

6 EDWARD VII.

SESSIONAL PAPER No. 19a

A. 1906

SUPPLEMENT

TO THE

REPORT OF THE MINISTER OF PUBLIC WORKS, 1905

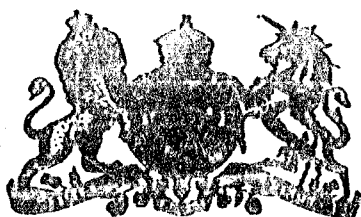
REPORT

OF THE

ROYAL COMMISSION ON TRANSPORTATION

APPOINTED MAY 10, 1903

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OTTAWA

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1906

No. 19a—1906].

WINNIPEG, December 11, 1903

SIR,—Your Commission has the honour to submit herewith report of the Royal Commission on Transportation in compliance with memorandum placed before the Committee of the Honourable the Privy Council, approved by the Governor General, on May 19, 1903.

Yours truly,

ROBERT REFORD, Chairman.

JAMES H. ASHDOWN, Commissioner.

COPY OF COMMISSION.

CANADA

MINTO.

<p>[SEAL.] E. NEWCOMBE, Deputy of the Minister of Justice.</p>	}	<p>EDWARD VII., by the Grace of God, of the United Kingdom of Great Britain and Ireland, and of the British Dominions Beyond the Seas, King, Defender of the Faith, Emperor of India,— To all to whom these presents shall come, or whom the same may in anywise concern,</p>
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GREETING :

WHEREAS, in and by a certain report of the Committee of our Privy Council for Canada, approved by our Governor General on the Nineteenth day of May, in the year of our Lord one thousand nine hundred and three, a copy of which is hereto annexed, provision was made as therein set forth for an investigation of questions affecting the transportation of Canadian products to the markets of the world, through and by Canadian ports with the view of ascertaining as far as possible the best means of placing such products in a position to compete successfully through all-Canadian channels with the products and exports of other countries :

AND WHEREAS, it was provided by the said approved report that a commission should be appointed consisting of Sir William Van Horne, John Bertram, Esquire, and Harold Kennedy, Esquire, of whom Sir William Van Horne should be Chairman and Convener, for the purpose of making such inquiry, obtaining such evidence and information, and making such reports and recommendations as in their opinion (and subject to any further instructions which might be given by our Governor General in Council), the exigencies of the reference might require, and that the Commissioners should be given the compulsory powers with regard to witnesses and evidence provided for by chapter 114 of the Revised Statutes of Canada ;

AND WHEREAS, it having been ascertained that Sir William Van Horne and Harold Kennedy are unable to act upon the said Commission, it has been provided in and by a certain other report of the said committee, approved of by our said Governor General on the twenty-sixth day of August, in the year of our Lord one thousand nine hundred and three, that the personnel of the said Commission shall consist of the said John Bertram, Esquire, and Robert Reford, and Edward C. Fry, Esquires, of whom the said John Bertram shall be Chairman and Convener.

NOW KNOW YE THAT WE, by and with the advice of our Privy Council for Canada, do by these presents nominate, constitute and appoint the said John Bertram, of the city of Toronto, in the province of Ontario, Esquire; Robert Reford, of the city of Montreal, in the province of Quebec, Esquire, and Edward C. Fry, of the city of Quebec, in the province of Quebec, Esquire, to be our Commissioners to hold and conduct such inquiry ;

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AND WE do hereby, under the authority of the Revised Statutes of Canada, chapter 114, intituled, '*An Act respecting inquiries concerning public matters*,' confer upon you, our said Commissioners, the power of summoning before you any witnesses and of requiring them to give evidence on oath, orally, or in writing, or on solemn affirmation, if they are persons entitled to affirm in civil matters, and to produce such documents and things as you, our Commissioners, shall deem requisite to the full investigation of the matters into which you are hereby appointed to examine, inquire into and investigate ;

TO HAVE, hold, exercise and enjoy the said office, place and trust into you, the said John Bertram, Robert Reford, and Edward C. Fry, together with the rights, powers, privileges and emoluments unto the said office, place and trust, of right and by law appertaining during pleasure ;

AND WE do hereby require and direct you to report to our Governor General in Council, the result of your investigation, together with the evidence taken before you, and any opinion you may see fit to express thereon.

IN TESTIMONY WHEREOF We have caused these, Our letters to be made Patent, and the Great Seal of Canada to be thereunto affixed.

WITNESS Our Right trusty and Right Well-Beloved Cousin and Councillor, The Right Honourable Sir Gilbert John Elliott, Earl of Minto, and Viscount Melgund, of Melgund, County of Forfar, in the Peerage of the United Kingdom, Baron Minto of Minto, County of Roxbrough, in the Peerage of Great Britain, Baronet of Nova Scotia, Knight of Grand Cross of Our Most Distinguished Order of Saint Michael and Saint George, &c., &c., Governor General of Canada.

At Our Government House in the city of Ottawa, this Twenty-sixth day of August, in the year of our Lord One thousand nine hundred and three, and in the Third year of Our Reign.

By command,

JOSEPH POPE, Under-Secretary of State.

EXTRACT from a Report of a Committee of the Honourable the Privy Council, approved by the Governor General on May 19, 1903.

On a report, dated April 6, 1903, from the Minister of Public Works stating that he has had under consideration questions affecting the transportation of Canadian products to the markets of the world through and by Canadian Ports with the view of placing the Canadian producer in a position to compete, and compete successfully, through all-Canadian channels with the producers and exporters of other countries.

The minister submits that it may be assumed that grain and other products will naturally seek their markets by the cheapest routes, and therefore, the method of attaining the object desired should be to make the Canadian routes cheaper and more convenient than competing routes.

That the development of north-western Canada has manifested the inability of existing Canadian transportation agencies to take care of Canadian products.

That our agricultural exports can only command the prices over seas, to which their natural excellence entitles them, when they cease to be confounded and confused with the inferior and often adulterated articles produced elsewhere, and to preserve their separate identity they must go through Canadian channels.

The minister further states that the questions to be considered are complicated and involved, including among the objects to be sought, the transportation of western products from place of production to the markets of the world.

This involves the consideration of their transportation :

From place of production to Canadian seaports.

From place of production to western ports of Lake Superior.

From the western ports of Lake Superior to Canadian seaports.

From Canadian seaports to Europe.

From place to production through Canadian ports on the Pacific.

As it affects the products of the eastern provinces of Canada it involves their movement :

To the seaports.

From the seaports to Europe.

It is obvious, that, before any satisfactory conclusion can be reached upon these questions, a thorough and comprehensive inquiry should be made regarding :

The conditions of original shipment and the possibilities of improvement in the conditions surrounding such shipments.

The storage requirements of lake, river and ocean ports.

The harbour facilities of the inland lakes, rivers and Atlantic and Pacific ports.

The conditions with regard to the navigation of the St. Lawrence route, and generally any improvement, enlargements or other matters affecting the more economical and satisfactory uses of any Canadian channel of transportation by land or water.

The minister further states that in making such investigation, attention should not be confined to routes and facilities which are at present utilized, but if necessary new surveys should be made to determine whether any more economical and satisfactory channels of transportation by land or water can be opened up.

The forces operating against the attainment of all-Canadian transports, namely :

Competition by United States railways.

Competition by United States vessels from Lake Superior ports.

Diversion of Canadian products through eastern outlets to Boston, Portland and other United States ports, should be investigated and the best and most economical methods used by our competitors should be carefully studied and reported upon.

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The minister apprehends that in these circumstances it devolves upon the Dominion government to consider and adopt the best possible means of promoting such measures as may enable Canada to control the transportation of its own products, and it is thought that the most efficient method of conducting such inquiry and obtaining the required information is by means of a commission of competent and experienced experts who may be appointed and authorized under the provisions of chapter 114 of the Revised Statutes of Canada.

The minister recommends therefore, that a commission be appointed consisting of Sir William Van Horne, John Bertram, and Harold Kennedy, of whom Sir William Van Horne shall be chairman and convener, for the purpose of making such inquiry, obtaining such evidence and information and making such reports and recommendations as in their opinion (and subject to any further instructions which may be given by the Governor General in Council), the exigencies of the reference may require.

The minister further recommends that such commission be authorized to employ such scientific and professional assistance as its members may decide.

That the duration of the commission shall be during pleasure.

The minister also recommends that an appropriation be made, out of which the Minister of Public Works shall be authorized to pay expenses of all kinds incurred by the commission (including such remuneration to the commissioners as the Governor General in Council may decide), without reference to the provisions of the Civil Service Act, or any Act regulating payment of officers or employees of the government.

The Committee of the Privy Council submit the above recommendation for approval.

(Signed) JOHN J. McGEE,
Clerk of the Privy Council.

REPORT TO HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

May it please Your Excellency—

The Royal Commission on Transportation appointed by Commission dated the 26th day of August, A.D. 1903, begs to present its report as follows:—

The Commission as originally constituted consisted of John Bertram, of the city of Toronto; Robert Reford, of the city of Montreal, and Edward C. Fry, of the city of Quebec; of whom Mr. Bertram was appointed chairman. Messrs. C. N. Bell, of Winnipeg, and J. X. Perrault, of Montreal, were appointed associate secretaries.

The Commission regret the death of Mr. Bertram, which occurred on the 28th day of November, A.D. 1904, after a long and painful illness, and also the death of Mr. Perrault on the 7th of April, A.D. 1905.

On January 17, A.D. 1905, by Order in Council, J. H. Ashdown, of Winnipeg, was appointed a Commissioner in place of Mr. Bertram, and Mr. Reford was appointed chairman.

Mr. Fry presented his resignation as a member of the Commission early in the year 1905.

The Commission with a view of making a thorough and comprehensive inquiry into the matters referred to it, and of obtaining as full information as possible, visited a large number of places throughout the Dominion, and inspected their transportation facilities and requirements; sittings of the Commission being held at the following points:

Nova Scotia—Halifax, Glace Bay, Louisbourg, Pictou, Sydney, North Sydney and New Glasgow.

Pince Edward Island—Charlottetown.

New Brunswick—St. John, St. Andrews, St. Stephen and Moncton.

Quebec—Montreal, Sorel, Three Rivers and Quebec.

Ontario—Toronto, Ottawa, Kingston, Peterborough, Port Colborne, Depot Harbour, Midland, Victoria Harbour, Meaford, Collingwood, Owen Sound, Hamilton, Fort William and Port Arthur.

Manitoba.—Winnipeg.

Saskatchewan—Regina.

Alberta.—Edmonton and Calgary.

British Columbia.—Vancouver, New Westminster and Victoria.

A great many of the most important harbours of the Dominion were also inspected, as also the canal systems of the great lakes and of the St. Lawrence river, and the St. Lawrence itself was traversed from Kingston to below Quebec.

At the various sittings of the Commission reports were presented and considered from a great many of the boards of trade of the Dominion, and evidence was taken and statements received from a large number of persons intimately acquainted with the transportation needs of the country. A copy of the evidence taken and of the reports, statements and exhibits put in, is submitted herewith as a part of the report.

Your Commission has deemed it advisable prior to making this report to make six interim reports on matters which appeared to the Commission at the time to call for immediate attention, and a copy of each of the interim reports so made is also hereto attached.

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In compiling a report on Canada's transportation systems and recommending as to how same can, in the opinion of this Commission, be best improved in efficiency and capacity to meet the greatly increasing trade of the country, your Commission think it well to begin by acknowledging the great courtesy and kindness which they have everywhere received, and they have pleasure in saying that at every point where sessions were held a great desire was shown by men of every calling to do all in their power to forward the objects of the Commission and aid them in their work.

Considering that the rapid development of late years in both Manitoba and the whole west, and the large increase in both population and products, will undoubtedly continue in the future, your Commission feel that the work recommended by them should be based on broad lines, lines that will advance the interest and development of the Dominion as a whole, without, at the same time, losing sight of the local requirements when such could be embodied in the recommendations without loss to the national scheme.

ORIGINAL SHIPMENT AND THE POSSIBILITIES OF IMPROVEMENTS IN CONDITIONS SURROUNDING SUCH SHIPMENTS.

In dealing with this phase of the question your Commission has considered more directly the question of the shipment of the grain of Manitoba, Saskatchewan and Alberta. As this is by far the most important question that can arise in connection with the transportation problem, and if sufficient transportation facilities are provided for that portion of western Canada, which seeks eastern ports, the same facilities will in all probability meet every transportation requirement for the handling of products both east and west bound.

The whole of the grain of western Canada which is shipped eastward is, at the present time, tributary to the lines of the Canadian Pacific Railway Company, or to the Canadian Northern Railway Company, and is carried by their cars from the point of original shipment to Port Arthur or Fort William for lake transport; in ordinary seasons practically no grain intended for export being carried all rail from these ports to the seaboard, excepting what little is required, in winter season, to complete the loading by the Canadian Pacific Railway Company of their boats at St. John.

The following table shows the number of shipping stations, also the number of elevators and warehouses, with the total storage capacity, west of Lake Superior, but including Fort William and Port Arthur, for the years 1900 to 1904-5 :

Year.	Number of elevators and warehouses.	Capacity.
1900..	533	18,879,353
1901..	663	29,000,000
1902..	832	30,356,400
1903..	982	41,000,186
1904-5..	1,026	46,018,030

Of the above-mentioned storage capacity for 1904-5, 28,456,030 was at interior points, and 18,462,000 at Fort William and Port Arthur. (Vol. 4, p. 38-30.)

The elevators and warehouses in the interior cover nearly four hundred shipping points, and are practically all owned by private persons or corporations. Some of the elevators are known, as farmers' elevators, being owned and operated by an association of farmers who became incorporated for that purpose, but the elevators, by whomsoever owned, are, by the provisions of the Grain Act, public elevators, and must take grain for storage from any person who offers it, provided there is sufficient room for such grain in the elevator.

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In 1901 the number of farmers' elevators was twenty-nine, with a capacity of 870,000 bushels. On January 1, 1905, the number was twenty-four, with a total capacity of 1,320,000 bushels.

Instead of selling his grain at point of shipment, or putting it through an elevator for his own account, the farmer may, if he see fit, apply to the railway agent for a car or cars, and on being allotted such, load direct from his wagon into a car and send it forward for sale on track at Fort William or Port Arthur, or for storage at either of the latter points on his own account, subject to his own order at any time thereafter.

The law requiring the railway companies to furnish cars for private shipments, so that grain can be so loaded directly on the cars, has been of great benefit to individual shippers.

Your commission is pleased to note that an officer has recently been appointed by your government to look after the interests of farmers who ship grain directly by loading cars or through an elevator.

Your commission would suggest, as an improvement in the conditions surrounding original shipments, that provision be made whereby the Warehouse Commissioner be empowered, in his discretion, to compel the railway companies to provide agents during the grain season at such shipping points, where ordinarily there is no agent, as he may deem advisable. The following is a copy of the evidence of Mr. Castle, Warehouse Commissioner, on this point :

'At stations that ship a large quantity of grain, great hardship is in some cases experienced by the trade and by farmers in consequence of their being no railway agent at them. . . . Probably 15 per cent of the points have got no agents. Points where there is no agent are generally known as flag stations. These are points usually five and six miles distant from regular stations, and as a rule have no agents permanently appointed because the railway companies say the inward and outward freight and passenger traffic receipts do not justify the cost of an agent's maintenance, but from many of such points a large amount of grain is shipped during the fall of the year, and in consequence of there being no agent, a great deal of hardship and loss is entailed upon the farmers and others who desire to ship their produce at these points.

'Mr. Ashdown--How long would they reasonably require a man ?

'Mr. Castle--Probably four months would see the bulk of wheat shipped out. Last year, when Medora had an agent, there was 450,000 bushels delivered at that station; the previous year, when it was without an agent, about 270,000 was delivered ; at our station we ship only 30,000 or 40,000 bushels. We have an agent there, but we ship a large amount of cordwood and other things besides grain. At stations at which there are no agents, conductors take the orders for cars, or cars are ordered at the next station east or west. At these places there is no one representing the railway company, nor is there any station-house or buildings; it is simply a siding. At some of these points there is an elevator, and the elevator owner will have his representatives there. The railroads do not own the country elevators; they are owned by private individuals. Where there is no agent, the loading and shipping have to be done by private parties.'

From Winnipeg to the commencement of the water transportation system at Port Arthur and Fort William, the distance is 427 miles. The present existing railways (the Canadian Pacific Railway and the Canadian Northern Railway) will shortly be reinforced by the Grand Trunk Pacific Railway and the transportation facilities further improved by the double-tracking of that portion of the Canadian Pacific Railway lying between Winnipeg and Fort William (which is now under contract). When the Grand Trunk Pacific Railway is built and the improvements on the Canadian Pacific Railway are completed, there will be for the present, sufficient means for transportation of the products of the west seeking eastern ports, provided the railway companies supply sufficient equipment in the way of engines and cars and extend their branch lines within the grain districts to meet the requirements of producers in such districts.

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The total number of acres in grain in the west and the yield thereof for the years 1900 and 1904, was as follows :—

	1900.	Acres under Cultivation.	Yield. Bushels.
North-west Territories..		605,347	8,606,602
Manitoba..		2,062,052	24,943,356
		<hr/> 2,667,399	<hr/> 33,549,958
	1904.		
North-west Territories..		1,591,600	35,587,769
Manitoba..		3,754,241	37,098,513
		<hr/> 5,345,841	<hr/> 122,686,282

The recorded immigration arriving in Manitoba and the North-west Territories for the year ending June, 1904, was. 99,757
To this add 20 per cent to cover those crossing by road and other means, not through Immigration Department's hands 19,951

Total.. 119,708

The recorded immigration arriving in Manitoba and the North-west Territories for the year ending June, 1905, was. 100,673
To this add 20 per cent to cover those crossing by road and other means, not through Immigration Department's hands 20,135

Total.. 120,808

The railway mileage of existing roads from what may at present be considered the beginning of the wheat lands, 40 miles east of the Red river to the base of the Rocky mountains, may be stated, at the end of the respective years, as follows :—

	Miles.
1901..	3,369
1905..	5,020

Or an increase within the five years of 66½ per cent.

The commission are of opinion that in order to reasonably meet public requirements, and serve the country to the best advantage, the proportion of the exportable surplus of the crop which is moved east of the great lakes, before the close of navigation, should be increased from the average of the past five years (about 46 per cent) to not less than 65 per cent, and in order to enable that result to be obtained the double-tracking of that portion of the Canadian Pacific Railway, before mentioned, will require to be completed; in view of the growth of westbound traffic, the shed accommodation at Fort William should be materially increased, so as to prevent the necessity of using cars for storage purposes at that point, and all roads operating in the west will require to have on hand a very ample supply of both cars and locomotive power and to keep the same actively moving, especially during the early months of the grain season.

