953	13,882

TABLE 7 (No. 12)—General Statement showing the Quantity of each Article Transported on the Rideau Canal during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
All other animals	372	1,301							372	1,301	1,673		
Cement, bricks, etc.	752	11							752	11	763		239
Coal, hard	8	51					2,980		8	3,031	3,039	59	2,980
" soft	39	60							39	60	99	99	
Dressed meats	19	14							19	14	33	33	
Floor	4	51							4	51	55	55	
Fruits and vegetables	15	1							15	1	16	16	
Hay	2,530	424							2,530	424	2,954	2,954	
Hides and leather	30	30							30	30	30	30	
Household goods	127	1							127	1	128	128	
Iron, pig and bloom	984	15							984	15	999	999	
Iron and steel, all other.	4	4							4	4	5	5	
Lave stock	1	1							1	1	2	2	
Merchandise	4,097	3,255							4,097	3,255	7,352	7,352	
Oats	67	67							67	67	134	134	
Other mill products	15	101							15	101	116	116	
" packing house pro- ducts	111	20							111	20	131	131	
" woods	287	624							287	624	911	911	
Peas	5	5							5	5	10	10	
Petroleum	27	27							27	27	54	54	
Potatoes	352	7							352	7	359	359	
Pulpwood	120	120							120	120	240	240	
Sawed lumber	3,511	5,019							5,511	5,019	10,530	10,530	
Shingles	48	48							48	48	96	96	
Square timber	217	33							217	33	250	250	
Sugar	68	33							68	33	101	101	
Salt	603	28							603	28	631	631	
Sand and stone	35,745	17,964							35,745	17,964	53,709	53,709	
Wheat	5	5							5	5	10	10	
Wines, liquors and beers	450	34							456	34	490	490	
Total Freight	52,285	29,284					2,980		52,285	32,264	84,549	81,330	3,219

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TABLE 7 (No. 13) — General Statement showing the Quantity of each Article Transported on the Trent Valley Canals during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to U. States Ports.		From U. States to U. States Ports.		From U. States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
Agricultural implements	38								38		38		38
All other animals	8	43							8	43	51		51
Cement, bricks, etc.	80	144							80	144	224		224
Coal, hard	112	2							112	2	114		114
“ soft	86	19							86	19	105		105
Flour	22								22		22		22
Fruits and vegetables	21								21		21		21
Household goods	123	23							123	23	146		146
Iron, pig and bloom	5	2							5	2	7		7
Iron and steel, all other	3								3		3		3
Live stock	121	48							121	48	169		169
Merchandise	978	963							978	963	1,941		1,941
Other mill products	43								43		43		43
“ woods	12,083	16,800							12,083	16,800	28,883		28,883
Peas	9	5							9	5	14		14
Petroleum	13								13		13		13
Potatoes	15	2							15	2	17		17
Pulpwood													
Rye	24	24							24	24	48		48
Sawed lumber	651	1,155							651	1,155	1,806		1,806
Shingles	53	27							53	27	80		80
Square timber	60	217							60	217	277		277
Sugar	11								11		11		11
Salt	1								1		1		1
Sand and stone	100								100		100		100
Wheat	1,018	8							1,018	8	1,026		1,026
Total Freight	15,678	33,246							15,678	33,246	48,924		48,924

TABLE 7 (No 14)—General Statement showing the Quantity of each Article Transported on the St. Andrews, during the Season of Navigation in 1917.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Origin of Cargo.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		Canadian.	U. States.
Hay .....		5								5	5	5	
Live stock.....		7								7	7	7	
Merchandise.....	3	159							3	159	162	162	
Other woods.....	6,375								6,375		6,375	6,375	
Sawed lumber.....	625								625		625	625	
<b>Total Freight.....</b>	<b>7,005</b>	<b>171</b>							<b>7,003</b>	<b>171</b>	<b>7,174</b>	<b>7,174</b>	