

Niagara Falls Park & River Railway Safety Betterments.

J. C. Royce and H. W. Middlemist, engineers for the Ontario Railway and Municipal Board, have presented the following report on the improvements which have been made on the Niagara Falls Park & River Railway recently:—On Aug. 19, accompanied by the Chairman of the Board, we conducted a test on the Queenston hill, in order to ascertain the efficiency of the new safety switch and the effect on the speed of the car produced by the change of grade and radius of curve. A car was provided by the company, whose officials were present and witnessed the test.

A test was first made of the safety switch by starting the car freely without trolley connection from the curve at Dumfries St., 200 ft. up the grade, and allowing it to accelerate to the end of the switch. The car was then taken to Dumfries St., to a point about half way between the two curves there, and started freely and allowed to attain a speed it would likely do in case of accident, and was brought to a stop at the end of the safety switch. A test was then conducted in order to ascertain the acceleration of the car from the safety switch to the end of the lower curve near the river, the radius of which had been increased to 145', and the grade reduced to 4.2%. The car started by gravity from the switch and passed satisfactorily around the curve without the application of the brakes.

A further test was made of the braking power of the four motors which are now installed in the cars, in accordance with the Board's order. The trolley was taken off the wire and the car allowed to run free, and when it attained considerable speed, the lever on the controller was thrown into reverse position and the car was brought successfully to a standstill by the resistance of the motors only. Another test was made to ascertain the acceleration which the car would attain on the curve itself and this was found to be comparatively small on account of the curve resistance.

We consider these tests satisfactory, in so far as they show the efficiency of the safety switch, and that if a car should run freely down the grade from the safety switch it should pass around the curve at the river at a safe speed, unless power is applied by the motorman voluntarily, in which case, no precautions taken by the Board will avail. We have taken into consideration the use of a dead trolley wire between the switch and the end of the curve, as a precaution against the motorman using current and thereby attaining speed beyond the safety limit on the curve. We have decided, however, not to recommend this, as it is advantageous to have current available at all times while passing down grade, not only for operating the air brake and lighting system, but to enable the motorman to reverse his car, which would be advantageous in case of emergency.

We also called the superintendent's attention to an irregularity in the curve on the safety switch and he promised to rectify this. We would recommend that the spring frog at the safety switch be kept greased and have pointed this out to the Superintendent, who has promised to see to it.

In reference to the improvements which have been made on the N. F. P. & R. Ry. to secure greater safety it may be stated that the original construction of the portion of the line from Queenston wharf to Brock's monument required

similar methods to those used by steam railways in mountainous countries. The distance on a straight line from the top of the hill to the wharf is 2,650 ft. The difference in elevation is 293.8 ft. To descend this hill, without an excessive gradient, the line had to be lengthened. This was accomplished by constructing along its face for 2,100 ft. westerly, where it turned in an easterly direction, still on a descending grade. The length of track actually constructed between the named points was 7,500 ft. A section of track where the gradient was 5.7% at the foot of which was a curve having a radius of 115 ft., has been raised several feet at the low place recently, and the alignment has been changed so that the curve radius is now 145 ft. A new safety switch has also been installed.

Hydro Electric Radial Railways for the Niagara Peninsula.

A meeting of delegates of the Ontario Hydro Electric Railway Association was held at Hamilton, Sept. 1, when plans of the proposed railway to be built by the Ontario Hydro Electric Power Commission, between Toronto and Niagara Falls, were explained and discussed. The portion of this line between Toronto and Port Credit has already been dealt with by the various municipalities concerned, the second section, that between Port Credit and St. Catharines being one chiefly under discussion.

