

bridge will connect with the Honore Mercier bridge by means of a ramp and with the highways on the south shore by means of approach roads designed to distribute the traffic properly and to carry it across the railway embankment, thus avoiding the present narrow arch under the railway embankment.

The Victoria Bridge presented much more complex problems. After a great many alternatives had been carefully considered, it was decided that the best solution would be obtained if the first lock of the Seaway were to be located at St. Lambert in immediate proximity to the bridge. This will make it possible in due course to incorporate in the present bridge a lift span over the downstream end of the lock and to build a diversionary bridge which will have a lift span over the upstream end of the lock and which will be connected to the present bridge. Just a word as to how these facilities will operate. When the downstream lock gate is closed rail and road traffic will use the present bridge, but when the downstream lock gate is opened because a vessel is either approaching or leaving the lock the upstream lock gate must be closed and traffic will therefore move over the diversionary bridge. The essential point is that one lift span or the other will always be in the down position and signals will tell motorists where to go and automatic switches will take care of train movements.

Consideration was given to the feasibility of building a tunnel or a high level bridge for rail and road traffic but, because of the need of a gradient suitable for railway operations, it was found that the length of a tunnel or bridge would be over seven miles and that the cost would be nearly as much as Canada's part of the cost of the Seaway itself.

A clearer understanding of the problem may be had if the railroad's needs are separated from those of highway traffic. The steeper grades which are suitable for highway purposes are wholly unsuited for railway purposes and in the solution of the Victoria Bridge problem a separation of the two needs has been important. The Canadian National, which believes that the Victoria Bridge has many years of useful life ahead of it, is satisfied that its needs will best be met by the present Victoria Bridge and the proposed diversionary bridge. So far as motorists are concerned, the proposed changes in the Victoria Bridge will not diminish its usefulness for motor vehicles, and I think that the Nuns Island bridge, which the federal government has promised to build, will be a substantial addition to present facilities; and nothing will prevent other authorities from building other bridges if that be considered necessary.

So far as the Jacques Cartier Bridge is concerned, the southern part must be raised to a height of 120 feet over the Seaway. I shall not go into details but shall merely tell you that it is expected that this work will be carried out without interrupting the flow of highway traffic