Considering the very large immigration that is now coming into Western Canada, it seems reasonably certain that the next few years will show an immense increase in the grain crop of the west. The following figures were prepared by Dr. Saunders, Director of Dominion Experimental Farms, and are referred to in the evidence given before the Commission by Mr. John Love, president of the Winnipeg Grain Exchange. Dr. Saunders gives the total acreage of the different provinces as follows :—

' Manitoba..	41,000,000
' Saskatchewan..	70,000,000
' Assiniboia..	57,000,000
' Alberta..	64,000,000

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'He estimates that, of these different provinces, there are in Manitoba 27,000,000 acres suitable for cultivation; in Assiniboia, 50,000,000; in Saskatchewan, 52,000,000; in Alberta, 42,000,000—a total in Manitoba and the three Territories of 171,000,000 acres. So that in 1902 we had less than 3 per cent of the land suitable for cultivation under crop. And yet we produced, out of that, 124,000,000 bushels of grain. Dr. Saunders points out that if one-quarter of the land suitable for cultivation be put under crop, at the average yield of the past three years, that is 19 bushels to the acre, we should produce 800,000,000 bushels.'—(See pages 32 and 33 of vol. III. of the Evidence.)

In view of the immense areas of wheat land in the west and of the large and ever-increasing volume of grain for which transportation facilities have to be provided, the bulk of which grain must be poured by way of the railways through the elevators at Fort William and Port Arthur, it is of paramount importance that the ports of Fort William and Port Arthur, thence the whole route eastward through the great lakes, to ports convenient for both export trade and the trade of eastern Canada, should be enlarged and improved in every possible way.

THUNDER BAY PORTS.

In dealing with the question of Lake Superior ports, your Commission would first call attention to the fact that the government of the United States has found the route through the great lakes of such vital importance to the northwestern portion of that country that it has, between the years 1867 and 1904, and largely during the last ten years, expended on improvements to Lake Superior harbours the sum of \$8,132,822.98, and of this sum \$4,590,905.16, or over one-half, has been expended on improvements to the Duluth-Superior harbours.

In consequence of the great and rapid development of the trade of Lake Superior, the value of craft passing through the Sault Ste. Marie canals has risen in 1904 to \$69,166,400 as compared with \$2,089,400 in 1887; the tonnage of said craft in the year 1904 being 31,546,106 tons. The tonnage from the ports of Duluth and Superior has more than doubled during the past ten years, and present appearances all point to continued rapid increase in both the value and tonnage of craft using such harbours.

The reduction that has been made in freight rates from Duluth to Buffalo may be seen by the following tables, which show the average rates on the commodities mentioned hereunder, in the years 1887 and 1904 respectively:

	1887.	1904.
Wheat.	\$0.05 to \$0.08 per bush	\$0.01½ to \$0.02½ per bush.
Flour.	0.20 per bbl.	0.13 per bbl.
Manufactured iron. . . .	2.36 per ton.	2.00 per ton.
Pig iron.	2.35 per ton.	1.50 per ton.
Iron ore.	1.75 per ton.	0.63 per ton.
Lumber.	4.00 per thousand ft.	2.55 per thousand ft.
Coal.	0.90 per ton.	0.40 per ton.

The ports on Thunder bay, and known as Fort William and Port Arthur, occupy the only ground on the west coast of Lake Superior suitable as an outlet for the products of the provinces of the west, and are of similar relative position and value to the Canadian north-west as the ports of Duluth and Superior are to the United States northwest.

The harbours of Thunder bay are, from their very position, of national importance, and as such they should be dealt with; and in order to properly provide for the future of the ports of Fort William and Port Arthur, they should be considered and treated as one harbour, and should be laid out on a broad, comprehensive plan, taking in all

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the water front from Bare Point, north of Port Arthur, to the mouth of the Kaministiquia, up that river to lot 10, concession 1. and including the Mission river to deep water in the bay.

A bulkhead line along the shore of that portion of the harbour fronting on the lake, and a pierhead line outside of which no construction of any kind be allowed, should at once be laid out; this is of great importance to prevent encroachment and for the future well-being of the harbour.

Your commission further consider that now, before the shores of the rivers at Fort William have been occupied in such a way as to render it extremely difficult or excessively costly to obtain, their width should be increased so as to make them reasonably suitable for all time, and we direct attention to the fact that the United States government has appropriated the sum of \$5,000,000 for the widening of the Chicago river, while if such widening had been done at an early stage in the history of navigation on such river, the expense would have been comparatively slight, and trade in the meantime have been materially benefited.

Your commission, accordingly, recommend that a bulkhead or shore line be established on each side of the Kaministiquia river from the mouth thereof up to lot 10, concession 1, and on each side of the Mission river, and that both rivers be widened so that such bulkhead or shore lines should be 400 feet apart, and in establishing such bulkhead or shore lines special care should be taken to make the channels as straight as possible.

The McKellar and Mission turning basins should be made 1,000 feet wide and another turning basin be put in above the Canadian Northern coal docks.

In view of the urgent necessity for further breakwater protection at Port Arthur, your commission would suggest that without waiting for the maturing of any further plans, a competent engineer (or board of engineers under one head) be appointed to lay out the harbours of Port Arthur and Fort William, in accordance with the suggestions contained in this report, and with special reference to the location and commencement of that portion of breakwater protection now required, as also the commencement of the opening out and dredging of the mouth of the Mission river, and the widening and deepening of both the Mission and Kaministiquia rivers, and the commission would call attention to the report and plans prepared by Mr. E. B. Temple, resident engineer at Port Arthur, which have been filed with the Department of Public Works, and copies of which plans were filed with this commission.

It is of the greatest importance that the season of navigation be extended to the latest day possible, in the fall, in order to allow of as large a percentage as possible of the grain crop being carried east of the great lakes, and within reach of ocean navigation; and your commission have already, by interim report, recommended that the government provide an ice-breaker to keep open the waters of Port Arthur and Fort William as far as possible, and that arrangements be made with the United States government to allow of the maintaining of the light on Passage Island until the last vessel has passed down.

Considerable complaint has been made to your commission of the difficulty, in the past, of getting marine insurance late in the season, and the period of navigation has sometimes been shortened by the refusal of the insurance companies to extend the season of insurance. The present season is from April 1 to December 12, and as the English Lloyd's has lately come into the field in competition with the American companies, your commission are of the opinion that if the ice-breakers and lighthouse service herein recommended be provided, the companies will themselves make arrangements to extend the insurance season accordingly.

Your commission affirm the principle that the Dominion of Canada, as it has the care of inter-provincial trade and commerce, and in accord with that duty is continually expending large sums of money in maintaining, bettering and protecting our harbours and waterways, should, in the public interest, own and control the land under and also that adjoining the waters of the same and reasonably usable in connection

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therewith; and in developing the ports of Thunder bay through which, in the future, must flow so large a portion of the commerce of the great west, it is of great importance that this principle be acted on, and your commission would call attention to their interim report, dated August 18, 1905, and would strongly urge :

1st. That all lands held by the province of Ontario or the towns of Port Arthur or Fort William on the harbour's front of Port Arthur, as also the Kaministiquia, Mission and McKellar rivers, including water lots, road reserves, &c., be obtained by the Dominion government from the said province and towns, and that the government take steps, by way of purchase, expropriation or otherwise, to obtain such other lands as may be reasonably necessary.

2nd. That islands numbers one and two on the south side of the Kaministiquia, other than those portions owned by the above named bodies, be expropriated by the Dominion government.

3rd. That no greater portion of the south bank of the Kaministiquia river, or of the east bank of the Mission river, be granted to the Grand Trunk Pacific Railway than is reasonably necessary, and the balance thereof, and all other water lots and water front now in the possession of, or owned by the Dominion government, or that may be acquired by it, as before mentioned or otherwise, be owned, held, administered and controlled by the government of Canada for the public benefit, and with a view to the accommodation of all interests which now or hereafter may desire to centre at or use the said ports.

SAULT STE. MARIE.

While the locks at Sault Ste. Marie are, at the present time, capable of providing for all vessels at that point, still the requirements of the future may demand an additional canal, and the commission recommend that the government obtain at an early date all such land as may be reasonably required, in case the construction of such additional canal be at any time decided upon.

While the United States government has made considerable improvements in the channel below Sault Ste. Marie, still Mud lake, at the foot of St. Mary's river, remains, in the late fall and early spring, the weakest link in the chain of communication between the head of Lake Superior and the foot of Lake Erie.

Your commissioners would also recommend that the entrance to the channel of the Canadian end at Sault Ste. Marie be widened to 500 feet on the straight part and 800 feet on the bend.

Your commission would accordingly suggest that the resident government engineer at Sault Ste. Marie be instructed to report on the most feasible plan of improving the current in Mud lake, with a view to carrying off and preventing the accumulation of ice at the season of year mentioned, also to report as to any lights between Whitefish Point and Mud lake or otherwise which should reasonably be a matter of international arrangements.

They would further recommend that, if possible, arrangements also be entered into with the government of the United States for the providing of an ice-breaker, to be used in keeping open the waters of Mud lake to the latest date in the fall, and in opening the same at the earliest date in the spring.

The commission believe, from the evidence adduced, that by providing the two ice-breakers mentioned and making proper arrangements for maintaining suitable lights and signals, the season could be extended in the fall, in normal years, to about the 20th of December (or say two weeks later than at present), and would open about ten days or two weeks earlier in the spring.

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SAULT STE. MARIE EASTWARD.

From Sault Ste. Marie the problem presents itself of providing the cheapest, quickest and best route or routes from the elevated great lakes system to ocean navigation.

The elevation or depression (as the case may be) to be overcome is approximately 572 feet at Port Colborne or Buffalo, or 581 feet between the Georgian bay ports and the ocean, and 602 feet between Lake Superior and the ocean, the difference between Lake Superior and Georgian bay being overcome by the Sault Ste. Marie Canal, and the difference between Lake Huron and Lake Erie by the gradual fall of the St. Clair river.

GEORGIAN BAY PORTS.

The principal ports on Georgian bay for export trade are Depot Harbour and Midland. These ports were established by the railroad companies, with the view of affording the most convenient and shortest rail routes by which to reach Montreal; the Canada Atlantic Railway running from Depot Harbour, and the Grand Trunk Railway from Midland. The distance from Depot Harbour to Montreal via the Canada Atlantic Railway is 339 miles, while the distance from Midland, over the Grand Trunk Railway to Montreal, is somewhat greater.

The movement of grain during the past few years and especially the present season, has shown the great importance of the route by way of Georgian bay, and the necessity of the railroad companies, operating from Midland and Depot Harbour, thoroughly equipping their roads, reducing their grades to not exceeding four-tenths per cent, and generally improving their road-bed and facilities to the standard of the New York Central railroad, Buffalo to New York, thereby enabling the moving of not less than forty thousand bushels of wheat in a train load. In this connection and in connection with the probability of the Canadian Pacific Railway establishing a new rail route from Midland to Montreal, your commission would call attention to the evidence of Sir Thomas Shaughnessy (Vol. 8, p. 138):

'An alternative (to the French river route) and one that we feel much inclined to act upon, is the establishment of a new route from Midland or some point in that vicinity to Montreal. We think we can get a line there with .04 grades not exceeding 355 miles in length. With a line like that we could handle traffic as cheaply as they handle it through canals. If we were going into Midland with such gradients as that, I should say we would be able to handle 40,000 bushels of wheat in a train. When you get into 60-car trains, the wear and tear is considerable; 40,000 to 50,000 bushels I consider quite practicable. The New York Central do handle 60 and 70 car trains.'

See also as to Midland the following evidence of O. M. Hays (vol. 8, p. 165):

'The grain comes directly down by our Midland Railway and comes into the Grand Trunk at Belleville, thence to Montreal. Our plans are for the reduction of our grades from Midland to what is our present standard .04 per cent (at present 1 per cent is the maximum) and to double track the line to our main line at Port Hope.'

Again, as to grades from Depot Harbour:

They are not as favourable as by our main line. We run up there to 65 and 70 feet to the mile but on the Midland and Canada Atlantic we are reducing the grades. Depot Harbour is, to my mind, the only port which compares with Midland, and its advantages of deep water and accessibility, and it has 60 miles shorter water carriage than Midland.'

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Again from the evidence of Sir Thomas Shaughnessy (vol. 3, p. 140) :

'The Ontario millers take a considerable amount every year that would have to come down to Owen Sound, to Goderich and to other ports on Lake Huron. . . . Our grade from Owen Sound is an impossibility for heavy traffic. I think 17 to 18 earloads of grain would be our greatest load over it. . . . I think the harbour facilities at Owen Sound are sufficient for the present business at the port, and if a route of less resistance be established between Georgian bay ports and the seaboard, the tendency at Owen Sound would be a decreased traffic instead of an increase.'

The port of Midland should also serve as the port for the Trent Valley waterway, on which the government of Canada has already expended between five and six million dollars, thus having made its construction a settled policy, and your commission would recommend that this waterway be pressed to an early completion and that it be by way of the Severn at the Georgian bay end, and the Trent on the bay of Quinte, so that its terminals will be in protected waters whereby greater safety will be given to the somewhat smaller boats and barges which will have to be used on this route.

Your commission recommend that the Intercolonial Railway be extended to Depot Harbour on Georgian bay, either by way of running rights over the Canada Atlantic Railway or otherwise, thereby giving that road very greatly increased traffic, and also making it of material assistance to the transportation trade in the summer and fall seasons, in the carrying of grain to Montreal, and in the winter in carrying to and aiding in the building up of the trade of the ports of St. John and Halifax.

Your commission further recommends that a competent board of engineers be appointed to lay out the harbours of both Depot Harbour and Midland on a broad, comprehensive plan, such as may reasonably be expected to be sufficient for the wants of the trade of the future, ample accommodation being provided for the present trade in such a manner that it can be readily added to as necessity arises and along the lines of and in accord with such plans.

One of the great weaknesses of this route in the past has been its want of sufficient elevator accommodation; it being borne in mind that besides the amount of such accommodation which would ordinarily be required at a transfer point, at the time of year when the Manitoba and North-west crop is being moved to the seaboard, the railroads operating from the Georgian bay ports are also moving large quantities of general merchandise, as well as United States grain, and (partially on this account) have not, in the past, moved forward the crop as rapidly as was necessary to prevent congestion. While every possible effort should be made to cause these railroads to provide all necessary equipment, so as to facilitate the rapid movement of the grain to the seaboard, and while other means, such as the bringing in of the Intercolonial and the opening of the Trent waterway, should be adopted for the Georgian bay route; still it is essential that a large amount of storage accommodation should be available. Your commission, therefore, would strongly recommend that the government undertake the construction of a system of elevators at each of the ports of Midland and Depot Harbour, so as to provide proper storage capacity at each point for at least 10,000,000 bushels, and that such construction be commenced at the earliest possible moment, and pushed forward in such a manner as to enable the completion of say one-half of the same in time for aiding in the handling of the crop of 1906, and the balance in time for aiding in the transporting of the crop of 1907.

In connection with the question of elevators, your commission, while not seeing their way clear to any recommendation on the point, would call attention to the following from the evidence of Mr. Hays (vol. 3, p. 166) :

'We are very much interested in a national scheme for provisional storage, and it seems to me if the government proposes to do anything in that direction there is no way they can make an investment that would pay better than to provide for the issue of what you might call, an elevator bond for these different ports and require the rail-

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ways to do something to pay the interest so as to guarantee that the elevators would be full of business.'

Mr. Ashdown (vol. 3, p. 167):

'Do I understand you, the policy of the Grand Trunk would be to join in a system of elevator bonds and to guarantee the government the cost of the elevator?'

Mr. Hays :—

'That would be our inclination upon some fair, equitable plan. We, of course, would want to have some voice in the control of the expenditure, and we would want a say as to the size and location and a voice in the cost of the plans.

Your commission, while not seeing their way clear to any specific recommendations regarding the ports of Meaford and Collingwood, would call attention to the evidence given at these points (vol. 2, p. 274-307) and would recommend that the government give a favourable consideration to such improvements (including any required deepening of the harbours) as may be reasonably necessary for the present and future trade at these ports.

(2)

WELLAND CANAL ROUTE.

The all-water route, via the Welland and St. Lawrence canal system, leaves Lake Erie at Port Colborne, the Welland canal running 27 miles to Port Dalhousie, on Lake Ontario, the route running thence through Lake Ontario to Kingston, at the north-east extremity of said lake, about 105 miles, or to Prescott, a few miles farther east on the St. Lawrence river, and by the St. Lawrence canal system to Montreal. The distance between Kingston and Montreal is about 180 miles, and between Port Colborne and Montreal about 377 miles, the entire distance between Fort William and Montreal, via the Welland and St. Lawrence canal systems, being 1,220 miles. On the Welland Canal the locks are 270 feet in length, 43 feet in width, and with 14 feet depth of water on the sills. Vessels can pass carrying up to about 70,000 bushels of wheat. Larger vessels drawing more water have to discharge, at Port Colborne, the surplus of their cargoes above that figure, either into lighters or into cars of the Grand Trunk Railway Company for transportation by rail. The lighters pass through the canal and their cargo is reloaded into vessels at Port Dalhousie on Lake Ontario, going thence to Kingston or Prescott, where the surplus is again discharged into lighters, and the remainder carried through to Montreal on original vessels, stored or discharged into other craft at Kingston or Prescott.

Your commission recommended that a south eastern breakwater, as recommended by Mr. Coste, be built as an additional protection at Port Colborne (if not already in course of construction), and that the other improvements in progress at that point (including the 2,000,000 bushel elevator), be pushed to an early completion, with the view of having the elevator ready for use for the grain season of 1906 and the whole work completed without regard to whether the Welland Canal be enlarged or otherwise, so as to be available while the Ottawa River Canal is under construction, should the government decide in favour of that work, or while the Welland Canal is being enlarged, if such is to be done. In either case, the elevator would still be of value both as an aid to transportation and for transfer and storage purposes.

(3)

BUFFALO ROUTE.

In competition with the Canadian routes above described, there is one main United States route, namely, via Buffalo, by either the Erie canal, or by rail, to the seaboard.

The Erie canal is 7 feet deep on the sills and affords accommodation for barges carrying about 8,000 bushels only, thus making it necessary that the cargoes of large

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lake crafts should be entirely discharged at Buffalo. To offset the deficiencies of the Erie canal and retain the western transportation trade, the United States railways running from Buffalo to New York and other Atlantic ports have made great improvements to their lines, by shortening the same, reducing grades and curves, and by using more powerful locomotives; and by the use of larger vessels on the lakes than those of the Canadian marine, this route has been able to retain a large amount of the traffic, and the rates have been reduced to a point with which the Canadian roads find it difficult, at times, to compete. In addition to being aided by its superior railroad facilities for moving the grain forward from Buffalo to the seaboard, the United States route is also favoured by the working of our coasting trade laws, which compel the United States boats taking on a cargo at a Canadian port to discharge the same at a United States port; and while the Canadian tonnage is fairly equal to the ordinary work of an ordinary shipping season, towards the end of the season, when it is most important that as much grain as possible should be taken out by the lakes before the close of navigation, the United States boats will probably be largely employed.

