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The Use of Common Roads by Electric Railways.

The principal objection to the use of a highway by an electric railway is the interference with the ordinary use of the road. As alternatives to placing the railway directly on the travelled roadway, it may be placed on the side of the highway, between what is commonly the ditch and the outside of the road allowance ; or a strip of sufficient width may be purchased adjoining and parallel to the road allowance.

Accidents from the frightening of horses are most apt to occur, during the first two or three years after the construction of an electric railway. After that, they become very rare. Horses quickly become accustomed to the cars. The ordinary farm horse, after passing an electric car two or three times, will not notice it afterwards. Women are very apt to be nervous in regard to cars when driving, and one complaint made by farmers is that they do not feel safe in allowing their wives and children to drive on the roads traversed by electric railways.

So far as the mere frightening of horses is concerned, there would appear to be little choice as to the precise location of the railway track, whether on the roadway or on the roadside. A horse that would be frightened by an approaching car, at a distance of ten or fifteen feet, will be almost as readily frightened by a car at two or three times that distance.

If the electric railway is directly on the travelled roadway, the danger, however, is greatest. There is less room to drive an unmanageable horse between the car and the ditch or the side of the road allowance. Accidents may happen by the sudden bolting of a horse as it comes very close to an approaching car. Under such circumstances, a horse is almost as apt to leap directly on the car track as to spring away from it, and in this way a serious accident is most likely to occur. This danger may be aggravated in the winter time when the sides of the road are blocked by snow drifts, and the car track, which has been plowed out, is used as a sleigh road.

By placing the electric railway on the roadside, with an open ditch separating it from the travelled roadway, actual collisions by horses jumping in front of a moving car, or backing into it, are less likely to occur.

Accidents from the frightening of horses, however, are not of common occurrence on any of the electric railways in the Province: The Metropolitan Railway is the oldest rural electric railway in Ontario. It runs from Toronto to Newmarket, a distance of twenty-eight miles, along Yonge street, one of the most heavily travelled country roads in Ontario. A cow is occasionally killed, but while some care has to be exercised at times by drivers of vehicles, an accident is of very rare occurrence. Horses have become accustomed to the cars. Those that are known to be excitable, are not used, or are driven by a person who can control them.

It is impossible to specify a safe width of roadway on which to place a track, which will apply under all circumstances. Cuts or embankment, a turn in the road, trees or houses which obstruct the view, culverts, bridges, have all to be considered in relation to each particular case. To locate an electric railway on a public highway, especially when the highway is narrower than the statutory width of sixteen feet, requires careful study on the ground.

In general, where the road is ordinarily straight and flat, and travel is not excessive, it would be safe to place an electric railway on the side of a twenty-eight foot grade, the poles carrying the trolley wire, to be outside of this. With the car and track occupying ten feet, this would leave eighteen or twenty feet for ordinary vehicles, and a horse could be at least ten or twelve feet from the car. Where there is a ditch, embankment, where the road allowance is very narrow, etc., additional protection should be provided.

Where a much travelled road allowance is as narrow as thirty-five feet, it is open to question whether, even under favorable circumstances, it should not be widened to keep at least this width clear for drainage and ordinary travel.

An electric railway on a country road should not be placed in the centre of a roadway, if this can be avoided In this position less room is available for managing a frightened horse. Also, the wheels of vehicles are more apt to become caught between the tracks. The macadam is not in actual practice kept flush with the top of the rails, T rails are used, and in turning out quickly, a vehicle may be broken or upset.

So far as ordinary travel is concerned, the most favorable location is along the roadside, outside of the open ditch ; or preferably, along a parallel right-of-way, purchased by the company, which, if little grading is necessary, need be only ten or fifteen feet wide for a single track, a matter of between one and two acres per mile of track.

A company desiring to construct its track as cheaply as possible, as a rule prefers to lay it on the centre or on the side of an old gravelled or macadamized road-bed. A common method, (though not the most acceptable to the public) is to dig trenches about ten feet apart in which to lay the ties. Shallow, longtitudinal trenches are excavated in which to place the rails. The rails being spiked to the ties, the latter are tamped to grade with whatever loose gravel, stone or mud is convenient, and the track is complete. In this way the company finds its grading and ballasting already done, and the track is laid at a minimum cost. The expense of grading and ballasting is the real saving, not the cost of the right-of-way, which would amount to between one or two acres only per mile.

A good deal of the opposition to electric railways in townships where they exist has arisen through defective agreements between the townships and companies, prepared at the time of granting the franchise. The townships of Waterloo and North Dumfries may be mentioned in this connection. In Waterloo an accident occured just south of Preston at a point where the road was exceptionally narrow. Through lack of clearness, the agreement as to liability was not sufficient to relieve the township. To defend the action and to widen and reconstruct the road, cost the municipality about $1,500.

Were a company to purchase its own right-of-way, parallel to the highway, question as to liability would not arise, except at road crossings. In a case where the road allowance is narrow, a franchise granted by a township should contain suitable regulations as to speed of cars kind of cars, care when passing vehicles definitely requiring the company to assume liability for accidents. A careful agreement of this kind would induce greater care on the part of the company in the operation of its cars, and the possibility of accident even on a very narrow road allowance, would be reduced to a minimum.

Independent Telephone.

Lines owned by individuals, municipalities and local companies are steadily growing in number in Ontario as instanced in Port Arthur, Fort William, Sturgeon Falls, Rat Portage, St. Joseph Island, and by the farmer's lines in the vicinity of Markham, Beaverton, Shelburne and Grand Valley, (Dufferin County), East Luther, (Wellington County), Harrietsville, (Middlesex), Fonthill in the Niagara District, Prince Edward County and elsewhere.

The construction of these lines is very simple and inexpensive. In the case of farmers' lines, a single line is used. The average is No. 12 copper wire, weighing 105 pounds per mile, and costing 16 cents per pound. Poles placed 150 feet apart, cost from $1.50 to $2.00 in place, Cross arms cost from 20 cents to 35 cents according to size and the number of pins. the latter price, 35 cents, providing for ten wires. The insulators cost 1 ¼ cents each. Stringing the wire costs $5 per mile. Telephone instruments cost from $10 to $14 each.