F. A. Gaby, Chief Engineer of the Commission, in explaining, stated that the route it was proposed to follow through Hamilton was that adopted by the Canadian Northern Ry., and it was probable that the C. N. R. right of way would be taken over and the Hamilton station located on James St., near Murray St. The line, when completed, would be available for other railway companies on terms being arranged. It was estimated that the right of way would cost \$2,000,000 and the construction, so far as Hamilton was concerned, \$2,250,000, and stations and terminals about \$500,000. The line would run from Port Credit, where a junction would be made with the proposed Toronto-London line, thence to Clarkson, through the centre of Oakville, then south of the G.T.R. and parallel with the Hamilton Radial Ry., through Burlington. From the last mentioned point two surveys had been made, one on the north and one on the south of the Plains Road. The line would cross the G.T.R. overhead and proceed along the proposed Canadian Northern Ry. route and thence to Stoney Creek, Winona, Vineland, Grimsby, Beamsville, and St. Catharines. It was intended to use 80 lb. steel, and the whole equipment would be of the highest class, with rolling stock similar to that used on the London and Port Stanley Ry. Mr. Gaby also stated that four lines had been surveyed from St. Catharines to Niagara Falls, and the Commission was of opinion that two lines would be required, one to go via Port Robinson, and one by a more direct route.

The Hamilton Board of Control had a conference with J. N. Stanley, Assistant Engineer of the Commission, and subsequently a report was made to the City Council, showing that the estimated cost of building the line from Port Credit to St. Catharines was \$8,935,363, including stations and terminals. Car shops and rolling stock were estimated at \$425,000, the gross total cost being \$11,360,363. It was also stated that a subsidy of \$6,400 a mile on the 59.57 miles would produce

\$381,248, and reduce the cost to \$10,979,115.

On Sept. 18, the councils of St. Catharines City, Lincoln County, and Louth and Grantham Tps. passed resolutions endorsing the proposal. J. N. Stanley, Assistant Engineer, informed the St. Catharines Council, that the Commission intended to reach Niagara Falls, but as there was already a line between St. Catharines and Niagara Falls, it was considered that the line to Port Credit would be sufficiently large for a separate undertaking. He stated that the cost of construction would be divided between the municipalities concerned according to assessment.

At a special meeting of the Hamilton City Council, Sept. 19, a resolution was passed endorsing the scheme, but the council declined to approve of any definite route through the city until route plans had been considered by it.

Toronto Suburban Railway Deviation at Lambton.

The Ontario Railway and Municipal Board has issued its order authorizing the Toronto Suburban Ry. to deviate its Dundas St. line at Lambton Mills, to a private right of way owned by the company. The order is as follows: Upon the application of the Toronto Suburban Ry. Co. and upon hearing counsel for the applicant and for York Tp. and the City of Toronto having, at the hearing, applied to be made parties thereto, the Board was pleased to direct that counsel for the City of Toronto should also be heard, but that the said city shall not be made parties hereto, and the said application having come on for judgment, the Board orders that the plans, profiles and book of reference filed with the Board showing the proposed deviation, be approved, and the company is directed to make the deviation, subject to the conditions of, and in accordance with the agreements between the parties and the statutes relating thereto.

The City of Toronto strongly objected to the connection proposed to be made, but as it had no locus standi, it endeavored to prevail upon the York Tp. council to appeal against the Board's order, the city to pay all costs. The council, however, after consulting its solicitor, decided that nothing could be gained by an appeal, as he expressed the opinion that it could not be successful. The council also stated its belief that the interests of Toronto would not be affected seriously by the connection.

Jitney Traffic Notes.

The Vancouver, B.C., City Council has in course of arrangement the difficulty with the jitney owners as to the bonds which will be accepted under the bylaw.

A large number of car owners in the City of Quebec operated them as jitneys, during the day on which the Quebec Ry. Light and Power Co.'s conductors and motormen went on strike, Aug. 30.

R. Robson, a jitney owner, was fined \$200 at the Provincial Police Court, Winnipeg, Sept. 5, for using his jitney as a "blind pig." Some other jitney operators are suspected of being guilty of similar practices.

During the Toronto Exhibition recently practically the whole of the licensed jitneys in the city were operating on east and west routes. Scarcely any accommodation was given north and south on Yonge St.