The route via Buffalo has in the past been of special use in aiding the moving of the crop when the facilities of our own ports or our own lake tonnage were not sufficient, especially towards the end of the season, also in aiding in the regulation of rates. In the interest of the producer and the trade generally, no obstacle of any kind should be placed in the way of traffic seeking this route, which has proved in the past and will continue to prove in the future, so valuable, and at times absolutely necessary, but every effort should be made to render the Canadian routes as cheap, if not cheaper, and with at least equal, if not superior, facilities to anything offered by the United States routes.

MAIN CANADIAN LAKE ROUTES.

Your commission are of the opinion that the Canadian routes heretofore mentioned, viz.:

(1.) Via Midland, including the Grand Trunk Railway (double-tracked as Mr. Hayes proposes), the Trent Valley waterway, and in all probability the Canadian Pacific Railway;

(2.) Via Depot Harbour, including the Canada Atlantic and Intercolonial railways;

(3.) The all-water route, via either the proposed French and Ottawa rivers canal system, or the enlarged Welland canal;

Should be taken and considered as the main Canadian routes by which the products of the west will reach ocean navigation.

UNIFORM SIGNALS.

In view of the fact that it is highly desirable that all vessels plying on the great lakes should use the same fog, passing, light, and other signals, your commission would suggest that the government unite with the United States government in the adoption of a uniform system of signals, and that on such uniformity being established, legislation be passed making the use of such signals compulsory.

UNIFORM STANDARD OF DEPTH OF WATER.

Your commission further recommend that the standard depth of water in all harbours and waterways in connection with the great lakes down as far as the foot of Lake

Erie should be twenty-three feet zero, and that work be immediately undertaken to deepen to that standard such portions of the harbours of Port Arthur, Fort William, Depot Harbour, Midland and Port Colborne as are required for present use, and that the work be continued thereafter so that at all times there shall be ample harbour capacity of that depth for the requirements of the trade.

AIDS TO NAVIGATION.

In the course of the investigations of your commission, the aids to navigation on the great lakes set forth in the following list have at various times and places been asked for, mainly by those thoroughly in touch with the necessities of the navigation in question. The most of these aids are undoubtedly required, and your commission would recommend that a competent officer be forthwith appointed by the Department of Marine and Fisheries, to report on same, and that, as far as reasonable, the requests be complied with and work done or improvements made as far as practicable before the close of the season of 1906.

LIST.

A light on Sister islands entering Depot harbour, as a guide at night from Carbon rock light to Depot harbour.

A ten-inch steam whistle for Cove island. It is claimed by mariners that the present horn is of no use.

A steam whistle on Flower Pot island.

A steam whistle on Red rock.

The light at Red rock to be placed on Seguin bank, and a new light at either Kill Bear point or Cousin island and the light fixed so that it will shine all around the horizon.

A strip of the woods to be cut in the rear of Snug harbour ranges!

A nun buoy painted black, at the axis of the Jones island and Snug harbour, which could be picked up on a compass course from red gas buoy and Hooper island in thick weather.

A gas buoy on Jennie Graham shoal at Jack island.

A black stake off the north-east end of Middle Duck, to mark the shoal.

A gas buoy at each of the following places:—Duck island, Bear Rump island, at turn of Snug harbour, at Jones islands ranges on Three Star shoal.

Range lights at Midland harbour require improvement.

Fog signals at the following places:—Hope island, and one of the Christian islands.

Gas buoys on Sawlog point and on the middle ground in Midland bay.

Gas buoy on Bad Neighbour Rock, opposite Cove island.

Gas buoy on Duck island shoal, where there is a lighthouse and a fog signal, but with nothing to mark the end of the long shoal.

Light on Parisian island, in White Fish bay, fifty-five miles above Sault Ste. Marie.

A lighthouse and fog signal on the north end of Michipicoten island.

The south light in Midland harbour to be raised higher.

It is claimed that the channel into the port of Collingwood is not properly lighted.

A gas buoy required at Spruce shoal, on Georgian bay, five miles north-west of Cape Croker.

A gas buoy at Lockerby Rock.

A fog whistle required in Collingwood harbour.

A red and black buoy at the mouth of the dredged channel at Owen Sound.

A gas buoy at Spry's shoal outside of Cape Cove.

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Gas buoy on Surprise shoal (Spry's), Georgian bay.

Gas buoy at the end of the dredge cut at Port Arthur, similar to the gas buoy at the end of the cut at Fort William.

Stakes in Thunder bay, off the lighthouse and Hare island.

A horn at the lighthouse at Port Arthur to assist incoming boats in the fog.

A red light required at entrance to Port Arthur harbour.

Lighthouse and fog siren required on the most northerly end of the Welcome islands.

At Fort William the channel should be better staked for getting in and out in thick weather, and the range lights altered, as at present they are unsatisfactory and dangerous.

DESIRABILITY OF THROUGH WATERWAY.

Your commission unhesitatingly affirm their belief in the desirability of a through waterway from the head of Lake Superior to ocean navigation, to aid in the carriage of the grain and the regulation of rates of a standard not less than that above set forth, so that the largest vessels navigating the great lakes can continue their voyage to ocean navigation or as near thereto as possible. But in view of the fact that the government has undertaken the survey of a proposed route by way of the French river to Lake Nipissing and thence by way of the Ottawa river to Montreal, and as the feasibility of this route from a commercial as well as an engineering point of view, and if feasible its cost, has not yet been ascertained, and further in view of the fact that the government has also undertaken the survey of the Welland canal and its vicinity, looking to its possible enlargement and diversion, your commission do not see their way clear to any recommendation as to route, but would recommend that, in case the Ottawa river scheme because of want of feasibility from a commercial or engineering point of view, or on account of its cost or for other reason be not adopted, then the Welland canal be enlarged and deepened to the standard of the Sault Ste. Marie canal, with a view of enabling vessels of the largest size to continue their voyage to Kingston or Prescott, thus bringing their cargo to within, say 180 miles or less of Montreal before discharging same.

INTERCOLONIAL RAILWAY.

The idea in the minds of your commission in recommending that the Intercolonial Railway be extended to the Georgian Bay, was that the road should be provided with ample rolling stock, and become of material use in the movement of grain, and become a thoroughly efficient competitive road; and in order to the carrying out of this idea, and with the view of the road being run as a business enterprise only, they would recommend that legislation be had, providing for the appointment of a commission, with full powers to manage, control and operate the road, and that the commission be appointed immediately after such legislation is obtained.

Your commission are not aware of what arrangements were made with the Grand Trunk Railway for running rights by the Intercolonial over the Canada Atlantic, at the time legislation was passed permitting that road to be taken over by the Grand Trunk, but if nothing definite was arrived at, your commission would suggest that some equitable arrangement be come to, whereby the Intercolonial acquire running rights over the Grand Trunk system to Depot Harbour and Midland, and the Grand Trunk or Grand Trunk Pacific have running rights over the Intercolonial from Moncton to St. John and Halifax, the commission feeling that such an arrangement would serve the public interests, while accommodating the railroads concerned.

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TORONTO.

Your commission recommend that the under-mentioned improvements be made in Toronto harbour, conditional upon the city of Toronto handing over to the government of Canada, all such lands on the water front of the harbour (including water-lots), and lands reasonably required in connection therewith (together with piers, docks and approaches), as are now owned or controlled by the city, and conditional upon its making proper provision so that the basins between the piers will be kept free from city sewerage.

IMPROVEMENTS RECOMMENDED.

That the entrances to the harbour both east and west be dredged to a depth of 16 feet zero.

That a channel 300 feet wide be dredged to a similar depth through the harbour, from the eastern to the western entrance.

That the piers at the eastern entrance to the lake be extended out to 18 feet of water.

That the shoal at the eastern entrance be removed.

That groynes be built on the west side of the island.

That the city piers be extended and the water at the piers be dredged to a depth of 16 feet.

Considerable evidence was given before the commission as to the desirability of turning eastward and straightening the Don river, so that it will empty into Ashbridge's bay, instead of into Toronto harbour, and your commission would recommend that this matter be favourably considered by the government, but that, before any action is taken, full consideration be given to all questions that may be connected therewith, including the cost of the land required, and the ownership of land reclaimed or made by reason of such diversion. On this point the commission would call attention to the evidence of Kivas Tully, C.E. (Vol. 2, p. 72-73).

KINGSTON.

Kingston occupies the important position of being at the foot of lake navigation, and a large trans-shipping business is being done there, excellent facilities for that purpose having been provided by private enterprise. At a sitting of the commission held there, it was strongly urged that the Welland canal should be deepened, so as to allow of the large craft now plying on the upper lakes proceeding direct to Kingston with cargo intact, without being obliged to discharge a portion or all of their cargo at Port Colborne.

FARRAN'S POINT.

Your commission would recommend that the pier at the lower entrance of Farran's Point should be altered, as at present it projects much farther than the superstructure, thereby causing considerable damage to a number of vessels: also that the curve at Farlinger's point be straightened and Rapide Plat canal which at present is lit with lamps and is worked by hand, be lit with electricity, and the locks worked with electric or steam power.

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MONTREAL.

The city of Montreal situated as it is at the head of ocean navigation, and at the foot of western canal navigation, and being the centre towards which all Canadian transcontinental lines of railway gravitate, occupies a unique position in the transportation system of Canada. It is, and should be treated as, the chief Atlantic summer port of the Dominion, and as such the interests of the nation should always be paramount, and be the governing principle in the administration and improvement of the port. Its harbour should be controlled by the government and laid out on broad lines with a view to the transportation needs of the future of the nation as a whole, due regard being had also to local needs.

At present the harbour is managed by a harbour commission, appointed by statute 57-58 Vic., Chap. 48. This commission is composed of eleven members, six being appointed by the government, four by the commercial interests of the city, while the mayor of Montreal is ex-officio member. Its jurisdiction extends over the entire water front from about a mile above Victoria bridge to Longue point, a distance of about nine miles.

There is no private ownership whatsoever of any of the water front, but the whole is owned by and under the control of the government of Canada through the commission. The port usually opens about April 20, and closes about November 25. The wharf space in the harbour at present consists of about.

3,137 feet with under 20 feet depth of water.

18,499 feet with between 25 and 27 feet depth of water.

11,373 feet with between 27 and 30 feet depth of water.

making the present available wharf frontage 33,009 feet, or 0.251 miles, while there is at present under construction by the harbour commissioners 1,800 feet, or .341 miles, with 30 feet depth of water. In addition to the above, the Tarte pier and shore wharf now under construction will afford 3,014 feet frontage or .583 miles. All these wharfs are available for ocean vessels, which do not draw more than the depth of water indicated in each case.

The upper part of the harbour is protected from ice shoves, in the fall and spring, by the guard pier, which can be availed of in the future for storage and wharfage purposes.

Extensive works in the east end of the harbour are contemplated, to be constructed as necessity demands, and unlimited room for such purpose is available as far down as Longue point, a distance of between three and four miles.

Permanent steel sheds are now under construction in the centre of the harbour, by the Harbour Commissioners, on what are called 'high level piers,' i.e., piers whose surface is on a level with Common and Commissioner streets.

Railway tracks and sidings have been laid along the piers and wharfs by the Harbour Commissioners, who at present give running rights to the Grand Trunk and Canadian Pacific Railways, and similar rights are intended to be given to any other railway which may in future come into the harbour and require such facilities.

The debt of the port amounts to \$3,347,000, and the present improvements now under construction will probably increase this debt to \$10,222,000.

The present elevator capacity amounts to 3,000,000 bushels, and in addition thereto the Grand Trunk Railway is now building an elevator at Windmill point of a capacity of 1,000,000 bushels.

Your commission recommend:

That Montreal be made by the government a free port along the lines hereinafter set forth in this report;

That a branch of the Grand Trunk Pacific Railway be built to Montreal from the most convenient point on its main line, so as to bring Montreal into immediate connection with all territory covered by that system;

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That in laying out the harbour, with a view to future requirements, attention should be had to the position of St. Helen's island and the danger that exists to a vessel when leaving the present docks, running on the rocks at that point, as shown by the accident to the steamer *Victorian* this past summer; your commission feel that such an accident is to be deplored more from a national standpoint than from any effect it may have on local interests, and they would recommend that in order to avoid the recurrence of such an accident, any extension of the dock system should be towards the east end where the river is wider;

That in view of the fact that necessary lifting apparatus is badly needed for the handling of heavy packages, a pair of shear legs be erected at the end of one of the present centre piers, and another pair of shear legs in the east end, each capable of lifting weights of 75 tons, with the necessary electrical power and tackle for transferring cargoes from craft to railway cars;

That an Admiralty Court be established at Montreal, to be operated, if possible, in connection with the Admiralty Court at Quebec, and under the same judge.

Additional grain elevator capacity is needed in order to make Montreal such an important grain depot as its geographical position warrants, and one that will attract ocean tonnage, especially of the character known as 'tramp tonnage,' which at present, to a large extent, avoids the port on account of the uncertainty of procuring grain cargoes. Your commission, therefore, recommend that additional elevators be provided by the government so as to bring the present capacity of the port up to 5,000,000 bushels, and that such capacity be increased from time to time as the requirements of the trade demand, up to 10,000,000 bushels.

Your commission understands that the government has already under consideration for some time the question of providing a dry dock for Montreal, which, it is urged, should be at least 1,000 feet long, and capable of accommodating a vessel of the largest size, or two or more smaller ones, together with the question of providing new entrances to the Lachine canal, high level basins, &c., according to the plan known as the 'Gallery' scheme, and accordingly your commission do not deem it necessary to make any report on the matter.

In regard to the question of whether the tracks for the handling of freight along the harbour front of the port of Montreal should be level or elevated, your commission find that the views expressed are varied and conflicting, and as the matter is already under the direct consideration of the Honourable the Minister of Marine and Fisheries, deem it inexpedient to make any recommendation.

ST. LAWRENCE RIVER AND GULF BELOW MONTREAL.

Your commission further make the following recommendations :

That the erection of permanent beacons on Lake St. Peter is essential, and as these beacons are understood to be now in course of erection, your commission would recommend their early completion, so that lights may be placed thereon for the opening of navigation of 1906.

That the lighting and buoying of the river for night as well as day navigation be prosecuted until the channel is made absolutely safe, both night and day.

That the St. Sulpice channel be buoyed so that it may be used by vessels of such draught as it will accommodate.

That all lighthouses and permanent beacons, on the river, be attended to by permanent attendants, so that there will be no danger of these lights or beacons being extinguished.

That new lights are required at the entrance of both Montreal and Quebec, and your commission would recommend their being placed so as to be available for the season of navigation of 1906.

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That the river channel, both above and below Quebec, be swept at least twice in the season, the first sweeping to be done as soon as possible after the opening of navigation.

That the pilot station be transferred from Bic to Father Point, and a steam tender supplied.

That medical inspection should take place at Father Point, and that vessels found free from infectious diseases should not be required to call at Grosse Isle.

That Marconi wireless telegraph stations be installed at Cape Ray and Father Point in addition to other stations already being equipped.

That a re-survey of the river and gulf (if not already commenced) be undertaken at once, as the charts below the River Saguenay are old and in many cases inaccurate.

That hydrographic surveys be made.

That submerged bell signals be installed if same are found practicable and an aid to navigation.

That wherever there is a light on the coast there should be an up-to-date fog signal.

The government has already decided upon and undertaken (under the able supervision of Mr. F. W. Cowie, government engineer), certain improvements in the lower St. Lawrence, especially in making the depth of the channel 30 feet at lowest water, and of a width of not less than 500 feet, with ample additional width at the bends, and the removal of shoals at certain points on the river, and the commission do not, therefore, feel it necessary to make any recommendation as to these improvements, further than to suggest that the works already decided upon be pushed to completion at as early a date as possible.—

As it is necessary for the safety and efficiency of the route that the above improvements should be made in connection with the St. Lawrence route, your commission would recommend that these improvements, if not already decided upon, should be undertaken by the government and carried to completion with the least possible delay, your commission being strongly of opinion 'that the government should not lose a minute of time, should not spare any expense whatever, in making the aids to navigation from Belle Isle and Cape Race to Montreal as thorough and as complete and as up-to-date as possible.'

SOREL.

Your commission recommend that a marine railway slip be constructed at Sorel if not already undertaken by the government.

THREE RIVERS.

Your commission recommend that the wharfs now under contract be pushed to completion at as early a date as possible.

QUEBEC.

Your commission recommend :

That Quebec be made one of the free ports along the lines and upon the conditions herein set forth in this report;

That the breakwater be extended about 1,400 feet in a northerly direction, and in connection with this extension that sufficient surface be provided to permit of

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the erection of suitable passenger landing sheds, freight sheds and railway facilities, as there is but one berth at the present breakwater;

That the present breakwater be widened so as to give more surface room for sheds, &c.;

Your Commission do not see their way clear to make any specific recommendation in regard to the government undertaking other wharf and harbour improvements, which it was urged were necessary, but (recognizing the importance of Quebec as a national harbour), would recommend that competent engineers be appointed by the government to look into and report on the plans submitted, with a view of having such improvements made as may appear to the government to be reasonably necessary and practicable, considering the trade of the port.

ST. JOHN.

The port of St. John is one of the Atlantic winter ports of the Dominion and has admirable natural facilities.

Your commission would recommend that it be made one of the free ports along the lines and upon the conditions hereinafter set forth in this report.

The port has upon its east side the pier of the Intercolonial Railway and a number of private municipal wharfs, while at the north is the deep water terminus of that road. On the west side is Sand Point, the terminus of the Canadian Pacific Railway, where are situated four ship berths owned or controlled by the city, and one berth (the most southerly), controlled by the railway company. For 1,600 feet south of the southerly berth, the Canadian Pacific Railway Company own the shore frontage, this having been surrendered to them by the city. This fact, coupled with the physical difficulty, on account of the elevation of the land to the west, precludes any extension by the government to the south. To the north of the city berths, on the west side of the harbour, there is a shore line ample enough to provide berths sufficient for the railway and steamship requirements of the port for many years, and your commission would, therefore, recommend that this property be at once obtained by the government, and that the government proceed with the construction thereon of a wharf 1,200 feet in length, giving accommodation to four large steamers.

Your commission also recommend that the government proceed to obtain, for the transportation needs of the future, all such other lands east of the Intercolonial Railway Company's docks as it may be considered reasonably necessary to obtain.

Your commission further recommend that the government dredge the entrance to the harbour to sufficient width and depth, to meet all requirements and install and keep up all lights, buoys and other necessary aids to navigation, so as to enable vessels to enter the harbour at all states of the tide or conditions of weather; also that the extension of the breakwater from the west side to Partridge Island be constructed so as to assist in keeping the channel clear and give further protection to the harbour.

HALIFAX.

Halifax has a magnificent harbour, opening directly from the Atlantic, unobstructed by shoals, and easy of access from the ocean at all times.

In view of its importance, and its being the present winter trans-Atlantic mail port of the Dominion, your commission recommend that care be taken by the government to put and keep the harbour and its entrances in first-class condition.

