

port. The captain of the *Hornet* immediately started in pursuit of Spanish vessels, and brimful of the renown which his exploits would win for himself and crew, and of the excitement which they would cause among the maritime nations. Providence seems, however, to have frustrated all their hopes. As in the case of the renowned Spanish Armada many centuries ago, a dreadful storm came on, and so injurious was this to the *Hornet* that her officers were at last forced to run into the harbor of Wilmington in distress, where, sad to relate, her career as a Cuban man-of-war came to an end by an ignominious seizure on the part of the American officials. These gentlemen, no doubt by instructions from Washington, professed to regard the *Hornet* as a pirate—a name not overly pleasant to the officers and crew. The question is now before the American Courts, and the Press and people of the United States are very much divided in opinion as to how far the owners of the vessel are guilty in the course they have pursued. All parties are strongly in favor of the Cuban rebels, but some maintain that their neutrality laws must be upheld, and those engaged in fitting out this privateer punished as the laws direct, whilst others hold, in sad forgetfulness of their position on the *Alabama* question, that the Cuban insurgents have been recognized by several Powers, and consequently, had a right to fit out vessels of war! The matter is a very pretty quarrel as it stands, but we cannot doubt what the course of the American Government will be. The action of the Junta in fitting out the *Hornet* is so clearly an infringement of American law, that no Government could wink at it without palpable injustice; and besides, if President Grant and his Cabinet did so, what would be thought of the position they have taken up on the *Alabama* matter. We are, consequently, inclined to think that the *Hornet* and her crew will have to account for their breach of United States law, although we doubt not the bulk of the American Press and people wish she had been successful in destroying Spanish commerce, and thus aiding the Cuban rebels. It is amusing to think what sympathy our American cousins have for these rebels, and then contrast it with their feelings towards the Southern rebels, even a few months ago. The Cuban rebels have taken up arms against the successful revolutionists who now govern Spain. These statesmen have given their country a most liberal, if not a democratic constitution; they have taken steps to abolish slavery and seem determined to make the people of Spain free and happy. But notwithstanding all this, the people of the United States strongly sympathize with the Cuban rebels, and they have been the main cause and support of the insurrection. The difference is easily accounted for. During the late civil war it was their own bull which was gored; now it is Spain's! That makes all the difference.

THE NORTHERN RAILWAY.

Mr. Legge's Report.

THE ROUTES AVAILABLE.

The following is a condensation of Mr. Legge's report to the Provisional Directors of the Montreal Northern Colonization Railway Company:—

Having been requested by you to assume the duty of conducting the preliminary surveys of the proposed wooden railway from Montreal to the districts lying north of the city, I have now the honour to inform you that those instructions have been complied with.

The terminal point at Montreal for the proposed railway was provisionally located at Mile End, a site which presented peculiar facilities for the accumulation of large quantities of cord wood.

The terminal station at Hochelaga, or the eastern end of Montreal, will fulfil a greater number of conditions required, especially with reference to the lumber interests and connection with the future lines of railway to the east and south. The cord wood trade with the city, as well as the ordinary traffic, will also be served at Mile End, or at a point on the city's boundary about half way in its greatest length—from this point, the wood and other traffic can be brought into the city

in the line of its minor axis by several convenient streets, and distributed to the right and left over its area.

With Mile End as a wood and traffic station, provided with suitable siding accommodation, and the main line carried *via* Bulmer and Shepherd's brick field direct to Hochelaga, all the various advantages to be reaped from the successful carrying out of the enterprise will be realized.

Having decided on Hochelaga and Mile End as the points of departure from the city, the Committee, after having visited and examined the various points to the north, with claims on their attention, finally selected St. Jerome, a flourishing village situated on the North River, about twenty-seven miles in a north-westerly direction from Montreal, as the other terminal point at the present time. At this place the existing price of firewood is but one dollar per cord, while in Montreal, at the other end of the twenty-seven mile line, the prices range from six to seven dollars per cord—an ample margin for profit to the producer, freight and profit to the railway company, with reduction to the consumer.

From this point extensions can be made westerly to Lachute and Granville, to connect with the Canada Central Road; or easterly to New Glasgow or other important points tapping all the trade flowing down from the parishes in the rear. A leading advantage possessed by St. Jerome is the opportunity of extension northward through the Laurentian range of mountains, by following the course of the North River, and in this manner reaching the unceded lands in the rear also, drawing traffic from the fertile land bordering on the River Rouge; in fact, forming the most direct outlet for that important agricultural, mineral and lumber country to the city of Montreal. Through information derived from responsible parties, the committee is led to believe that on the construction of a lock at an expense of about \$5,000, the North River would be rendered navigable for a distance of at least six leagues above St. Jerome. This being the case, the river at a cost of about one mile of railway, would become a practical extension of the road to a distance of about eighteen miles, and thus act as an efficient feeder.

