with narrow tires. Coal carts, drays, tonnage and express wagons on narrow tires should soon become a thing of the past. The city of Ottawa has recently adopted a wide tire by-law, and this example it is to be hoped will soon be followed by others.

To understand the evil effects of narrow tires one has only to observe an empty, springless wagon jolting along the highway, or a loaded wagon ploughing its way through the crust of a gravel road in fall or spring. At all times narrow tires on wagons of heavy draught are the greatest destroyers of roadways. To get the most benefit from the statute labor and other road expenditure in the Province, to lessen the cost of roadmaking and maintenance, narrow tires must be discarded by those engaged in heavy teaming on our roads.

Broad tires, on the contrary, are in a way a benefit rather than a detriment to roads. Their broad surfaces perform the work of rollers in keeping a smooth and compact roadway free from ruts. Wide tires more than any other means that can be adopted, distribute wear over the surface of the road. Narrow tires do the work of a pick on a roadway, while broad tires do the work of a pounder. The one tears up, he other consolidates.

CULVERTS.

Small culverts should be made of vitrified or concrete tile, or iron pipe. Stone masonry is the best material for larger culverts. There is a tendency in some municipalities to narrow waterways across rcad allowances by the use of embankments. This practice while formerly adapted to the conditions of the charate in Ontario, have become very objectionable since the land has become cleared of its timber, and extensive drainage works have been constructed. Subjected as we are to severe floods and freshets unrestrained by timbered land and augumented by large drains, every facility should be offered to the flow of water. Large expenditures have been created by washouts caused by contracted waterways under bridges and culverts, an extravagant method of lessening the original cost.

BRIDGES.

Iron and steel are rapidly increasing in favor as bridge materials, replacing wood to a very great extent. The former are constantly decreasing in cost while the value of wood is increasing. There are, however, sections of the Province where wood is still plentiful and where, notwithstanding the greater durability of steel, eccnomy dictates its use. The selection of any particular form of bridge must be controlled by the adaptability to location and economy since no one of the well-recognized types of bridges whether beam-truss, suspension-truss, or arch-truss is better than another. Any bridge designed on correct principles is good.

FENCES.

To provide a fence which will not cause snow to drift in the highway, completely obstructing it, and which will not on the other hand permit the roadway to be swept bare is a problem not yet solved. Where drifting is very common and such as to make the roads impassable, wire fences are the means ge su er

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