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Your commission recommend that this harbour be made a free port along the lines and upon the conditions hereinafter set forth in this report, and that negotiations be entered into by the government of Canada (if not already done), with the Imperial government looking to the acquisition by the government of Canada of all land, wharfs, docks, (including dry docks), and other harbour accessories and facilities now owned by the Imperial Government.

The harbour itself is well lighted and buoyed, but the commission recommend that a first-class lightship, furnished with a powerful fog whistle be placed and maintained by the government some miles off Sambro Island for the protection of vessels now endangered when approaching the harbour in foggy weather.

Your commission further recommend that the government, in dealing with all railways desiring to have terminals at Halifax (including the Intercolonial Railway), see that such terminals are located and arranged with the view of best serving the interests of the port and the trade, (both freight and passenger), that may pass through it.

Your commission further recommend that the Intercolonial Railway between Richmond and the deep water terminus be double tracked, and that land be obtained, either by purchase or expropriation for an additional freight shed and storage house on the west side of Water street, Halifax; also that a large shed be built to be used for storage and shipment of export flour to the West Indies, Newfoundland, &c.; these improvements being necessary for the immediate wants of the port.

The commission approve the intention of the government to remove the engine house and machine shops of the Intercolonial Railway from their present position in the centre of the yard, to a more suitable site with increased space.

NEW GLASGOW AND PICTOU.

Your commission recommend that Pictou harbour be made fit and available for vessels drawing up to 30 feet of water, and that the bars be dredged to that depth.

A number of suggested improvements were brought to the attention of the commission, and the commission would recommend that the following matters be considered by the government, with a view of determining whether the same are reasonably necessary and practicable, considering the trade of these points.

- (a) The deepening of the East river to New Glasgow;
- (b) The shortening of the line of railway and reduction of grades between Moncton and New Glasgow, Pictou harbour, Stellarton and Westville, in regard to which various representations have been made to your government.
- (c) The inspection by properly qualified government engineers of Country harbour to determine its facilities as a first-class port.

SYDNEY AND NORTH SYDNEY.

These two harbours should be considered as one port and should be so dealt with by the government. The port is eminently fitted, from April to December, as a port of call, especially for tramp tonnage, and the commission believe, that, if the bunker coal were sold at lower prices, tramp tonnage would be attracted and the value of the port in this connection would be greatly enhanced, as freighters could call there for orders and proceed thence for cargo either up the St. Lawrence or to Gulf or Atlantic ports. It is a well-known fact that owners dislike sending a vessel to a terminal point where they have the option of but one market.

Your commission would recommend that this port be made a free port on the lines and under the conditions set forth in this report.

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In view of the fact that this port is the connecting link between Canada and Newfoundland, your commission would recommend that the following improvements be carried out at an early date :—

That the railway lines be extended so as to bring them onto the docks ;

That the wharfs at both Sydney and North Sydney be built of a sufficient size to give accommodation for at least one large ocean steamer, where she would always be able to lie afloat at any state of the tide, with say not less than 35 feet of water at low tide ;

That such accommodation be provided at the docks as may be reasonably required for handling passengers and cargo to and from Newfoundland.

That a gas buoy be provided one-half mile off the centre of the entrance to the harbour.

LOUISBOURG.

A request was made from the town of Louisbourg for a pilot tug boat and pilot boats, it being urged that these were necessary on account of the fact that pilots have to go out five miles to meet ships, which in heavy weather is felt to be very unsafe and unsatisfactory. Your commission, would, therefore, recommend that the government give this request its careful consideration.

PRINCE EDWARD ISLAND.

In view of the complaints received from Prince Edward Island, in regard to lack of reasonable means of inter-communication between that island and the mainland, in the winter time, your commission thought well to hold a sitting at Charlottetown, where evidence was submitted from representatives of all portions of the island. It was urged that a system of ice-breaking car ferries between Pictou and Charlottetown, and between Summerside and Pointe du Chene, should be established in connection with, and under the control of the management of the Intercolonial Railway, it being claimed that capable vessels could be constructed; and it was stated that the result of the north-east gales, together with the abnormally high tide in the straits, is that the ice is blown straight into Pictou harbour, prevented from getting away, and piled up into barriers impassable for any boat which is not provided with a forward screw, but that the very conditions which block Pictou harbour clear out Summerside harbour. (See Vol. 3, p. 256). Your commission therefore recommend that the government have inquiries made by properly qualified officials as to the merits of this proposal.

The question of the proposed tunnel between the island and the mainland was also presented, but the statements dealing with its practicability and cost were conflicting and varied. Your commission are informed that the government is now securing definite data as to the character, extent and probable cost of such an undertaking, and in view of the great importance that relief will be granted to the inhabitants of this fertile and productive island, your commission would recommend that the government give this scheme careful consideration.

SHIPPING—SILOK MARINERS' FUND.

In view of the fact that there is a general objection to the tax on shipping for hospital fees, it being felt that this tax is both unnecessary and unjust, and in view further of the fact that the abolition of this tax would relieve Canadian vessels from payment at United States ports of the tonnage tax imposed thereupon all vessels of

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countries which impose a similar tax on United States vessels, your commission would recommend that this tax be abolished and vessels be made responsible for their own sick.

PILOTAGE.

Your commission are pleased to know that your government has taken over the pilot system on the St. Lawrence river down as far as Quebec, and that arrangements have been made to take over that of the lower part of the river below Quebec, and would strongly recommend :

That all pilots operating on Canadian waters, or into Canadian ports, wherever situated, should be under direct government control, undergo a strict annual examination, and be subject to rules and regulations, for the infraction of which and for any improper conduct in the discharge of their duties, they should be liable to exemplary punishment, it being intolerable that a vessel, with its passengers and cargo (either or both), should be endangered or lost through the incapacity or misconduct of the pilot employed because of his supposed knowledge and ability ;

That the system whereby the earnings of the pilots below Quebec are pooled and divided equally between competent and incompetent pilots, should be abolished, and, instead, that each pilot receive his own earnings ; and further that as under such improved system the earnings of the competent pilots would be greatly increased, the rates should be reduced to the schedule prevailing between Montreal and Quebec, or to such amounts as the government may consider fair remuneration.

BUOYS.

Your commission recommended that all illuminated buoys on any of the waterways be made occulting ; those on the starboard side, occulting red ; and those on the port side occulting white or green ; and also that all buoys, used for day navigation be painted red on the starboard side and black on the port side.

CANAL TOLLS AND REPAIRS.

Your commission would recommend that the policy of the government during the last few years in making the canals free of tolls, be continued in the future and made permanent, and that any repairs required be made in the winter or very early spring so as to enable the opening of all canals at as early a date as possible in the spring.

GRAND TRUNK PACIFIC.

Your commission would recommend that in the interests of the whole country, and particularly with a view to the import and export trade, the Grand Trunk Pacific Railway be constructed from Quebec to Moncton by the most direct route.

IMPROVEMENT OF INTERCOLONIAL RAILWAY.

Your commission recommend that the government consider the question of the reduction of the grades and curves on the various lines of the Intercolonial Railway running from Moncton to St. John, Halifax and Cape Breton.

SHIP BUILDING.

Evidence was given at various points regarding the ship building industry. At eastern ports a general complaint was made that there had been a reduction in the proportion of Canadian built craft as compared with craft built elsewhere, while in the west there is a great scarcity of the same, and all over the Dominion the ship building industry languishes. Complaints were made of the injustice of the present position and a request for a bounty was urged,—see the following evidence (Vol. 4, p. 425).

P. 425, Mr. Alexander :

'I think they (the government) could give a bonus for ship building in order that we might have a merchant marine owned in British Columbia. Here we have the materials for an export trade, and yet there is not a sea-going vessel owned here. We need a bonus to get people to start the ship building industry. On Puget sound they have their ship yards, and they have experienced men who will not come here to work unless they get higher wages or something to induce them to come. The result is that you could not build a vessel here at the price you could there.'

'The chairman: What bonus do you think would be required?

'Mr. Alexander: I would say \$5 a ton. I may say that Australia, which is the largest customer for Pacific coast lumber, takes from sixty to eighty million feet in the year. The bulk of its building timber goes from here. It goes largely by sailing vessels. They want long timber, and China also frequently wants long timber. Here we have a sister colony and yet the principal part of its trade goes to the United States. As much lumber goes from Puget sound to Australia alone as the entire export business of British Columbia.

'Mr. Ashdown: What kind of vessel would you build here?

'Mr. Alexander: Wooden sailing vessels.

'Mr. Ashdown: For which you ask a government bonus of \$5 a ton?

'Mr. Alexander: Yes. It would be an important industry in the country, and would also serve the purpose of helping the export of one of the principal articles of production in British Columbia, namely, lumber.

'The Chairman: These vessels could be used for any purpose?

'Mr. Alexander: Certainly. The American vessel as a general thing comes up here and loads lumber for Australia, and then brings coal from Australia to the Hawaiian islands, and also to San Francisco. It also brings sugar to British Columbia.'

Page 493.—Captain John G. Cox, the representative of Lloyds at Victoria, was introduced and stated:

'The inconsistency of the position in which our ship builders are placed lies in the fact that a ship can be imported free of duty, hull, machinery and everything else, with all the labour applied on her being old country labour, while our builders have to pay a duty on most of the raw materials they use, as well as a heavy duty on the machinery which they may import, amounting to twenty-five per cent.

'Mr. Ashdown: What proportion does the machinery bear to the completed ship?

'Captain Cox: About one-half.'

In view of the fact that your commission was appointed to deal with matters of transportation, and that these are so vitally affected by the amount of tonnage suitable for the trade, and that tonnage can nowhere be so well supplied as from our own Canadian yards, your commission feel that the question is one with which they should deal, and that reasonable assistance necessary to cause a revival of an industry of so great importance should be given, and would therefore recommend that a bounty of \$5 per ton gross register, be paid by the government of Canada on all wooden vessels, sailing and steam, of 500 tons or over commenced and built in Canada after June 1, 1906, and \$6 per ton gross register on all such iron or steel vessels of 500 tons or over so commenced and built after that date.

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NATIONAL OR FREE PORTS.

The commission feel that it is imperative, in the public interests, that an ample supply of lake and ocean tonnage should at all times be available, for the carrying of products of Canada and the building up of its commerce; and, in view of the attractions natural to the ports of the United States, with the enormous amount of commerce for and incidental to a country of such population and resources, it is necessary that all Canadian ports intended for, and through which is to flow, the export and import trade of Canada, should not only furnish the best of accommodation, and be raised to the highest point of efficiency and safety, but should also encourage general lines of shipping, and free or tramp ships in every possible way.

With the view of furnishing to the best advantage, ports with the accommodation, efficiency and safety required, your commission would recommend that legislation be had providing for a system of national ports, and in accord with the principle of Dominion government ownership of the lands under and those adjoining and reasonably usable in connection with navigable waters, that your government forthwith proceed to obtain by gift, purchase, expropriation or otherwise, all such lands situated at the below mentioned ports, whether owned by any province, city, town or other public body, or by any other person or corporation, as the position may make it reasonably necessary to obtain, and that such lands so obtained, together with those now controlled by the government of Canada, and administered under it by a General Board of Harbour Commissioners in connection with the Department of Marine and Fisheries.

And your commission recommend that as soon as such lands mentioned in the last preceding section as may be reasonably necessary, at any of the below named ports have been obtained by, and transferred to the Dominion government, the said port shall, by proclamation of the Governor General in Council, be declared a national port, and that thereafter no port or dock (other than dry dock or elevator), charges shall be levied by the government, or allowed to be collected by any government official at such port.

The ports referred to are as follows:—

Fort William and Port Arthur.

Depot Harbour.

Midland.

Port Colborne.

Kingston.

Montreal.

Quebec.

St. John.

Halifax.

Sydney.

Vancouver.

Victoria.

The terminus on the Pacific ocean of the Grand Trunk Pacific.

The terminus on the Pacific ocean of the Canadian Northern Railway.

Your commission also feel that it would be of great advantage in the public interests, that the railway tracks which are situate on the government docks at any such port, should be under the control of the government of Canada, with a view of allowing their use by all parties requiring them instead of having them owned or controlled by any one corporation, and would, therefore, strongly recommend that, whenever necessary or desirable for improved trade facilities, such tracks be obtained or constructed (as the case may be) by the government, and a fair charge be made to the various railways making use of them.

FAST ATLANTIC SERVICE.

In view of the fact that the population and commerce of the Dominion of Canada has increased very largely of late years, and that the construction of the Grand Trunk Pacific Railway and other railroad extensions, and works under contemplation or in progress, guarantee the continued growth of population and development of the country, your commission feel that the time is near at hand when a much improved Atlantic steamship service would be justifiable in the interests of the country, especially with a view to the carrying of passengers and of fast and perishable freight; and to the carriage and delivery of mails to and from Great Britain much more quickly than at present. The people of the maritime provinces at present labour under the disadvantage that their mail matter for or from Great Britain or other European points is obliged to go *via* New York or Montreal, thus entailing material delay. And in view of the fact that such a service, if inaugurated, would also be of great importance as a link in the chain of imperial intercommunication between Great Britain and its dependencies and allies in the far east, as well as its possessions in the Pacific, your commission would recommend that negotiations be entered into with the imperial government, having in view a joint subsidy to a company for a first-class service, not less frequently than bi-weekly, between Halifax and Liverpool, the same to carry the British mails for this continent and its dependencies on the Pacific and the far east, also the Canadian mails, and to be especially adapted and intended for the carriage of dairy products, chilled meats and other perishable freight, fast freight and express goods, also sufficient to meet all the requirements of the British admiralty for the carrying of troops or other service in time of war, the said fast service to go into operation by the date of completion of the Grand Trunk Pacific Railway, or say, five years from date.

And your commission would express the opinion that such service would be of inestimable value in aiding in the development of the dairying, fruit-growing and cattle-raising industries in every province of the Dominion, and further, that the amount which will have to be paid for the carrying of Canadian mails *via* New York under the readjustment to be made in 1906, together with that now paid for the Montreal services, would form a material item towards the subsidy required.

The above-mentioned Atlantic service to be subsequently supplemented by a similar fast service on the Pacific ocean to the east, as the requirements of trade may demand.

SURVEYS.

In the report of the Committee of the Honourable the Privy Council, in accordance with which your commission was appointed, it was stated :

'In making its investigations, attention should not be confined to routes and facilities at present utilized, but, if necessary, new surveys should be made to determine whether any more economical and satisfactory channels of transportation by land or water can be opened up.'

In view of the fact that since the appointment of the commission your government has decided on and made arrangements for the construction of the Grand Trunk Pacific Railway, and is now making surveys in connection with the proposed French river and Ottawa river canal systems, and an exploration or survey in connection with the proposed enlargement or diversion of the Welland canal, your commission have not thought it necessary or advisable to direct any further surveys to be made.

WINNIPEG AND WESTWARD.

In taking up matters pertaining to the country, Winnipeg and westward, except in so far as they have been dealt with in connection with eastbound traffic, your commission have thought well, in view of the magnitude of the country and the varied interests to be considered, to submit a separate section of the report dealing exclusively with the west. And, in view of there being so much yet to be done in the opening out, developing and bettering of such a new country, your commission have felt justified in dealing with some matters not connected with systems of through transportation, or directly referred to in the minutes of council under which they were appointed, but which are of material interest to the localities affected, and through them to the Dominion at large, which is so vitally interested in the growth, prosperity and peopling of every section of what was but a short time ago so aptly and well described as 'The Great Lone Land.'

LAKE WINNIPEG AND RED RIVER.

Lake Winnipeg is of greater superficial area than Lake Erie; its resources in timber, lime, stone, gypsum and other building materials, as also fuel, the products of the fisheries (which are largely exported direct to the United States), &c., are of great importance, and their development would result in building up centres of population on its shores, as well as in the settlement and development of the neighbouring country. Freight and passenger steamers now run regularly to many parts of it. It is, therefore, extremely advisable that this lake be properly charted as an aid to navigation, to enable vessel owners to secure marine insurance, which at present cannot be obtained.

The city of Winnipeg, the Red river valley and other considerable portions of the prairie country, are strongly interested in obtaining the resources of the lake and its shores, and are, therefore, deeply interested in the improvement of the Red river, by way of dredging at its mouth, and the building of a lock and dam at St. Andrews rapids, and the government having recognized the desirability of such work by a considerable amount of dredging already done, and by the adoption of plans and the letting of a contract for such lock and dam (the work only being stopped because of the desirability of a change in the plans). Your commission would strongly urge that any changes advisable be adopted at once, a new contract let and the work pushed through to completion at the earliest practicable date; also, that the Red river between the city and the international boundary line to the south be cleared of snags and boulders, where necessary, in order to connect the navigable water in Canada with the improved river stretches in the United States.

ASSINIBOINE RIVER.

In the early years of the history of this province, the Assiniboine river was navigated by river steamers, even as far as Fort Ellice, but attempts which have of late years been, from time to time, made to navigate it, have been frustrated largely by the failure to swing the bridges spanning it.

Your government have had several reports on this river from the resident engineer, Z. Malhoit, who, in his evidence before the commission, says (p. 42) :

'The cost of rendering the river navigable for river steamboats, propellers—that is, stern-wheelers—would not be so very much. The river is navigable, as it is, with

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a little improvement, by the boulders in the rapids being removed. At a comparatively small cost the river could be made navigable to the foot of the rapids near Brandon.'

The river itself and its tributaries drain a large area of very productive land, but material damage is often occasioned by the spring freshets which cause its banks to overflow.

Your commission are of the opinion that by damming the outlets of Last mountain and other lakes at its source, and so retaining their waters at flood season, and by cleaning and dredging the river by means of a snag boat, the lower stretches of the river could be made navigable during a large portion of the season, while the overflowing of its banks in the springtime would be prevented to a great extent. Your commission would recommend that the resident engineer be instructed to report on such reasonable improvements as will best accomplish these objects.

THE GREAT PLAINS OF THE WEST.

In endeavouring to deal with questions connected with the great plains of the west, that 'country of magnificent distances,' your commission thought well to hold sessions at Regina, as representing the centre; Edmonton, the north-western, and Calgary the south-western, portions of an immense tract of land, which, notwithstanding the immigration of late years, is very sparsely settled—in many localities hardly touched—but which is destined in the not distant future to become the home of millions of the human race.

REGINA.

The evidence given at this point had reference to the Hudson's Bay route (quoted elsewhere); to the possibility of the construction of the Panama canal, causing the opening of a new route for carriage of grain by way of the Pacific Ocean to the markets of Europe, and to the lingering doubt in the minds of some, as to whether wheat reaches and is sold in its ultimate market under the same grade as it is purchased at point of production. Regarding the last, namely, the grading of wheat, Mr. Bell says (Vol. 4, pp. 349 to 351) :

'The Inspection Act has now been drawn, as far as human foresight could make it, to prevent any admixture or adulteration of Manitoba grain from Fort William to its final destination. It is especially prohibited that any inspector, east of Fort William, shall re-inspect Manitoba grain, or grain grown in the North-west Territories.'

