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To Build Or Not To Build?

ANALYSIS of the Georgian Bay Canal project and a comparison with the new Welland route, with a discussion of the views of steamship owners on long canals

By A. T. DRUMMOND.

THE appointment by the Dominion government of a commission to investigate and report on the economic side of the so-called Georgian Bay Canal scheme has drawn attention once more to that proposal. In the past, three routes have been advocated for the development of Canadian lake shipping interests, and for diminishing the time and cost of transit for grain and other freight between Fort William at the head of lake navigation, and Montreal, the ocean port:—

(1) Nature's own waterway through the Great Lakes and the St. Lawrence River with the aid of the Welland and St. Lawrence Canals;

(2) The route by way of the Georgian Bay, Lake Simcoe and Lake Ontario, near Toronto, and thence to Montreal by the St. Lawrence River and its canals;

(3) The Georgian Bay, Lake Nipissing and Ottawa River route with its proposed excavated canals and deepened rivers.

All, as mere engineering propositions, are practicable, but the real questions to be considered are the capital cost; the facilities for operating economically, including a very ample water supply at the summit level; the size of vessel to be accommodated; the length of time the vessels will take on the round trip, Fort William to Montreal and return; the risks in navigating large vessels, and their effects on the insurance of both vessel and cargo; and whether freight rates will be sufficiently lowered to warrant the huge expenditure in capital cost and future operating. In applying these considerations, route number (2) has been, for the time, dropped because of serious engineering and operating problems arising from long and deep earth cuts, and the possibility, shared by route number (3), that the water supply at the summit level, in this case Lake Simcoe, may not be equal to the requirements of the great traffic now developing on the Upper Lakes.

The relative distances by these routes from Fort William to Montreal are thus: via the Welland Canal, 1,216 miles; via Lake Simcoe, 962 miles; and via the Ottawa River, 934 miles. When considering the advantage of one route over the other, the interests of the vessels must receive first attention, and here, it is not shortness of the distance, but the shortness of the time in accomplishing that distance, and the safe navigation

of the vessels, when heavily laden, which must weigh with the owners and the insurers of both ship and cargo. High speed in deeply loaded steamships of 500 feet and 600 feet in length is not practicable in artificial highways, with their numerous locks, narrow channels and limited depths, and with the constant passing of other vessels, and with vessels ahead. The longer the canal and the larger the business through it, the more frequent will be the delays.

In comparing the time which will be taken by way of the Georgian Bay and Ottawa route with that by way of the New Welland and St. Lawrence River, the present experience of speed, consistent with safety, in our lakes, rivers and canals, is a necessary assistance in making estimates. In the case of the existing Welland Canal, with its twenty-six locks, steamships take about eighteen hours to accomplish the twenty-seven miles. In the one and three-quarters miles of the Sault Ste. Marie Canal, the average necessary time taken by vessels waiting for their opportunity to lock, and the actual locking, was, for a whole season, two hours and forty minutes. For the Panama Canal, the engineers estimate a speed for steamships of four miles per hour. In the open deep waters of our Upper Lakes, the grain steamships attain a speed of nine and one-half miles per hour, whilst in the canal, lake and river system between Montreal and Prescott, the swift, light draft vessels of the Richelieu and Ontario Company, on the upward trip, attain about six miles per hour. Will it be possible, then, for the large 500-foot to 600-foot heavily laden steamships from the Upper Lakes, drawing from 20 feet upwards of water, and difficult to manage, as all such large vessels are, to accomplish more than four miles per hour with safety, in the numerous, narrow, rocky channels of the proposed Georgian Bay-Ottawa Canal, and can these steamships, with safety, continue the journey at night under such conditions? In the case of the New Welland Canal, with only seven locks, an average speed of three miles per hour may be possible, whilst in passing from Port Huron to Lake Erie, the channels being, for the most part deep and wide, an average speed of five miles should be attained. Thus, the time taken in a round voyage, Fort William to Montreal, and return, excluding loading and discharging, may, for the two routes, via the Welland, and via the Ottawa route, be fairly taken as follows:—