

legislation along these lines. On motion it was left to the incoming Executive for report.

Recorder Rogers, Amherst, called attention to Chapter 4, Acts of 1909, and particularly to section 6. He suggested that Municipalities should be allowed to buy Municipal securities with their sinking funds. He did not approve of sinking funds being used to buy their own Municipal Securities.

Mr. Doane then read his paper.

Width of Roads

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The unnecessary width of country roads and city and town streets would perhaps be a more appropriate and comprehensive title for the brief address contemplated in the preparation of our programme.

The subject should be considered under two distinct headings. First—The perhaps unnecessary width between boundaries; second—the unnecessary width of the roadway constructed and maintained for the use of wheel traffic.

In laying out country roads through undeveloped and perhaps useless land, the cost of acquiring a four rod right-of-way may be little, if any, in excess of that for a two rod road. After the road is opened and settlers or land owners develop the property on each side it increases in value, and consequently the cost of subsequent road widening may be much greater than the original cost. Houses and other buildings may be built close to the road; fences, hedges, stone walls, ornamental and shade trees, wind breaks, flowers and shrubs may occupy the land immediately adjoining the road. All these improvements, and even the proximity of houses which are not immediately on the road boundary increase the cost of road widening.

Looking only at the first cost of the right-of-way, and with a view to the future, it would seem to be the part of wisdom to acquire the four rod width. The question may be asked here, however, if you are going to argue that four rods is an unnecessary width for a country road why should that width be acquired at all? Why not acquire only the width absolutely necessary?

That question has been answered partially in the preceding paragraphs. In the woods, in unsettled and uncultivated districts one half of the four rod right-of-way is ample for all present requirements, but who can foretell the needs of the future? The wheel traffic of to-day cannot accommodate itself to the narrow lane of the past. The oxteams of our forefathers could haul out into the bush to pass a traveller journeying in the opposite direction. Such treatment for a rubber tired buggy or automobile is out of the question. This new and progressive style of transportation can be accommodated, however, on less than four rods. In fact, outside of the city, town and large village, a width of two rods is ample for traffic needs and for roadway construction. If there were no other consideration we should have to decide only if it is probable that the natural features and facilities for reaching the outside world would justify the municipal authorities in deciding that the future settlement would grow into a village and the village to a town. Even after arriving at a favorable conclusion it is a question whether the present generation should provide for the future or leave posterity to look out for itself. There is another consideration, however, which no doubt would carry more weight than any other hereinbefore mentioned.

Presumably the special reason for making the country highways so wide was that there might be plenty of

material available along the roadside for mending the roads in the old-fashioned way of throwing material from either side into the center of the road regardless of suitability of the material for road purposes.

Now that better ideas on road construction are gaining practical recognition, this argument for wide highway reservations, only one-fourth or less of which is used, loses much of its force. Of course there are hundreds of miles of little used country roads which must be repaired in the future as in the past with whatever adjacent material can be most cheaply thrown into the roadway. The most that can be hoped for on these highways is that the road scraper, drag and roller will be substituted for the plow, pick and shovel. By such means the best possible use will be made of such material as is closest at hand, and what is more to the point of the subject under discussion, extra wide highway reservations hundreds of miles in length will not be required in order to make available a chance deposit of gravel here and there.

When a new road is located gravel deposits should be sought at the same time and all necessary borrow pits either alongside or off the highway should be acquired while land is cheap. Rarely indeed do the demands for road material call for a continuous four rod right-of-way even under the old system of road construction and repair, and the difference in cost would perhaps pay for the borrow pits.

Even in the village from two rods to two and a half is ample if borrow pits can be provided, say every half mile. When borrow pits are made between the travelled roadway and the road boundary, most unsightly conditions are created, and no matter how attractive the private property may be the appearance of the margin of the highway destroys, the effect which the labor, care and expenditure of the householder has aimed at.

The greater the width of the travelled roadway the greater the cost of construction and maintenance, and in this country of frost and sunshine the greater the difficulty in maintaining a satisfactory surface. Carriage wheels use about five or six feet of road surface and the widest vehicles can pass on a fifteen-foot width yet it is not unusual to see parts of country roads twenty-third, and even forty feet wide between ditches. Furthermore, road foremen continue to repair the full width of such wide places for no other reason than that their predecessors did it, although the rest of the road in their district may be less than half the width of such places.

In Nova Scotia conditions no country roadway more than one rod wide can be thoroughly, easily and economically drained. The result is that the frost and rain destroy the road surface and when the frost comes out in the spring it leaves it so uneven that it holds water all over it. This keeps the top softened so that it can be cut and ground by traffic making holes and ruts deeper. When the heat of summer dries the surface water, the covering material blows off in dust or remains to make mud when the wet and frost return.

The nearest treatment to a preventive is a one-rod roadway well rounded and well ditched or guttered. On existing roads, the majority of which are flat or hollow in the middle, the sod on the side of the road next the ditch should be dug off and thrown outwards across the ditch. The material under the sod is very often good road repairing material and in such case should be dug down and thrown into the center of the road, thus narrowing the road and raising it in the middle so that the rain will run off and out of the road instead of sinking into it. Where the road is very wide new