'Mr. Ashdown—When you say Manitoba grain, you mean grown anywhere in the North-west?

'Mr. Bell—Yes. It is designated in the Act as Manitoba grain.

'Under the instructions of the Department of Trade and Commerce, samples of all the grain being graded under the various standards fixed by law are sent each fall to all the principal corn exchanges of the United Kingdom of England, Ireland and Scotland, as well as to New York, to be there filed and open to the inspection of the public, so that they can at any time consult them and inspect them, and see what the character of the grain of each particular grade is for each year; because after all, "one hard" slightly varies in some of its minute characteristics while meeting the requirements of the Act from year to year. In some it may be a little brighter in colour than in others, and yet always come within the lines laid down as "one hard."

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From Mr. Bell's evidence, and from other information, your commission are of the opinion that since the amendments of the year 1900 to the Grain Inspection Act, no grain going over Canadian routes and thence by Canadian vessels to its destination has been tampered with, but, barring damage from sea weather or otherwise, has been delivered in Great Britain under the same grade and in the same condition as when certificate of grade was issued at Fort William or west of this point.

EDMONTON.

In view of the fact that Edmonton is the most northerly point of importance, and has for a considerable length of time been, and will continue to be, the distributing centre for a very large territory, especially in the Athabaska and Peace river districts and other portions of the unorganized territory lying north and west, and in view of the expected opening out and development of the country, it is important that every reasonable consideration be given to questions brought forward by those in touch with transportation needs at that point. And your commission would call attention to the report of Edmonton Board of Trade (vol. 4, p. 356) as to Peace river :

'The great Peace river, the only means of communication with the great north land, is navigable for steamers for a distance of about 900 miles from Hudson's Hope to its mouth at Lake Athabaska, with the exception of a single obstruction known as "The Chutes" in the neighbourhood of Fort Vermilion. There is reason to believe that this could be overcome by the construction of a short lock, which could be built at a very small cost, there being a natural excavation around the short falls which obstruct navigation. This work would afford uninterrupted navigation from the head of navigation on Peace river at the Rocky mountains to the Portage at Fort Smith on the Slave river. Here navigation is obstructed by some sixteen miles of rapids, to overcome which would require a very heavy expenditure. It is suggested as an alternative, which would require a comparatively small expenditure, that an electric tramway should be constructed by the government for the purpose of carrying the traffic around the rapids. The rapids themselves would furnish the power necessary to generate the electrical energy required. From the foot of the rapids there is uninterrupted navigation down to Slave river, across Slave lake and down the Mackenzie river to the Arctic Ocean. The suggested improvements at these two points would thus afford easy and cheap transportation from the upper waters of the Peace river to the Arctic Ocean, a distance of about 2,000 miles.

Your commission would, therefore recommend that a complete survey of the Peace river be undertaken by the government, with a view of such improvement as will make that stream navigable to as great an extent as possible, provided the same is at all reasonably practicable.

Your commission would also recommend that information be obtained as to the practicability, at a reasonable cost, of improvements being made to the Athabaska and the Slave river, with a view to safe navigation on those streams.

It having been represented that if the North Saskatchewan river were improved so as to allow of safe and steady navigation during the entire season, it would be of great value to Edmonton and the entire country through which the river flows, and in view of the fact that steamers have in the past been taken from the upper Red river, through Lake Winnipeg, for service on the Saskatchewan, and did for a time operate between Edmonton and Grand Rapids, thus showing the feasibility of navigation of that river. Therefore, your commission would recommend that a survey of the Grand Rapids, and any other parts of the Saskatchewan necessary, and an examination of the whole length of the river, from Edmonton to its mouth, be made, with a view to the carrying out of such work as may be deemed advisable toward improving navigation, and also with a view of deciding as to whether work should

be undertaken in connection with the Grand Rapids for the purpose of connecting river navigation with that of Lake Winnipeg.

In view of the large increase in production in the Edmonton district, and the necessity for the shortest possible western outlet, your commission would recommend that the construction of the Grand Trunk Pacific Railway, from Edmonton to the Pacific coast, be commenced and pushed to completion within the shortest possible time.

HUDSON BAY ROUTE.

Your commission would point out that the greater part of the immigration of late years has been to that portion of the country now included in the new provinces of Saskatchewan and Alberta, and that large areas in southern Alberta, which a year or two ago were given up to cattle ranches, are rapidly being converted into wheat fields and the development of the whole western country is going forward very rapidly and will undoubtedly continue to do so; and in consequence of the fact that the farther west the settler goes, the less profitable it is to ship his produce to markets of the world through Atlantic ports, the feeling in favour of seeking a new route to Europe, by way of Hudson's Bay, is strong, and is well expressed by W. R. Motherwell, Minister of Agriculture of the province of Saskatchewan (Vol. 4, p. 336):

'There still exists in the minds of the people of Saskatchewan and the north-west generally, a feeling that the Hudson's Bay was not placed in the interior of western Canada for no purpose. We believe that no stone should be left unturned to settle the question of the feasibility of that route. We know that the Dominion government have sent exploring parties into the Hudson's Bay in the past, and that they have now parties there gathering data on this subject. We are not in a position to give this commission technical evidence as to the practicability of that route; but the feeling I speak of exists in the minds of the people of the North-west, and it will not be appeased until every effort is made to ascertain whether there is a cheaper and shorter route to the markets of the world by way of Hudson's Bay than we have at present.'

Under these circumstances, while every means by way of observation or otherwise to ascertain its practicability should be adopted, still it is doubtful if the people of the provinces of the west will ever be satisfied as to the non-feasibility of the route, or the extent to which the bay and straits are really navigable, without deciding the matter by the actual running of steamships from Churchill, or whatever port may be selected, to the British Isles.

Your commission regret that they were unable to obtain the evidence of Mr. Hugh Sutherland, executive agent of the Canadian Northern Railway Company, or of Mr. William Mackenzie, its president (which company is understood to control the charter of the Hudson's Bay Railway), and, therefore, do not feel in a position to make any report regarding that road.

The commission would, however, recommend:

That as soon as a railway is built from the wheat fields of the west to a deep water terminus on Hudson's Bay and is properly equipped for the carriage of traffic seeking the markets of Europe by way of the waters of such bay, the government appoint capable engineers to lay out a good, commodious harbour on a comprehensive plan, in accordance with which any improvements undertaken, shall be made.

That the government, in accordance with the principle previously affirmed, retain the ownership of the water front and land reasonably usable in connection with same.

That they construct such dock or docks as are reasonably necessary for the purposes of the trade.

That if, and as soon as, the commerce of this port be of such reasonable dimensions as to justify the course, the port be, by proclamation of the Governor General in Coun-

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oil, declared a national port and added to the list of such already named, and that no port or dock (other than dry dock or elevator) charges be made by the government or allowed to be collected by any government official.

CALGARY.

The local market of British Columbia has, in the past, taken a large portion of the grain and general produce of Alberta, but as the opening out and settlement of the country causes the amount of produce to increase, it will be necessary to find other markets, if not routes, and as the distance from Calgary to Vancouver is but 650 miles, while that from Calgary to Fort William is 1,267 miles, or nearly twice the distance, there is an inclination to seek an outlet on the Pacific coast, and your commission would call attention to the following from the Calgary Board of Trade report (Vol. 4, p. 382):

'Taking these grades (Calgary to Vancouver) as they are to-day, given equal quantities, the grain from the Long or Swift Current can be taken to Vancouver as cheap as to Fort William, probably for considerably less. The only material adverse grades for westbound freight is for seventeen miles; the remainder of the way is as favourable for westbound freight as for eastbound freight. Further, nature, in the way of climate, has made, for the colder portions of the year, transportation to the western port far more favourable than for the eastern one, taking into consideration that during four months of the year there is an advantage of 40 per cent in respect to temperature, which causes a very marked decrease in regard to the cost of transport. Further, she has placed an inexhaustible fuel supply at different points at almost equal distances apart, viz., Medicine Hat, Canmore, Nicola lake and Vancouver island. The matter of fuel should not cost one-half of what it does in the east, and the cost of fuel represents on the entire Canadian Pacific Railway system from 4 per cent to 15 per cent of the total cost of operation.'

The statements in the report in regard to cost of carriage are corroborated by Mr. William Pearce, who says (Vol. 4, p. 395):

'Suppose the rate from Swift Current to Fort William was a dollar a ton, it would be only 60 cents a ton during the same time to Vancouver.'

In addition to the evidence of the Board of Trade as to grades, cost of carriage, &c., your commission would call attention to the evidence of Mr. B. W. Greer, General Freight Agent, Canadian Pacific Railway Company, Pacific Division (Vol. 4, p. 426-8), as follows:—

'Mr. Ashdown—Would you kindly give us the rate on grain from Swift Current to Vancouver.

'Mr. Greer—Forty-five cents.

'Mr. Ashdown—The rate from Calgary?

'Mr. Greer—Thirty-five cents.

'Mr. Ashdown—I think there has been, on occasion, a reduced figure for export purposes?

'Mr. Greer—Yes.

'Mr. Ashdown—What has that been?

'Mr. Greer—It varies. We have hauled grain from the North-west Territories as low as twenty-five cents for export.

'Mr. Ashdown—From what points?

'Mr. Greer—From various points all through Manitoba and the Northwest.

'Mr. Ashdown—Wheat?

'Mr. Greer—Principally oats. I do not think we have ever exported any wheat through Vancouver.

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'Mr. Ashdown—You would probably give as low a rate for wheat as for oats?

'Mr. Greer—I think so. Grain of all kinds is always carried under the same tariff.

'Mr. Ashdown—So that in case of the wheat of Alberta looking to the west instead of the east for a market, your rate would be about the figure you mentioned?

'Mr. Greer—I think it would be about the rate we would make, because we anticipate that the soft wheat that is now being developed in Alberta—the winter wheat—will, to a certain extent, supply the Oriental market, and on that we would give a rate.

'The Chairman—Of twenty-five cents?

'Mr. Greer—I would not say twenty-five cents definitely. We would have to meet the conditions of competition on the other side.

'The Chairman—In other words, you would help the Canadian exporter to fight the man in Seattle?

'Mr. Greer—Yes. We have gone to great lengths in trying to develop that fall wheat industry. We have carried a great deal of seed wheat from Kansas, most of it free of charge, for the purpose of inducing the farmers to sow it, in order, if possible, to produce a soft wheat which would compete with the Washington wheat exclusively for the Oriental market. That is the principal object.

'Mr. Ashdown—Would you probably maintain a different rate for wheat for home consumption?

'Mr. Greer—We would certainly expect a higher rate for flour used locally.

'Mr. Ashdown—Speaking of the rate of twenty-five cents, I suppose that would cover any portion of the territories west of Swift Current?

'Mr. Greer—That would cover all the Alberta district north and south of Calgary. I do not know that we would carry at that same rate from Swift Current. In fact, so far as my knowledge goes, I do not think there is any prospect of developing any shipment of grain to the Pacific coast from east of Alberta.'

This evidence goes to show the wish of the Canadian Pacific Railway Company to develop the trade in winter wheat for the purpose of the Oriental market, and as the proposed rate of 25 cents per 100 pounds is within one cent of the rate to Fort William, and as the competition of the Puget sound points on the one hand and of the Grand Trunk Pacific Railway (when constructed) on the other, will doubtless cause a still further reduction in rates, your commission are of the opinion that a very material increase in west-bound traffic from the whole province of Alberta may be expected.

Your commission while expressing the belief that wheat and other grain will continue to be the main article of export of this western country, at the same time wish to call attention to the cattle trade, which, notwithstanding the cutting up of many of the large ranches into ordinary farmers' holdings, on account of the progress of the country, will continue to be a very large and growing trade and one that in the interests of the country is deserving of every attention. On this subject your commission would particularly call attention to the report of the Board of Trade of Calgary (Vol. 4, p. 386-391), and, in view of the present unsatisfactory condition of the trade, and in consideration of the action of New Zealand, the Australian States and Argentina in the endeavour to promote in every way their cattle trade, your commission would recommend that a special commissioner be appointed to look into and report on the whole question of that branch of the trade of the northwest, including the practicability of opening out an export trade in dressed beef, providing a proper cold storage system and arranging for the disposal of the by-products, &c.

In view of the fact that a grain inspector for the district of Calgary has been appointed under Mr. Horn, Chief Grain Inspector, for the inspection of grain both east and west bound, your commission would recommend that as soon as proper facilities for the weighing of grain at that point are provided, he be also appointed official weigh master.

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VANCOUVER.

In view of the future growth of trade between the provinces of Alberta and British Columbia, the development of the latter province itself, and the geographical position of Vancouver, with its grand deep-water harbour, the evidence taken at that point is of great public interest, and your commission would invite a careful reading of the whole, but would particularly call attention to the question of the ownership of the water front of Vancouver harbour. See the evidence of Mr. Bell-Irving (P. 439-40-41-42).

'You have referred to a point which many of us in Vancouver consider of very great importance, that is, the control of the water front by one corporation. I believe that question will become of increasing importance as time goes on and as Vancouver increases in population and new industries are established. At the present time the Canadian Pacific Railway have, I think, about ten times the water front required by them for their legitimate business. It might be possible to make some arrangement, whereby, without detriment to their legitimate business here, which no one wishes to injure, this valuable water front which they do not require, should again be relinquished to the Dominion, and thereby thrown open to others. At the present time many industries along the water front exist on sufferance of the Canadian Pacific Railway, which is scarcely a fair position for them to be in. It is highly detrimental to the development of this place that so much of the water front should be controlled by one corporation. I saw a statement the other day which I believe to be correct, that the Canadian Pacific owns the water front all the way from Vancouver to Port Moody. It is not clear whether any land owned by private individuals is covered by the grant to the railway. A large portion of False creek on both sides and also on English bay, is owned by the Canadian Pacific Railway, so that almost the entire water front from Port Moody down, on the portions of the shore which might be used for harbour purposes, is said to be owned by that company.'

'The Chairman—How far do their rights run into bays?

'Mr. Bell-Irving—For a considerable distance.

'The Chairman—So that if the government built cribwork and dredged the harbour, and filled in on both sides, to whom would that belong?

'Mr. Bell-Irving—That would be for lawyers to decide—how far their privileges went out.

'The Chairman—Would you suggest that the Canadian Pacific Railway be reimbursed for giving up a portion of this territory?

'Mr. Bell-Irving—No doubt the C. P. R. will require to receive further privileges from the government in the future as in the past, and I merely put it forward as a suggestion that if any arrangement of this kind could be made, it would be of great advantage to the whole Dominion. Of all things we want the open door, and we want more than one or two railroads to come in here, and we should like to see the avenues of approach, both by land and water, kept as free as possible.

'Mr. Ashdown—What portion of the water front within the limits of Vancouver is owned by the C. P. R. Company?

'Mr. Bell-Irving—About fourteen miles; there may be one or two points which are not included.

'Mr. Ashdown—So that the company has all the water front on the Vancouver side of Burrard inlet?

'Mr. Bell-Irving—Yes; and also a portion of both sides of False Creek.

'Mr. Ashdown—You mean to say then that the C. P. R. ownership extends as far as deep water goes in False Creek?

'Mr. Bell-Irving—Yes; False Creek is navigable only for small craft. It could be made navigable by dredging and blasting.

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'Mr. Ashdown—What part of the harbour front is occupied by the Great Northern Railway ?

'Mr. Bell-Irving—It is in False Creek.

'Mr. Ashdown—Beyond that owned by the C. P. R.?

'Mr. Bell-Irving—Yes. It is not navigable by vessels of any consequence whatever.

'Mr. Ashdown—Then, the Great Northern does not reach navigable water ?

'Mr. Bell-Irving—No.

'Mr. Ashdown—If other roads came into Vancouver, how would they reach navigable water ?

'Mr. Bell-Irving—One feasible scheme would be to throw a bridge across the second narrows. It would be a very costly bridge to build. It would have to be either a high level bridge or a low level bridge with a large swing. That would give access to the north shore of Burrard inlet.'

Also, that portion of the board of trade memorial relating to same (pp. 520-1 and 2) :

'That, in view of the two great factors :—First, the geographical position and magnificent extent of the land-locked harbour of Vancouver, ice-free at all seasons and with capacity and anchorage to accommodate vessels of the largest tonnage afloat, undoubtedly establish it as, for all time, Canada's greatest gateway on the Pacific. . . . The board considers that it is much to be deplored that, as will be seen by the map herewith exhibited, almost the entire water frontage on the south shore of Burrard inlet within the city limits, is either owned or practically controlled by one corporation; while, to the fullest extent, acknowledging the magnificent enterprise with which the Canadian Pacific Railway Company has contributed to the advancement of our country and province, and not forgetful that it is to being the terminus of that great highway that Vancouver owes her existence, this board cannot but be strongly convinced that the future importance of the city as a commercial entrepot; the requirements of the natural resources of this province and of the agricultural and manufacturing interests of the Dominion at large, demand that the Federal government should endeavour either by acquiring from the railway company restitution of a portion of its foreshore rights, or if that be impracticable, by some regulation of the wharfage and dockage accommodation, embodying reasonable dues, which would have the effect of affording free access on the one hand to general shipping, and on the other to such further railways as may, from time to time, be authorized by charter to run to this port.

'With the same objects in view, the board would urge upon your serious consideration that the government be advised to adopt such measures in regard to riparian rights alike on all parts of Burrard inlet beyond the city limits and within the First Narrows, and on the shores of (a) False creek, (b) of the Indian reserve of Kitsalno, and (c) of English bay, that these be not alienated so as to become permanently owned by any one corporation, public or private body, individual or individuals, but be dealt with in a statesmanlike manner and conserved for all time under such control as may be for the best interests alike of the city of Vancouver as a whole and of the public weal.

'In this connection also the board cannot too forcibly urge that any plan which may be prepared for the improvement of False creek, and for its adaptation to the accommodation of ocean-going vessels or otherwise, should not be limited to the probable requirements of the immediate future, but should be on a broad and comprehensive basis, so conceived that any section thereof which may be undertaken from time to time should each form a part of and ultimately be incorporated in the completed whole, and the board would further remind your honourable commission that the immense and magnificent timber resources of our province, her vast coal areas, and her still undeveloped iron deposits, combine to point to this port as a future

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seat of ship-building on an extensive scale; an industry the fostering and encouraging of which is so important to the Dominion that here again is found another strong argument for the free conservancy of our shore-line and for the establishment, under public control, of docking facilities, commensurate with the accommodation of vessels of the largest type.'

Also from the evidence of Mr. Alexander, Mr. Lake and Mr. Jackson (p. 419):

'The Chairman—What accommodation can you offer to other steamers than those of the C. P. R. Company ?

'Mr. R. H. Alexander—At the present time there is none.

'Mr. Ashdown—Was there not some trouble a short time ago about Seattle boats not being allowed to come into the docks here because the docks were owned by the C. P. R. Company?