This gorge through the mountains made by the river in question, is also the most convenient outlet for some 18,000 people residing in the rear parishes, and who, no doubt, would give the road considerable traffic on mutually advantageous terms.

St. Jerome, while situated in the midst of a fine agricultural country, also possesses an almost unlimited water power, to which special reference will be made in an after part of this report. A line drawn from the village to the centre of the city divides the country equally between the Ottawa navigation on the west, and the Rawdon and Industry line of railway in the east, thereby equalizing the advantages to the lateral traffic created on both sides.

Considerations like the foregoing almost irresistibly compelled the adoption of St. Jerome for the present northern terminus of the road. The attention of the committee was next directed to the examination of several routes available for uniting the two extreme points.

To carry on the survey I selected Mr. Leclaire, of St. Therese, and Mr. Malaburg, of this city. That portion of the route between Hochelaga and Mile End, amounting to 2.71 miles, being uniformly agreed on, it will not be necessary on each occasion to travel over or refer to it, we will therefore confine description to the balance of each route, from Mile End.

Route No. 1.—From Mile End *via* Village of Sault aux Recollets, St. Rose and St. Therese to St. Jerome.

The total distance between the two extreme points of this route is 28.14 miles, or 0.97 miles in excess of an air line.

The length of straight line is 21.83 miles

the balance, 6.31 miles, consisting of curved line, ranging from 1° (5,730 feet radius) to 4° (1,424 feet radius), with a total curvature of 560°.

The estimated cost, including bridges, rolling stock, and other equipments, is \$609,609, or \$21,663 per mile. The grades descending on both sides to the first branch of the Ottawa, at Sault-aux-Recollets Village, are very heavy, being 90 and 105 feet per mile, respectively, while the rail level is carried 47 feet above the surface of the water in the river. The work on the north side consists of rock cutting to be extent of about 30,090 cubic yards, while on the south, or Montreal side, an embankment of some 40,000 cubic yards is required, carrying the rail at a height of 35 feet above the crossing of the macadamized road.

The length of bridge at this point is 1218 lineal feet, of which 712 feet span the main channel, of the extreme depth of thirty feet, with a rapid current.

The length of this line is 27.72 miles, or 0.55 miles in excess of an air line. Of the total length 23.56 miles are straight and the balance of 4.16 miles made up of curved line, ranging from 1° (5,730 feet radius) to 4° (1,424 feet radius.) The total curvature is 18, and will cost \$523,298, including bridges equipments, &c., or \$18,844 per mile.

This route, while taking advantage of the improved site for crossing the Back River at Vinet's Bridge, still labours under the disadvantage of the St. Rose crossing.

Route No. 3.—From Mile End, *via* Vinet's Bridge, St. Martin, Moulin a la Dalle, St. Therese, to St. Jerome.

The line could be somewhat shortened by striking direct from Moulin a la Dalle to St. Jerome; but by so doing it would leave the important village of St. Therese some distance to the east, and probably the ballast hill before referred to, additional surveys would be required to determine these points with precision. The distance from Mile End to St. Jerome, by this route, is 31.33 miles or 4.16 miles in excess of the air line. Of this distance, 20.60 miles are straight, and the balance of 4.73 miles made up of curved line ranging from 1° [5,730 feet radius]; to 3° .30 [1,637 feet radius]; the total curvature being 456°; and cost, including bridges, equipments, &c., \$444,654, or \$14,224 per mile.

The most noticeable feature in the construction of this line is the reduction in cost of bridges over the two rivers or branches of the Ottawa, as well as the more favourable gradients obtained at those places.

The following table will present at a glance the salient points of each route, and give facilities for determining the respective merits of each:

Routes	Total length Miles	Total cost	Cost per mile complete
No. 1.....	28.14	\$609,609	\$21,663
No. 2.....	27.72	523,298	18,884
No. 3.....	31.33	444,655	14,224

Routes	L'ngth straight line Miles	L'ngth curved line Miles	Total am't of l'ngth of curvature Degrees	Total l'ngth of bridges Feet
No. 1....	21.83	6.31	563	3588
No. 2....	23.56	4.16	318	3322
No. 3....	26.60	47.8	450	1972

In the meantime, in view of financial considerations, we are forced to adopt the longer line, *via* Moulin a la Dalle, but with the saving of \$78,000, in first cost. The objection to this route is the extra 3½ miles over which the through freight will have to pass for all time, lessened to some extent, however, by the easier gradient to be traversed. On the other hand, the railway will, if passing in this direction, obtain an increased amount of traffic from the large and flourishing village of St. Eustache, and from the other villages and populous country to the north of it, which might find its way into Montreal over