

More Scientific Study Needed in Road Building

Some time ago a party of Councilmen from one of the Counties in Canada took a trip to Detroit to go over the Wayne County Roads. The party left the centre of the City of Detroit, rode to the City limits and thence on through the County roads completing a trip of 80 miles and in that distance never encountered one hole in the road, or any place where a man could not drive in safety and comfort at thirty miles an hour. After the trip was over one of these gentlemen remarked: "There is no reason why we cannot build roads in Canada just as good as the people do here."

About six weeks ago the gentleman who accompanied these men on this trip was planning a trip to the City of Ottawa, Ont., and was trying to decide how to get there from Montreal, and came to the conclusion that he should drive over the King Edward Highway to Ogdensburg, N.Y. and thence over just fair earth roads to Ottawa. The distance travelled on this trip was probably twice as far as if he went direct, but due to the condition of the roads it was economy to take the roundabout route.

It is when you take trips of this kind through the country that it is brought home to everyone the advantage of good highways crossing the country from one large centre to another.

In developing the country it is natural that Railroads would be the first mode of transportation for great distances, and due to this fact the Public highways have been largely neglected. However, since the advent of the auto and its increased use for commercial activities, all parties concerned with transportation, other than railroads, are seeing that it is a large national waste not to improve the public highways and make them passable at all times of the year.

The cost of their construction, for there are always those

The great drawback, however, to good road systems is people interested who shout that all improvements made in the country mean increased taxation, and therefore they cannot afford it. To one who studies these matters fairly, closely the absurdity of this argument is very evident, for in keeping records of different road systems over the continent, it has been proved conclusively time and time again, where accurate records are kept, that the cheap road is the most expensive to the public, not only in increase of cost of travel and incurring large loss of time and inconvenience, but in actual dollars and cents in keeping the road passable.

Take the car most any day of the Summer and drive out of the City, and on the big majority of roads you will find that they are being repaired by throwing dirt into the centre of the road to give it a crown to shed water, or hauling on gravel or crushed stone. If you were to go there another year you would see practically the same procedure, and you would not be able to see any improvement in the road.

No doubt most of us remember the days when Railways were using 60 lb. rails for the laying of the main tracks. It was not long before they were using 80 lb rails, and then they moved on to the 100 lb. rail. They changed the rails because they had changed the type and size of engine that went over these rails. They found that it was the height of folly to try and carry the large size present day locomotives on the light weight rails. Doesn't it seem that the same procedure should be applied to the highways?

As long as they are being used for slow horse drawn vehicles and having a very moderate amount of traffic, everyone knows that the dirt roads will suffice in a sort of a way. When the traffic begins to increase and the man using the roads wants to go at a faster rate and wants to use that road with comfort every day in the year, it certainly seems as though we should improve the type, then when we come to the use of the motor-car which carries heavy loads concentrated on small wheels, does it not seem again as though we should build the road suitable for that as well? This undoubtedly is the problem of the highways today.

We hear in many parts of the country men clammering for Macadam roads, because they want an improvement. In fact, they are asking us to build today with our money a road that was invented a hundred years ago by a brainy engineer to carry traffic at that time. In fact, it was a road we may say that was designed to carry a heavy ox-

cart traffic, not speedy traffic, or a traffic on narrow steel tires. Nevertheless in the face of the present day traffic, we will see the public having their money expended in the construction of a road that was satisfactory for travel a hundred years ago.

Now, through many parts of the country the feeling seems to be that people are not in favor of good roads, but this is not correct. The people are certainly very willing to have good roads, but the problem that they are confronted with, is, are they going to have them even if they spend the money for them?

There are really two ways of having good roads system. One, is to build a road at a moderate cost and then place upon that road a Patrol System just along the same scheme as that which is done by our Railroads, the duty of these men being to keep the road in repair throughout every day of the year, so that it passable equally well one day as another.

The other system of constructing roads is to build a high priced permanent type of road on which the maintenance will be a very small amount, probably about a gang of men working about a week on a 20 mile stretch.

These two systems of roads are in use today in the United States. In the State of New York the Macadam type has been used extensively and is being maintained by the Patrol System, while in Wayne County, Mich., Milwaukee County, Wis., Cayuhoga County, Ohio, the people have adopted the permanent type of road, concrete and brick, respectively, and have had a good road every day in the year with a minimum of maintenance, amounting to not more than a gang of men a week to every 20 miles.

Experience seems to show in the different places mentioned that when you figure the cost of these roads throughout a period of ten or twenty years, that the economical road is that which has been the high initial cost and of a permanent type.

There is no doubt but that the permanent type is the more satisfactory road, because the least obstruction can be afforded to traffic, and that is the road best liked by the people. If the cost over ten years shows to the people that the permanent road, which is better to travel on, has cost them less money, they are certainly going to be in favor of that type.

That brings us to the point of road finance which undoubtedly should be studied very closely by all Municipalities constructing roads. The common method of financing road building is to issue bonds over a certain period for its construction, and very joyfully forget all about keeping that improvement up. This method means that in many cases improvements are judged entirely from initial cost, and that the most expensive improvements is adopted when we come to consider the cost over a period of years.

There is practically no doubt in all engineers' minds that any type of road, excepting the dirt road, can be made to carry traffic successfully every day in the year and carry it at a reasonable cost. Every road builder also knows that certain money must be spent on each one of the different types in order to make it give that service. The problem then for the people to solve is which one to adopt to give them that service with the least cost.

The idea of going into the matter as has been done in this article is to convey the fact that it is very easy for people to write volumes about having good roads and they can criticize the public if they are not enthusiastic over the idea, but if they would only stop to think they would realize that the whole idea of good roads hinges entirely upon the method of organization adopted by the Municipality building them and the roads they select to stand the traffic.

These are the things that we must absolutely decide if we are going to build roads throughout the country in order that the younger generation that are coming along may enjoy improvements that they are helping to pay for.

There is certainly one thing sure, and that is that the issue of debentures for the construction of a road which wears out years before the debentures have been paid up is false economy and poor finance, and not only that, but also one of the facilities in the road building system that will do more to hinder the construction of proper highways than any other considerations.