'Mr. Alexander—I think there was some trouble at one time, but I believe it was arranged finally.'

(P. 539):

Mr. Gordon Lake, manager Union Steamship Company—I was away at the time, but I believe that our company agreed to give wharfage to the ship. It was the *City of Seattle*; that was three years ago; she was competing with the C. P. R. Company in the Skagway business, and our people had offered to provide her wharfage. The C. P. R. Company asked us not to do so, and because we took no notice of that, they put a train across the roadway and left it there, thus cutting off our access to the town from the wharf as well as the cargo of the steamship in question. Then we gave up, and told the American company that we could not take them.'

(P. 548.)

'Mr. C. J. Jackson—They sold us a portion of it (water-front) and in that conveyance there is a clause which I understand is in all conveyances from them—that we are not allowed to sell to any railway or transportation company, and there is a limitation as to the use that is to be made of that water-front as long as we own it.

'Mr. Ashdown—What limitation is that ?

'Mr. Jackson—That no boat in competition with them shall be allowed to make use of that water-front without permission of the local superintendent of the Canadian Pacific Railway Company. Breach of these conditions cancels the conveyance. And that is binding on us, our heirs and assigns in perpetuity practically.'

A map of Vancouver was received from the engineer of that city, and is attached to this report. Your commission would direct special attention to this map, which shows in colours the different portions of the water-front at Vancouver, owned or occupied by the various corporations and other persons.

Your commission find the facts quoted to be substantially correct, and without any reflection on the Canadian Pacific Railway Company, which laid out and created Vancouver, they still think that such a state of affairs is not in the true interests even of that corporation, while it is to be deplored, both from the standpoint of the city itself and from that of the Dominion at large, that a port of such importance as Vancouver should have its water-front tied up to or controlled by one corporation, especially in view of the importance which it would attain, were proper facilities and free access to all, afforded.

Under present conditions no other railway can find a deep water terminus at that port, but if wishing to compete for the trade, would be compelled to locate at North Vancouver, and to build, at great expense, a bridge across Burrard inlet, some five miles above the present city of Vancouver, and run down to the north side of the inlet, and goods to or from docks or stations at North Vancouver, would have to be ferried across a distance of nearly a mile, or else carried around by team, an average distance of say eight miles.

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In accordance with the principle previously affirmed by your commission, viz.:

'That the Dominion of Canada, as it has the care of inter-provincial trade and commerce, and in accord with that duty is continually expending large sums of money in maintaining, bettering and protecting our harbours and waterways, should, in the public interest, own and control the land under, and also that adjoining, the waters of same and reasonably usable in connection therewith.'

Your commissioners would recommend :

(1) That the Canadian Pacific Railway Company be induced to surrender to the Dominion of Canada such portions of the water-front of Vancouver and lands reasonably usable in connection therewith, as in view of the growth of the trade in the future can reasonably be considered sufficient to allow of free access and use by all who may wish to use the same for purposes of transportation.

(2) That your government proceed to obtain by negotiations, purchase, expropriation or otherwise such other water-front and lands, both on Burrard inlet and False creek, as the position may make it reasonably necessary to obtain.

(3) That the whole of Burrard inlet from the entrance thereof up to the Second Narrows be treated as one port.

(4) That as North Vancouver has a water-front of great importance, which should be conserved in the public interests, the whole of that portion of its water front extending from that now owned and held by the Victoria, Vancouver and Western Railway Company, and intended to be used by them in connection with purposes of navigation, westerly as far as the entrance to Burrard inlet, and the land under and that adjoining the said water-front and reasonably usable in connection therewith (excepting only such portions as are now used bona fide for purposes of navigation) be obtained by the Dominion of Canada.

(5) That so soon as the lands above mentioned are obtained, the whole harbour be laid out on a broad, comprehensive scale, with a view to the future, so that improvements whenever made (now or at various times in the future) will all be done in accord with said plan.

(6) That all water front and lands reasonably usable in connection therewith, now in the possession of or owned by the Dominion government, or that may be acquired by it, as before-mentioned or otherwise, be thereafter owned, held and controlled by it for the public benefit and with a view to the accommodation of all interests, which now, or hereafter, may desire to centre at, or use, the said port.

(7) That so soon as the lands mentioned are vested in the Dominion government, the port, by proclamation of the Governor General in Council be declared a national port, and that at no port or dock (other than dry dock or elevator) charges be imposed by the Dominion government, or allowed to be collected by any officer thereof.

The commission consider False creek an important part of the water-front of Vancouver, and as such it should be considered in the public interests, and, looking to the requirements of the future, should be considered in the scheme for a comprehensive and commodious harbour, but in view of the fact that at the time of the holding of the sittings of your commission in Vancouver, Mr. J. R. Roy, government engineer, was engaged, under orders of the Department of Public Works, in the examination of False creek, with the view of preparing a report with plans and estimates for making that creek a deep water harbour, and as your commission has had no opportunity of seeing the result of his investigations, they do not feel in a position to make any specific recommendations concerning such proposed improvements.

In the course of the sittings in Vancouver the good offices of your commission was asked on behalf of the Vancouver, Westminster and Yukon Railway, which it is proposed to build from False creek to Fort Macleod, a distance of about six hundred miles, and on behalf of which Dominion government aid is asked, but your commission do not feel that they can make a report on the matter, as it does not seem properly to come within their purview, being rather a question of fiscal policy.

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VICTORIA.

In dealing with questions connected with Victoria, your commission would call attention to the fact that that city is not only the political capital of the province of British Columbia, but is also the principal city and commercial and financial capital of Vancouver island, and accordingly, parties giving evidence at that point assumed to represent and were entitled to speak for the whole island.

And in view of the fact that the island of Vancouver is of very considerable extent, has large undeveloped resources and a splendid climate, but withal is very little known, your commission have thought well, while dealing with matters of transportation, to quote also a few descriptive facts which are given in evidence at Victoria dealing with the island generally:

'(P. 465)—Vancouver island contains 16,000 square miles; that is to say, as large as the main land portion of the province of Nova Scotia.

'(P. 467)—There is certainly on Vancouver island a very much greater quantity of merchantable timber of the highest class than is to be found in any other part of the world of similar area.

'(P. 470)—Timber which runs from 40,000 superficial feet to the acre upwards can be found in all parts of the island.

'(P. 468)—Copper and copper-gold ores seem to be distributed over all parts of the island.

'(P. 470)—At Quatsino sound you have coal, iron and lime, all within a mile of deep water, where any ship of the world can lie in safety.

'(P. 471)—Vancouver island produces apples, strawberries, peaches, grapes and other fruits.

'(P. 472)—I believe that at least one-third of the island can be utilized in some way in connection with agriculture.

'(P. 469)—The Chairman—But your main reliance will be timber and minerals?

'Mr. Lugrin—Looking to present conditions, timber first, minerals second, agriculture third, but it is quite possible that development may reverse the order. Iron deposits are numerous, and some have been ascertained to be very large. They consist principally of magnetic iron of a very high grade, but there are also deposits of hematite.'

The following extracts from the evidence describe the harbour facilities of Vancouver island, and show the views of the people of that island in regard to improved transportation facilities:

'(P. 458)—Board of Trade:—

'On this coast the harbours, which can be utilized in connection with ocean-borne commerce, are:—

'Victoria—This harbour consists of two parts, the inner harbour and outer harbour. The inner harbour is perfectly landlocked, but requires to be deepened before it can be extensively utilized in connection with ocean-borne traffic. By the outer harbour is meant, that water area bounded on the west by Macauley point and on the east by Holland point. There is already docking accommodation in the outer harbour for steamers drawing 29 feet of water, and, by the construction of breakwater, this could be extended so as to provide extensive and perfectly-protected facilities for vessels of any size or draught.

'Esquimalt—This harbour is adjacent to Victoria. It is safe, excellent and commodious. The general depth is six fathoms. The Royal Roads, lying between Albert head and the entrance to Esquimalt, afford great anchorage for a distance of three miles anywhere within three-quarters of a mile from the shore.

'The approach to Victoria and Esquimalt from the ocean is by way of the strait of Juan de Fuca. This strait has the very great advantage resulting from the fact

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that soundings can be obtained at a distance of thirty miles out at sea from its entrance. Through the centre of the strait there is a deep water zone running east and west, having 100 fathoms of water. This continues until the Race rocks are passed, where vessels turn northward to reach Victoria or Esquimalt. Beyond this point the depth decreases to 60 and 70 fathoms. The water shoals rapidly on either side of the deep water zone. It is said that on no part of the Pacific coast of North America are conditions of this kind so favourable to navigation to be found.

'Barkley Sound—This is an extensive arm of the sea 30 miles west of the entrance to the Strait of Juan de Fuca. It has several arms, the principal being Alberni canal, which extends inland 23 miles. Numerous islands lie at the entrance to the sound, the principal passage between them being what is called the Middle channel, three miles wide in the narrowest part, with from 30 to 54 fathoms of water. The evidence of shipping men is to the effect that Barkley sound is one of the best and safest ports on the Pacific coast.

'Quatsino Sound—This is the most north-westerly of the deep inlets characterizing the west coast of Vancouver island. It penetrates the island 25 miles and has three arms. There is a good depth of water throughout the whole sound. The entrance is easily recognized from the ocean by reason of high mountains, and sailing ships can enter it under almost any weather conditions.

'(P. 478)—Mr. Lugin:—

'Quatsino sound is not only theoretically but actually for navigation purposes, as near the Orient as Port Simpson, while the distance from Yellow Head pass to Quatsino sound is little, if anything, greater than the distance from Yellow Head pass to Port Simpson, while the advantages of these island ports are such that they greatly out-weigh the disadvantage of the small additional rail haul.

'(P. 460)—The whole ocean coast of Vancouver island is nearer Yellow Head pass than Port Simpson or any other port on the mainland north of the entrance to Sardinier channel. It is submitted that the nature of Yellow Head pass and its relation to the greatest producing areas in the prairie region of Canada, mark it as adapted in an especially favourable degree to become one of the principal gateways of commerce through the mountains.

'(P. 462)—Board of Trade:—

'That it is desirable, in the interests of Canada and the whole Empire that the available routes by which the ocean front of Vancouver island can be reached from railways on the mainland should be thoroughly investigated.

'(P. 456)—I. W. Patterson:—

'There is no doubt that the time is coming, and it may be nearer than any of us think at the present time, when it will be deemed of sufficient importance to the whole Dominion that a bridge should be constructed between the island and the mainland, and we think it would be well for the government to obtain all the information possible in regard to that matter. Such a bridge should be under the control of the government and free to all railways.

'(P. 462½)—Board of Trade:—

'In his report to the Dominion government in 1877, Sir Sanford Fleming said: "An unbroken line of railway from the railways in the eastern provinces to one of these harbours on the outer coast of Vancouver island would be highly desirable. All the difficulties of navigation, to be encountered in reaching the mainland, from the ocean, would then be avoided. The exigencies of the future may render a continuous line of railway to the outer shore of Vancouver island indispensable at any cost. And the Board respectfully suggest that in view of the rapid development of Western Canada and the great progress inaugurated in the Orient, the exigencies to which Sir Sandford referred, if not actually at hand, are likely soon to arise, and therefore, that no time should be lost in arriving at a full understanding of the nature of the problem to be faced in reaching the desired result."

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(P. 475)—Mr. Lugrin:—

'Three lines of railway have been surveyed from Yellow Head pass to Esquimalt and to Quatsino sound by way of Bute inlet, and crossing at Seymour narrows. One of these lines is shown in the map which accompanies that report of 1877. After passing through Yellow Head pass, that line runs northwesterly, following the valley of the Fraser river and when it comes to the great bend of the Fraser it turns and runs southwesterly until it reaches Bute inlet, where it was to cross by way of Seymour narrows to Vancouver island. The distance by this route from Edmonton to Quatsino would be 1,200 miles.

'The Chairman—How does that correspond with the distance from Edmonton to Vancouver?

'Mr. Lugrin—The distance from Edmonton to Vancouver at present is 838 miles. A second line of railway has been surveyed from this same point, which, instead of going north to the great bend of the Fraser, goes south by way of the Thompson river near to the mouth of the Clearwater river, whence it goes in as nearly a westerly course as possible to Bute inlet. The distance from Edmonton by way of this route to Vancouver would be 863 miles, about the same as from Edmonton to Vancouver by the present route.

(P. 477)—Mr. Lugrin:—

'What the Victoria Board of Trade would like is "that the commission would recommend that a further examination of this country be made, in order that the best line from Yellow Head pass to Bute inlet may be found."

'Supposing that a good route is found for a railway from Yellow Head pass to Vancouver island, it has been demonstrated that either Victoria, Esquimalt, Barclay sound or Quatsino can be utilized for a railway.'

Your commission would call attention to the complaints made mainly on behalf of the ship-building and repairing works, saw mills, &c., of the want of a sufficient depth of water in the inner harbour at Victoria:—

'(P. 848)—No ships drawing more than 11 feet can safely navigate the inner harbour. There are a number of iron works here. The principal one is the Victoria Machinery Depot. There are three other iron works, all of whose business is ship repairing and ship-building.'

'(P. 486)—There is urgent need for locally owned vessels to profitably handle the two most important products of this province, namely: coal and lumber. Both of these products being bulky in nature, require a considerable number of vessels for transportation to foreign markets. Vessels of this class could all be built here if we had the needed space and depth of water to float them in.'

'(P. 487)—In answer to the Chairman.

'We want the channel both widened and deepened. The Marine Works have \$100,000 embarked in capital on plant alone. . . . The Albion Iron Works have an invested capital of about a quarter of a million. . . . But they cannot get the ships to their wharfs for want of greater depth of water and greater width in the channel.'

'(P. 489)—A joint committee of the Victoria Board of Trade and Municipal Council, passed the following resolution:—

'(a) That the harbour from its entrance off the outer wharf to Point Ellice bridge within the lines marked red on the accompanying map, should be deepened to a uniform depth of 25 feet below water zero as recently determined by the tidal survey.

'(b) That the northern extremity of that portion of Laurel point belonging to the provincial government, now below high water mark, should be blasted off and no wharf or any other interferences with the free channel through the narrows should be permitted on that side of the said point.

'(c) That the material excavated should be used in the formation of the foundation for a breakwater from Holland point to Brothie ledge.'

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Your commission would, in view of the facts adduced, recommend: |

That a further and exhaustive exploration and survey be made in order to find the best route from the plains of Alberta to an ocean port on the west side of Vancouver island.

That in case of the building of a bridge at Seymour narrows or elsewhere, connecting the mainland of British Columbia with the island of Vancouver, such bridge and the approaches thereto, and the land on both sides of the water running back from same, such distance as may be deemed reasonably necessary to allow of free access thereto, be owned and controlled by the government of Canada, with the view of according equal rights on and over such bridge and its approaches, to all railways desiring to use it.

That in view of the fact that in many cases the present charges for pilotage appear to be without warrant of law, but rather to be based on the desire of the Board of Pilotage Commissioners to get away from the injustice of having to make heavy charges for service not rendered (many masters regularly and by preference, taking out or bringing in their own vessels, whether paying the charge or otherwise), your commission would recommend that the regulations governing pilotage be amended to suit the circumstances of the port, and that no charge be made while no pilot is employed, in cases where it appears to be reasonable to allow all masters, or, those of certain boats or lines of boats, to bring in their vessels without the aid of a pilot.

That in accordance with the principle heretofore affirmed, the government of Canada proceed to obtain by negotiation, purchase, expropriation or otherwise, all such lands on the water front of the port of Victoria, or reasonably usable in connection therewith, as are owned or controlled by the province of British Columbia or the city of Victoria or other public bodies, together with such other lands as the circumstances show to be reasonably necessary, and all land obtained in the manner above described or otherwise, and all now in possession of or owned by the Dominion government, be thereafter owned, held, administered and controlled by the government of Canada for the public benefit, and with the view to the accommodation of all interests which now or hereafter may desire to centre at or use the said port.

That, as soon as the land above mentioned has been obtained, a competent engineer be appointed to make a full report on the improvements asked for in the inner harbour, as well as on the question of breakwater accommodation so as to enable your government to deal with the matter of improvements and to decide what are advisable for immediate construction.

NEW WESTMINSTER.

In view of the large lumber and canning industries at this point, it is advisable to keep up a standard of depth sufficient to allow of sea-going vessels reaching the harbour. The evidence given is to the effect that the Department of Public Works states that there is 27 feet in the channel, and it is presumed that if that depth was maintained it would be ample, but because of the character of the river there is much work to be done in keeping bars from forming in it, and in keeping the north arm in reasonable shape for the work to be done on it, and your commission would recommend that the dredge now at work on the river could do more work with a double shift, and that such steps be taken as may be necessary to obtain a chart of the harbour, and channel leading thereto, and thereby allow of insurance being obtained at reasonable rates.

PACIFIC COAST TERMINALS OF G.T.P. AND C.N. RAILWAYS.

That in view of the principle already affirmed of government ownership and control of lands reasonably usable in connection with navigable waters, it is especially desir-

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able that in establishing a harbour at the deep water Pacific coast terminus of the Grand Trunk Pacific Railway, as also of the Canadian Northern Railway, that such railways be allowed to own and retain only such amount of the water front as is reasonably necessary for navigation in connection with their respective systems, and all the rest of such water front be obtained or retained as the case may be, and thereafter held, owned, administered and controlled by the government of Canada for the public benefit and with the view of affording access to all who may wish now or hereafter to centre at or use said ports.

All of which is respectfully submitted,

ROBERT BEFORD, Chairman,
J. H. ASHDOWN, Commissioner.

Winnipeg, December 11, 1905.

C. N. BELL, Secretary.

FIRST INTERIM REPORT.

MONTREAL, January 21, 1904.

May it please your Excellency :

In connection with the situation existing at the port of St. John, N.B., your commissioners on transportation have the honour to report that, in the prosecution of the work entrusted to them they arrived at the city of St. John on the 29th day of January, 1904, where they were received by the Mayor and the President of the Board of Trade, and held sessions, open to all persons interested, on January 9 and 11. It was found that besides the regular traders in the port, on January 9, four ocean-going steamships were being loaded and unloaded at Sand point, the terminus of the Canadian Pacific Railway Company, on the west side of the harbour.

The harbour of St. John having an area at high water of 1,700 acres, was granted to the city in the year 1785 by Royal Charter, a clause of which reads as follows :—

‘And we do further, of our especial grace, certain knowledge and mere motion, give and grant unto the said mayor, aldermen and commonalty, and to their successors, that they and their successors be the conservators of the water of the river, harbour and bay, of the said city, and shall have the sole power of amending and improving the said river, bay and harbour, for the more convenient safe and easy navigation, anchorage, riding and fastening the shipping resorting to the said city and for the better regulating and ordering the same; that they, the said mayor, alderman and commonalty, and their successors, shall and may, as they shall see proper, erect and build such and so many piers and wharfs into the said river, as well for the better securing the said harbour and for the lading and unlading of goods, as for the making docks and slips for the purpose aforesaid, and that they shall and may have, receive and take reasonable anchorage, wharfage and dockage, for the same, without any account thereof to be rendered to us, our heirs or successors.’

The harbour is close to and open from the Bay of Fundy by a channel, easy of access, but which would be improved by dredging and straightening as reported on to the Department of Public Works by the Dominion engineer, resident at St. John.

On the east side of the harbour is situated the terminal equipment of the Inter-colonial Railway, including an elevator, wharf and shed, suitable for loading ocean

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steamers, and as well as a number of small private wharfs for local traffic held by the city and individual owners.

The west side of the harbour known as Carleton or West St. John, is connected with the city proper by a steam ferry boat, a traffic bridge over the St. John river and a cantilever railway bridge.

The attention of your Commissioners was given particularly to the west side as being the terminal of the Canadian Pacific Railway (and South Shore Railway, which with its equipment has been leased to the Canadian Pacific Railway Company for 990 years).

The Canadian Pacific Railway Company has a grain elevator, with suitable conveyors, with a capacity of about 1,000,000 bushels, which property is exempt from taxes for twenty years. Ships' berths Nos. 3 and 4, are held by the Canadian Pacific Railway Company by lease from the city of St. John; vessels are loaded by the Canadian Pacific Railway Company and the evidence proves that the wharf space is inadequate for even the present traffic and that more accommodation is urgently required. In order to provide for additional traffic, the city authorities have now under negotiation with the Canadian Pacific, an agreement by which they purpose to provide three or four more ships' berths by building a wharf to run parallel to, and on the north side of the present berths, Nos. 2, 3 and 4. An amount of dredging estimated at 1,000,000 cubic yards, must be done before this proposed wharf can be built and the City Council and the Board of Trade have petitioned that this work be undertaken by the Dominion government. The city proposes to build the wharf and lease it to the Canadian Pacific Railway with a renewable clause.

Between the proposed new wharf and Navy island, to the north, at present occupied by the steam ferry landing and some local wharfs, there is room for ten or twelve more steamship berths of sufficient size for ocean vessels, by building suitable wharfs. To the south of Sand point and toward Partridge island, at the mouth of the harbour, and the breakwater on the southwest, there is room for a still larger number of berths. It was represented to your commissioners that a large number of wharfs could be built around Courtnay bay if a long breakwater were constructed there.

The city of St. John claims to have expended the sum of \$750,000 on harbour improvements.

Your commissioners are convinced that with the increasing volume of traffic passing through the port of St. John, increased accommodation and facilities are urgently required.

In view of the foregoing statement of facts, your commissioners have the honour to recommend that the dredging necessary to be done, at the site of the proposed new wharf, be undertaken and carried out by the Dominion government, and that the city authorities be advised at the earliest possible date in order that they may arrange this winter for the getting out of the required timber, which timber may be ordered at once if the work is to be completed in time for next season's traffic. Your commissioners beg to point out that the work of dredging might be commenced at once with the two dredges now lying at St. John, and finished by a third dredge, having a capacity to reach a depth of about 60 feet at high water.

Your commissioners, in making the above recommendation, bear in mind that dredging work of the same kind has already been done in St. John harbour by the government. While your commissioners consider that this work should be done by the government in the harbour, which is the property of the city of St. John, they do so on account of the urgent present necessities of the situation. Looking to the future of the port of St. John, with its restricted area and the possibility of other railways seeking accommodation there in the near future, necessitating additional expenditures, your commissioners would suggest that in the future, before the city of St. John sells, leases or alienates in any way, harbour frontages the city authorities should communicate with the Dominion government and secure its sanction to such action. Unless some agreement of this kind be entered into, or the port placed under

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the control of Harbour Commissioners, it could hardly be considered to be in the public interest for the port to receive further public aid.

As an example of the expenditure which may be required to be made in the future, it may be pointed out that it would be advisable to push back the harbour line on the west side from Sand point to Partridge island, thus giving room for many additional wharfs.

A comprehensive scheme of future improvements should be submitted by the city of St. John to the government.

Your commissioners further recommend that the government extend the present breakwater up to Partridge island and that, as soon as possible, the necessary dredging be done to straighten out and deepen the entrance to St. John harbour as reported on and recommended by Mr. Shewen, C.E., the resident engineer of the Department of Public Works at St. John.

Your commissioners have, to date, visited the ports of St. John, St. Andrews, St. Croix river up to St. Stephen, Halifax, Sydney, Glace bay, Louisbourg and North Sydney. At the town of New Glasgow, Nova Scotia, we held a session and received from representatives of the places, evidence and information regarding Pictou, Truro and Country harbour. A full report on all of the above places will be made in due course.

All of which is respectfully submitted,

For the commissioners,

JOHN BERTRAM, Chairman.

SECOND INTERIM REPORT.

TORONTO, ONT., May 6, 1904.

May it please Your Excellency:

We have the honour to report that in carrying out the work entrusted to us as your Commissioners on Transportation, we visited on the 3rd instant, the town of Port Colborne, Ontario, at the inlet of the Welland canal on Lake Erie.

This port, situated at the eastern end of deep water navigation on the upper lakes, and the beginning of the St. Lawrence system of canals, occupies an important position on the water route from Fort William to Montreal. Passing along the level stretch of the canal from Thorold to Port Colborne, about thirteen miles in length, we were informed by the engineer in charge that between Port Dalhousie and Port Colborne, the whole length of the canal had now the full depth of fourteen feet, and that only two more centre piers required to be taken out from the bridges over the canal, when there would be no obstruction to any width of vessel passing through.

Arriving at Port Colborne our attention was given to the condition of the harbour, and its facilities for furthering transportation by the St. Lawrence channel.

In our examination we were favoured with the assistance and advice of Mr. J. L. Weller, Superintending Engineer of the Welland canal; Mr. A. J. Grant, the Resident Engineer of Port Colborne, and Mr. L. Coste, Engineer of the Public Works Department.

Around the lake front at Port Colborne the water is shallow, and the entrance to the canal has required a great deal of dredging through limestone rock. The entrance to the canal, from the new elevator piers to the guard lock, is about 4,600 feet long, with a depth of 16 feet and 230 feet wide, except at the old east pier. Along the north end of this stretch on both sides, is situated the town of Port Colborne, and on the east side the small Grand Trunk elevator. At a distance of 4,600 feet from the guard lock the new elevator piers have been built; the entrance is much wider

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and opens toward the lake and all around the piers there is a depth of 22 feet, the rock dredging is still being continued to give ample facilities for steamers turning.

The elevators are built of concrete on rock foundation, their length being 700 feet by 200 feet in width, with a connecting pier on the north side of 200 by 100 feet. They are distant from the shore line about 2,000 feet, connected by an old pier which needs to be repaired. To the southwest of these new piers, a breakwater has been built 4,500 feet long, and situated 1,650 feet out into the lake, which will, no doubt, guard the site from any southwest or south storm, but leaving it still exposed to the southeast. To guard this, the Department of Public Works have plans prepared for another breakwater to the southeast, 2,400 feet long, and commencing 600 feet from the eastern end of the present breakwater, which when built will fully shelter the harbour.

The question of how to utilize the existing canal system is important enough to merit the most careful consideration.

At the present time, with no facility for discharging cargoes at this port, the use of the route from Fort William to Montreal is confined to steamers drawing not more than fourteen feet and of a size to pass through the locks, giving a maximum capacity of 75,000 bushels of wheat, and to tow barges hauled by tugs or by steam barges of full canal size, 250 feet long by 42 feet wide, leaving entirely out of account the large steamers passing through to Sault Ste. Marie canal and carrying 200,000 bushels of wheat and upwards, able to carry grain, on a 20 foot draught of water, cheaper than any smaller steamer. The building of these large steamers is a development since the Sault Ste. Marie canal was deepened. They have cheapened freights, and if the St. Lawrence route is to have equal opportunities with the American, facilities must be provided for the discharge of cargo from large steamers at Port Colborne: whence it can be sent to Montreal in vessels of canal size.

Your commissioners have therefore the honour to recommend:

That the work of putting in a suitable foundation and the erection of an elevator at Port Colborne harbour be proceeded with at once, the capacity to be not less than 1,000,000 bushels, and placed so that additional storage bins can be added when found necessary; !

The elevator to be of the most modern and approved type, giving the quickest despatch to vessels loading and unloading, provision also being made for loading railway cars when connection is made. The government to retain the ownership, thus avoiding any possible complication or deflection of traffic from the St. Lawrence route; the rates for elevation to be as low as possible, the main object being to encourage the route, rather than make a profit for the elevator;

That the building of the south-east breakwater should be proceeded with at the same time, assuring the safety of steamers when unloading;

That the old pier stretching from the elevator lighthouse to the shore line now in a dilapidated condition, should be rebuilt and carried to a depth of 22 feet to provide for future dredging contingencies, and that the pier on the east side of the channel, spoken of as the old east pier, be taken out, as an obstruction to navigation;

! That action should be taken to have the two remaining centre piers, under the railway bridges over the canal, removed as soon as possible.

Although there are two piers provided on which to erect elevators, your commissioners do not think advisable to build more than one at present, have it tested and see what effect it has in increasing the traffic on the St. Lawrence system, which we feel assured will be so beneficial as to require additional elevator capacity at an early date.

All of which is respectfully submitted,

For the commissioners,

JOHN BERTRAM,
Chairman.

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THIRD INTERIM REPORT.

OTTAWA, June 15, 1904.

His Excellency,
The Governor General in Council,

SIR,—Your Commission on transportation beg to submit an interim report on the following, viz.:—

The matter of the prolongation of the season, during both spring and fall, of navigation on the lower St. Lawrence river, has for years engaged the attention of ship-owners, shippers and others interested in ocean and river navigation.¹

The Honourable the Minister of Marine and Fisheries having referred this matter to your commissioners for an expression of their judgment and opinion and forwarded to them a report on the subject prepared by Mr. F. W. Cowie, C. E., dated April 21, 1904, and which especially brings up for consideration the benefit that would accrue from the use of ice-breaking steamers, your commissioners beg to report:—

1. In consideration of the matter submitted, as also of the general question of transportation, your commissioners have visited the ports of Montreal, Sorel, Three Rivers and Quebec, for the purpose of examining the physical features of the St. Lawrence and the various harbours, and when there, received statements and general evidence from engineers, shippers, merchants, navigators, pilots and others who were competent by knowledge and experience to give expert information and opinions.

2. Your commissioners descended the river from Montreal on the steamer *Frontenac*, placed at their disposal by the Department of Marine and Fisheries, as far as Isle au Coudre, some 60 miles below Quebec, and made such critical examination as was possible under the circumstances, especially noting the work recently done by the department to make the channel safe for vessels passing up and down, and also to the dredging carried on by the Department of Public Works, with the object of providing a 30-foot channel, which work, with the regular sweeping of the channel lately inaugurated, will undoubtedly give confidence to navigators, ship-owners and underwriters and also insure against any erratic obstruction of the channel.

3. The evidence, which was freely and frankly given to the commissioners, by all persons called upon, demonstrates that the River St. Lawrence may be navigated during the entire year in that section extending from Isle au Coudre, about 60 miles below Quebec, to the gulf. In case, which is most unlikely, that an obstruction from ice below Isle au Coudre occurred, an ice-breaking steamer was at hand to render service, it would give full confidence to the pilots and mariners. Below Isle au Coudre both the river and the ship channel are wide and deep and generally unobstructed by ice as far as Father point.

4. Between Isle au Coudre and Quebec the conditions are different from those existing lower down the river. The channel below Isle au Coudre at present used when ascending is over towards the north shore, but vessels above that point make what is known as the Southern Traverse, mariners then being guided by two block light-houses, ordinary light-houses, gas and other buoys marking the channel up to the Pillars. This channel does not often freeze over; but it is sometimes obstructed by floating ice, and it is here that an ice-breaking steamer would be required to ensure winter navigation and remove any possible danger of a vessel being frozen in. After passing through this Traverse, a distance, of say, ten miles, navigation to Quebec is easy, and in proof of this statement it may be said that the ferry steamers regularly ply between Quebec and Lévis during the entire year.

5. The river between Quebec and Montreal presents a somewhat different proposition, the evidence being to the effect that navigation could now be prolonged from November 20, the present understood date, to December 10. But it may be stated that the opinion was unanimous that, with the aid of an ice-breaking steamer,

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the channel between Montreal and Quebec could be kept open for navigation for at least two weeks longer than at present. The resident engineer, Mr. Cowie, holds that when the, at present, contemplated aids, of range lights, &c., are provided, navigation could be safely carried on after the gas and other buoys are removed, such work of removal to be easily performed by the ice-breaking steamers. !

6. In the spring, the main obstruction to navigation of the whole river proper for a period of two weeks earlier than at present, is the ice jams at Cap Rouge and other points between Montreal and Quebec. The ice forming at Cap à la Roche, and other points breaks away from the shores from time to time and, on occasions forms a jam at Cap Rouge, where is the narrowest part of the river. It is claimed that an ice-breaker stationed between Montreal and Quebec could be utilized during the winter to break this jam as it forms and so keep the river free, and that this would have the incidental, but very valuable, result of protecting the people of the parishes, resident on the lower banks of the river, from Cap Rouge to above Montreal, where at present, owing to the ice block at Cap Rouge, frequent flooding takes place, with the consequence that immense loss and misery follows to these people.

7. In view of the foregoing, your commissioners have the honour to recommend that ice-breaking steamers, the proper size and character of which are a matter for the engineers of the government to decide, be secured and placed in operation by the government at the points defined in the report of Mr. F. W. Cowie, engineer of the Department of Marine and Fisheries, dated April 21, 1904, a copy of which is attached hereto.

I have the honour to be,
On behalf of the commissioners,
Your obedient servant,

JOHN BERTRAM,
Chairman.

REPORT OF MR. F. W. COWIE, C.E., ATTACHED TO THIRD INTERIM REPORT.

PUBLIC WORKS OF CANADA.

RIVER ST. LAWRENCE SHIP CHANNEL,
OTTAWA, April 19, 1904.

COLONEL F. GOURDEAU,
Deputy Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I beg to present, as desired by the Honourable the Minister of Marine and Fisheries the following memorandum:—

Proposed Amelioration of Winter Conditions on the River St. Lawrence, from Montreal to Quebec and the Sea.

Present physical conditions.

Floods.

Winter navigation.

Present recommendations.

The establishment of local navigation below Quebec.

Lengthening of navigation season above Quebec, and the amelioration of the ice flood conditions. Plant.

I am, sir,

Yours obediently,

(Sgd.) F. W. COWIE,
Engineer in Charge.

Present Physical Conditions.

Ocean-going navigation to Montreal practically ceases on November 20. Occasionally a belated ship sails from Montreal a week later, but at considerable risk.

The usual date for commencing the taking up of the buoys is November 25. The risk attending late sailing is the possibility of being frozen in, in some unprepared winter quarters. There is also the danger attending navigation after the buoys and light-ships have been removed, or which may be possibly dragged out of position by the ice.

The last ships to sail never lack freight. The marine insurance, however, owing to the greater risks attending these late sailings, as well as the possibility of having to hurry the ship to Quebec before being loaded, have discouraged any attempt to prolong the season.

For the last year or two it has been the custom for the agents of the belated ships to ask the government steamers to convey their vessels to Quebec. Although the best steamers of the ship channel fleet have been assigned to this duty, they are in no way ice-breakers, and some day they may lead a ship into danger and be unable to help her.

Below Quebec, navigation closes in autumn, about the same time as at Montreal or a few days later; not so much on account of the ice, as for lack of business.

The permanent pier light-houses at the Traverse have greatly minimized any actual danger for navigation below Quebec during the whole of the month of December. Snow-storms are no worse in December than they are during the last half of the month of November.

When the buoys are removed it is only necessary to wait for fine weather and high tide, to navigate the only difficult portions between Quebec and Bic, a distance of about 180 miles.

The opening of navigation in the spring is delayed by reason of the uncertainty of the date of the breaking up of the ice and the fact that few orders for sailing to the St. Lawrence ports are given before actual reports are received.

In the spring, ocean-going navigation commences at Quebec and Montreal at about the same date.

The weather during the month of April is usually very fine. The days are long and for weeks at a time, clear. Fogs are almost unknown. Snowstorms last a very short time.

It is not the temperature, but the actual presence of immense quantities of jammed, packed ice which prevents the opening of navigation about the first of April every year.

Floods.

In general, the St. Lawrence river floods are entirely due to ice and frazil.

At neither the winter nor the spring floods, is the supply of water in the river at its greatest.

High water in Lake Ontario comes in about the end of May. In the rivers flowing into the St. Lawrence from the north, it occurs about the same time. The fluctuations in level due to this actual high water during the season of navigation, would never be sufficient to cause a flood.

The following table gives approximately the height above ordinary low water, of floods due to ice, and of high water when the river is at its maximum discharge:

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	Floods due to ice.	High river level.
Laprairie.	22 feet Above	6 feet
Verdun.	22 feet ordinary low water	6 feet
Montreal.	27 feet	13 feet
Longueuil.	25 feet	13 feet
Longue Pointe.	22 feet	13 feet
Sorel.	19 feet	12 feet
Three Rivers.	20 feet	13 feet
Batiscan.	22 feet	15 feet

The Royal Commission of 1886 reported that in its judgment the floods in Montreal never reached dangerous dimensions except owing to the anchor ice or frazil which, manufactured above the city and passing down, found a lodging place under the ice where it remained in cold storage until the actual breaking up of the ice jam.

The frazil does not remain in open water or in a strong current.

In the spring, before the breaking up of the ice, the frazil under the ice directly below Montreal, amounts in quantity to more than double that of the actual ice. At the moment of the actual breaking up of the ice, the frazil disappears in an uncertain manner, but immediately, and without any bad results.

At the time of writing, the conditions on the shores of the River St. Lawrence between Montreal and Grondines, a distance of over 100 miles, are deplorable owing to the floods.

The misery, danger and anxiety, as well as the actual damage is only too well known. Were it unusual or unexpected, it would be considered a calamity.

The city of Montreal is protected by a guard wall or dyke. Even there, however, the position is not without danger. In an ice jam the water might easily rise higher than it did in 1886, when it reached 27 feet above summer level and spilled over the top of the wall.

It is not practicable to protect the two shores of the St. Lawrence at all danger points by a wall or dyke.

To prevent the floods, therefore, it will be necessary to eliminate the cause.

Winter Navigation.

In March, 1900, a committee of the Quebec Harbour Commissioners investigated the feasibility of establishing winter navigation in the Gulf and River St. Lawrence.

The committee came to the conclusion that the Gulf and River St. Lawrence can be safely navigated during the winter months with first-class iron or steel steamers. Additional landmarks and extra care to be exercised in avoiding a run in snow-storms between Bic and Quebec.

The committee were also of opinion that the formation of an ice bridge at Cap Rouge tends naturally to lessen the quantity of ice and the difficulties to be overcome between Quebec and Bic.

Whether ocean navigation to Quebec, throughout the whole winter, would be a commercial success or not now, it is difficult to say. The time when it will be successful will certainly come soon.

The whole of the north shore below Quebec from Ste. Anne de Beaupré to Labrador is practically cut off from any communication during the winter, except by vehicles.

A ferry service has lately been established between a point on the Intercolonial Railroad and the north shore at Murray Bay. A better service is required.

Until a railroad is built the necessity for a steamer service, connecting Quebec and the important points on the north shore, is becoming every year more apparent. The inauguration of this service by a suitable steamer would settle the feasibility of winter navigation to Quebec, or of navigation for a very much lengthened season.

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The question of winter navigation between Quebec and Montreal has been thoroughly investigated and discussed.

The Royal Commission of 1886, reported as a measure for preventing floods that ice-breaking tugs be used to break up and allow the current to carry away tremendous quantities of ice which form and pack to a great thickness during the month of December.

T. O. Keefer, C.M.G., C.E., in his presidential address to the Royal Society of Canada, in 1898, on winter navigation, remarks as follows:—

‘It is at least doubtful if anywhere in the St. Lawrence, greater difficulties would be encountered than those which have been so successfully overcome for the last nine years, on Lakes Michigan and Superior, where there is no assistance from current or tide to carry off the broken ice.’

‘The early closing of the St. Lawrence has been given as a reason why 75 per cent of our Manitoba wheat was exported from New York last year, and only 25 per cent from Montreal. Whether this is correct or not, there can be no difference of opinion as to the importance to Canada of an extension of the length of the season of navigation if only for one month and also as to the value of the earliest possible reopening of navigation in the spring, which would follow a diminished ice-pack.’

‘The winter navigation of the Lower St. Lawrence is, in these days of steel and quadruple expansion, practicable; and we cannot say how soon it may be profitable or necessary.’

‘An open channel, in winter, would prevent the flooding of parishes below Montreal and would be invaluable for defence, or in case of interruption to transit from United States sea ports.’

John Kennedy, C.E., Chief Engineer of the Montreal Harbour Commissioners, in his report of December 24, 1900, reports in favour of preventing the ice from forming at Cap Rouge.

He estimates:

‘ten days the average delay in the opening of navigation from the sea, which may be fairly considered as caused by the holding on of the Cap Rouge ice jam.’

‘An ice-breaking boat of the power of the “Stanley” could, by occasional work at proper times, easily eliminate this delay; by additional work she could keep open, all winter, the channel up to the lower end of Lake St. Peter; and the same, or a more powerful boat, by more constant work, and the skill which would be gained by experience, would not only keep open the navigation channel through to Montreal, but as was pointed out by the Montreal Flood Commission of 1887, it would, by breaking up the ice at proper places and times, prevent the formation of heavy ice jams and thereby prevent the disastrous winter floods of which they are the primary cause.’

PRESENT RECOMMENDATIONS.

The establishment of local navigation below Quebec.

For this service a steamer would be required very much of the type of the vessel described in the letter to William Power, Esq., from the Sir W. G. Armstrong, Whitworth & Company, Limited, of date March 29, 1904, the price for which, delivered on the Tyne, was placed at £31,000.

With a steamer of this type, a very effective commercial service could be given to the important points on the north shore below Quebec, now isolated.

This steamer could be constructed so as to be suitable for lighthouse supply service or buoy work during the summer.

A few aids to navigation would be required after the buoys were removed, and all the lights would be required to be kept in operation.

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The lengthening of the navigation season between Quebec and Montreal and the amelioration of the ice flood conditions.

To attain these results it would be necessary to prevent the formation of the ice bridge at Cap Rouge and to keep the channel open throughout the winter up to Batiscan or possibly Three Rivers.

The prevention of the ice jam at Cap Rouge would not be a difficult matter.

An investigation was made by the Public Works Department in 1903, and the results show that:

The formation of this ice bridge is the result of a large field of ice being dislodged by the high spring tides from the banks opposite Ste. Croix and floating down intact with the falling tide is jammed in the narrows at Cap Rouge.

The ice is not thick, nor packed. If taken within two or three tides, it would not require much of an ice-breaker to break through and destroy the bridge.

The danger of this ice bridge results from its presence when the ice from Batiscan and Three Rivers comes down and is stopped by it, the whole forming a mass of ice of immense thickness which becomes arched in the narrows and frequently remains after the river is elsewhere clear until the high tides near the end of April.

It is also believed that with a suitable ice-breaking steamer, aided by a dredge tug, armed for the service, there would be no difficulty in preventing the ice jam from forming at Cap Rouge, and in keeping the channel clear throughout the winter up to Batiscan and probably Three Rivers.

The steamer would also be available to convoy or go to the aid of commercial steamships between Quebec and the Traverse.

During the summer she would be fully occupied in sweeping the channel above and below Quebec, and in attending the proposed dredging of either the north or the south channel, below Quebec.

Between Three Rivers and Montreal it is considered that, for the present, it would only be advisable to keep the channel open and convoy steamships for about two weeks later in the autumn than navigation is now continued.

In the spring, as soon as the fine weather sets in, and the ice is formed over the snow, another ice-breaking steamer similar to the one to be stationed at Quebec, and aided by a similar dredge tug, could start from Sorel and steam through Lake St. Peter to Three Rivers.

Returning, they could break up the ice and allow the current to carry it away, and continue this to Montreal.

After one season's experiment the success of this, or failure, would be demonstrated.

It is believed that by this means navigation could be lengthened two weeks in the autumn and two weeks or a month in the spring.

The removal of the immense masses of ice three weeks earlier each spring would certainly be of benefit to the climate in the Montreal district.

This second ice-breaking steamer could be constructed suitable for the buoy service between Montreal and Quebec, during the summer.

For the successful carrying out of this work between Quebec and Montreal without any buoys, some of the contemplated aids to proposed night navigation would require immediate construction.

Division IV., Quebec to Batiscan—

Very few changes would be required.

Division III., Lake St. Peter—

The permanent piers, as proposed for the 30-foot channel, would all require to be constructed at once, as the light ships would be quite unsuitable for either the spring or the autumn.

Division II., Batiscan to Sorel—

Several of the proposed permanent range lights for the 30-foot navigation would require immediate construction.

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Division I., Sorel to Montreal—

No changes would be required.

The general dimensions of these two steamers is proposed as follows:—

Length, 160 feet, with a width and depth suitable for a normal draught of ten feet.

For ice-breaking, by water ballast, they could be trimmed down by the stern to a draught of about thirteen feet, with two triple expansion engines, suitable twin propellers for ice work, and the rudder stock protected by steel hood; the vessel especially designed and strengthened, and having six or seven transverse water-tight compartments, a large coal capacity, and comfortable quarters for the crew during the intense cold, it is believed good results would be obtained.

The recommendation of Colonel Anderson that the very best Marine Architect in England should be employed to prepare the designs, particularly recommends itself. He should be fully advised and consulted with, so that the designs should meet local conditions. After the first ship has been built in England, where they can be built in a much shorter time than elsewhere, it might be found advisable to build the second at Sorel from the same or modified designs.

Plant.

1. For local commercial winter navigation below Quebec, occasional ice-breaking, wrecking and lighthouse supply service in summer.

Ice-breaking steamer as proposed by Sir W. G. Armstrong, Whitworth & Company, Limited, strengthened and modified to suit summer services, length about 220 feet.

Estimated cost, delivered, \$200,000.

2. For the prevention of the formation of the Cap Rouge ice bridge and work in winter up to Batiscan or Three Rivers, and for summer sweeping of channel above and below Quebec.

A powerful twin-screw, steel steamer especially designed for heavy work in ice, and designed for towing dredges and sweeping in summer.

To be ordered immediately from England and delivered at Quebec in time for keeping Cap Rouge clear next winter.

Length, about 160 feet.

Breadth and depth for draught on even keel, 10 feet.

To be trimmed for ice-breaking, draught 16 feet.

Deck houses to be built in Sorel.

Estimated cost, delivered, \$200,000.

3. For aiding navigation in the autumn, and breaking up the ice between Three Rivers and Montreal early in April, and for buoy service between Quebec and Montreal in summer.

An ice-breaking steamer, similar to the one for Cap Rouge, to be constructed at Sorel, on the same designs and specifications.

Estimated cost, \$200,000.

F. W. COWIE.

FOURTH INTERIM REPORT.

TORONTO, ONT., July, 6, 1904.

Hon. C. S. HYMAN,
Acting Minister of Public Works,
Ottawa.

SIR,—At the close of the fiscal year your commissioners deem it well to make you a general summary report of the progress they have made in the investigation into the matter of the existing facilities for the transportation of the products of Canada to the markets of the world, and as to what improvements or extensions, if any, are necessary to be made to such facilities.

Your commissioners, upon entering into the investigation, early in January last, concluded that in a general way the problems to be studied grouped themselves naturally; such as winter ports, and traffic through such ports, in the maritime provinces; the St. Lawrence river from Montreal to, and including, the gulf; the canal system and great lakes between Montreal and Fort William, including the projected canals from Georgian Bay, the prairies section of Canada and outlets therefrom both by the St. Lawrence and Hudson's Bay, and lastly, the general situation in British Columbia. While your commissioners had a general knowledge of the conditions prevailing in each of these sections it was found absolutely necessary that they should visit and take evidence as to details, and secure data, at a large number of points, and in pursuance of this necessary action, the following places have already been visited: St. John, N.B., St. Andrews, N.B., St. Stephen, N.B., Halifax, N.S., Sydney, C.B., Glace Bay, C.B., North Sydney, C.B., New Glasgow, N.S., Kingston, Ont., Toronto, Ont., Peterboro', Ont., Ottawa, Ont., Depot Harbour, Ont., Midland, Ont., Collingwood, Ont., Meaford, Ont., Owen Sound, Ont., Port Colborne, Ont., Buffalo, N.Y., Montreal, Que., Sorel, Que., Three Rivers, Que., Quebec, Que., St. Lawrence River from Montreal to below Quebec and up to Prescott.

In addition to the evidence taken and the information secured at these points, a large amount of general data and statistics has been gathered, which is being studied by the commissioners between sessions.

Arrangements had been made to visit North Bay, Fort William, Port Arthur and Winnipeg before this date, so that an examination of the channels of the general eastern movement of traffic would have been completed, leaving only a few points to be visited for specific details, but, owing to unavoidable causes, sittings of the commission at these western points named will have to be postponed until August, when the commissioners have arranged to visit points in Manitoba and the Territories west of Winnipeg, and also the Pacific Coast, for a study of the situation existing in those immense areas.

Interim reports on St. John harbour, Port Colborne and the matter of ice-breaking steamers on the lower St. Lawrence, have already been submitted to His Excellency the Governor General in Council, and the final report of the commission will be submitted as soon as the data necessary can be secured, and the many problems raised by the scope of the instructions given the commission can be thoroughly studied, but it is impossible for your commissioners at the present time to name a definite date. It is the earnest desire of your commissioners to finish their work, in connection with this most complicated subject at the earliest possible date.

All of which is respectfully submitted,

I have the honour to be, sir, your obedient servant,

JOHN BERTRAM, Chairman,
For the Commissioners.

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FIFTH INTERIM REPORT.

MONTREAL, May 10, 1905.

His Excellency the Governor General in Council,

Sir,—Your Commission on Transportation beg to submit the following interim report in connection with the matter of the necessity of extending, so far as is possible, open navigation in Thunder bay, Lake Superior, and especially of the particular harbours of Sault Ste. Marie, Port Arthur and Fort William.

Your commissioners have had submitted to them, with other evidence, statistics as to the recorded dates of the opening and closing of navigation at Sault Ste. Marie, Fort William, Port Arthur and Duluth, and this information demonstrates that the season of navigation at Sault Ste. Marie, under the present circumstances, is longer than at Port Arthur by an average of nineteen days, and that at Duluth the advantage over Port Arthur averages fifteen days. This advantage is distributed over both the opening and closing of navigation.

A statement submitted to your commissioners by the board of trade of Fort William shows that, for the purpose of this report, the situation in that port, as to the duration of navigation may be taken to be the same as at Port Arthur.

Evidence has been filed with your commissioners by persons actively connected with the port of Duluth to the effect that the immediate harbour there is cleared early in the spring by the large volume of water pouring into it from the St. Louis river. The port being the headquarters of a large towing and wrecking company, powerful tugs are available, and utilized when necessary, in the harbour proper and for clearing a channel out to the open lake, with the result that there is open navigation for a period, on the average, exceeding that of Port Arthur and Fort William.

On April 24 of this year a steel grain-carrying steamer, on arriving at a point some sixteen miles out in Thunder bay from Fort William, encountered the winter's ice sheet in situ, the ice being from a foot and a half to two feet in thickness, and started to force its way through; the passage was made with difficulty and danger, but by 7 o'clock on the following morning the vessel arrived in the open water at Fort William harbour. It is reported that the captain of this steamer left seventeen vessels at Sault Ste. Marie awaiting word that a channel had been opened to Fort William and Port Arthur. As, owing to climatic conditions, there had not been any material change in the character of the ice for probably a fortnight previous to the 24th April, it is held that an ice-breaking vessel could have opened navigation at least a fortnight before this date.

This spring, after several vessels had penetrated the ice barrier and reached Fort William and Port Arthur, the channels cut out by the first arriving vessels closed up again and many freight and passenger steamers, whose captains would not take the risk of entering into the ice again, were delayed for some time, and other vessels on the outside were prevented from reaching their docks. The loss to vessel owners, to persons carrying grain in storage, to the consignees of an immense volume of freight and the country generally, from the absence of a suitable equipped ice-breaking vessel must, this spring, in the aggregate have amounted to a formidable sum.

Your commissioners have been addressed on this subject, especially by the Winnipeg, Fort William and Port Arthur boards of trade, and the representations made by them and others that a properly equipped ice-breaking vessel, with suitable power and strength to overcome, say, two or three and a half feet thickness of ice, should be supplied by the government of Canada, to be utilized in accompanying the first upward bound vessels in the spring from Sault Ste. Marie to Thunder bay, that the vessel might then be utilized by the Marine or Public Works Departments during the summer season, and in the late fall could perform the service of any slight ice-breaking

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required at Fort William and Port Arthur prior to its return to Sault Ste. Marie for Winnipeg, after taking off the lighthouse-keeper *en route*.

The point has been pressed upon the attention of your commissioners that in the fall, at the present, navigation is actually closed, not so much directly by the elements, but by the marine insurance regulations which are stringent as regards any extension of their insuring season beyond the date when the lighthouses on the Canadian side of the lakes are closed for the year. Incidentally, in connection with this subject of the extension of the Canadian lighthouse season, it would appear necessary that an arrangement be made by the Canadian government with that of the United States to the end that the United States government light on the Passage island be also maintained to a later date. Vessel men have urged upon your commissioners that this matter be brought to the notice of the government.

In view of the date of the harvesting and shipment of grain in Manitoba and the Territories, it is a matter of paramount importance from a national, as well as a local western standpoint, that every possible aid should be given in the direction of prolonging the period of navigation in the fall at Fort William and Port Arthur. Entirely apart from the importance of the heavy eastbound grain traffic of the spring season, the tide of immigration flowing into the western provinces, together with the wants of the residents in that part of Canada, necessitates the movement, via Lake Superior, at the earliest practicable date in the spring, of enormous quantities of merchandise. Every day gained in the delivery of this freight is of great value to the whole of Canada, and to attain this end all reasonable assistance should be afforded.

Your commissioners having fully considered this most important matter, beg to recommend that the government take early action to secure an ice-breaking vessel for use at Sault Ste. Marie, Fort William and Port Arthur, and such other points where it could be utilized, and that such vessel be so constructed as to be of service for other purposes during the summer.

On behalf of your commissioners,

We have the honour to be,

Your obedient servants,

ROBERT REFORD, *Chairman,*

J. H. ASHDOWN, *Commissioner.*

SIXTH INTERIM REPORT.

WINNIPEG, August 18, 1905.

To His Excellency the Governor General in Council:

SIR,—Your Commission on Transportation begs to submit an interim report on the following matters:

1st. The advisability of securing from the Board of Railway Commissioners for Canada a postponement of the consideration of the applications of the Canadian Pacific Railway Company for the right to construct certain branch lines on the left bank of the Mission river and the right bank of the Kaministiquia river at Fort William, Ont., as defined in plans filed by the company.

Your commission would point out that if these applications of the Canadian Pacific Railway be granted, and if the Grand Trunk Pacific Railway Company obtain the water frontage shown on its plans, practically all available harbour front in the port of Fort William will be owned or controlled by these companies.

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In view of the inevitable requirements of portions of the land in question for the use of railways other than those now located there, for docks for other than existing steamboat lines and for vessels not connected with any particular line, for sites, &c., for elevators or manufacturing establishments, or for other transportation purposes, your commission would recommend that in the public interest the ports of Fort William and Port Arthur, with water lots, and lands adjacent to the water, not yet alienated from the Crown, or which may be acquired by the Crown by purchase or expropriation, should be owned, held, controlled and administered by the Dominion government for the general benefit of Canada.

Your commission recommends that your Excellency's government communicate with the government of the province of Ontario for the purpose of securing its co-operation in achieving this result.

As your commission intends, within a short time, to report finally and at length on this matter, it would further respectfully recommend that until such time as its final report has been drawn up, submitted to, and passed upon by your Excellency in Council the said applications of the Canadian Pacific Railway Company be not granted, and that the expropriation by the Canadian Pacific Railway Company of the lands shown on its plans, filed in connection with said applications, or of any land adjacent to any other river or to the lake in the port of Fort William, be prevented.

Your commission begs to draw to your attention that the applications of the Canadian Pacific Railway Company for the right to construct said branch lines will come before the Board of Railway Commissioners for Canada at a sitting to be held at Fort William on the 7th September prox.

2nd. The extent of river frontage granted, or to be granted, to the Grand Trunk Pacific Railway in Fort William harbour.

In consideration of the present and assured situation at Fort William, and in view of the very general desire, as expressed in all the evidence presented to the commission, that the port should be nationalized and controlled by the Dominion government, or a National Board of Commissioners to be appointed by the government, your commission would recommend that, until its final report on the subject is submitted to your Excellency in Council for consideration, no portion of the frontage on the Kaministiquia and Mission rivers, applied for by the Grand Trunk Pacific Railway Company, should be handed over to that company to a further extent than is reasonably necessary for present requirements of the company.

3rd. The advisability of the withholding, from sale or lease, of lands still held by the Crown, at ports on Lake Superior, Georgian bay and Lake Huron.

Your commission further recommends that there be no further alienation of any lands owned or controlled by the Crown which are adjacent to the harbour of Port Arthur or to any other harbour of Lake Superior, Georgian bay or Lake Huron until the final report of your commission upon such harbours has received full consideration by your Excellency in Council.

On behalf of your commissioners,

We have the honour to be, sir,

Your obedient servants,

ROBERT REFORD, Chairman,
J. H. ASHDOWN, Commissioner.