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## SOME NOTES ON MACADAM ROADS AND PAVEMENTS

MODERN NECESSITIES FOR VARIED HIGHWAY TRAFFIC—  
NEW DESTRUCTIVE FORCES AND AGENCIES TO MEET THEM  
—PAVING MATERIALS AND THEIR CHARACTERISTICS

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OF paramount interest to any public body is the vital and far-reaching question of transportation. Next to transportation by rail and water, comes transportation by road—the one being the logical outcome and veritable necessity of the other. Railways are first in the early development of any country, but without a comprehensive system of trunk highways as feeders to the railways further development of the country is hampered and progress impeded. Recently there has been a revival of the road-building problem and the “Good Roads movement” is receiving the attention it deserves, not only from municipal bodies and provincial and federal authorities, but also from the general public. Good roads are essentially a business proposition; commercial, industrial, agricultural, and social conditions are all directly or indirectly benefitted by them. They are not only an index of, but also a means towards, a country's greatness and prosperity. They result in the cheapening of transportation, improved marketing facilities, increased land values, and the betterment and extension of social conditions and privileges. Much has been said about the indifferent agricultural conditions existing in the Fraser Valley districts. Obviously enough, the remedy lies in providing more and better transportation facilities by road. Railways and car lines, while materially assisting, do not, and cannot, in themselves supply the largely felt needs of cheap, speedy and effective transportation direct between our fruit and dairy farms and our towns and cities. Increase our mileage of roads, improve our existing roads, afford our farmers and fruit-growers an opportunity to compete on equal conditions with fruit-growers, and not only do we decrease the high cost of living, but we also prosper and populate our fertile fruit and farm lands. Assuredly development and progress will go hand in hand with the provision for better means of highway transportation. Due stress has been laid on *good roads*. The roads which were good enough a few years ago are now indifferent, some of them even bad. With the drastic change in traffic conditions the former methods of construction of arterial highways are either materially changing or fast becoming obsolete. The time is at hand when country roads will be subjected to as heavy traffic conditions and as severe usage as are city streets. Country roads, being generally narrow and highly crowned, the traffic is concentrated on the central portion of the roadway, whereas on the wide city street

the traffic is scattered, conditions which are further aggravated by the greater speed allowed on country roads than on city streets. In view of such facts, and in the very force of circumstances, it seems natural to conclude that the same care, discretion and skill which is now exercised in the designing and construction of city pavements should also be extended to the planning and building of the much-travelled main highways. The problem at issue, therefore, appears to be the construction at a reasonable cost of a modified paved highway which will combine the utility and durability of the paved street and yet retain the aesthetic and attractive features of a rural road.

Few, if any, of us wish to see our rural highways converted into the stereotyped paved street, for apart from their mere utilitarian objects there is much that is naturally attractive and appealing to the motorist and pleasure seeker in the ordinary rural highway, with its straight, level stretches, joined by easy, graceful curves, succeeded by undulations peculiar to a rolling country. The conception and construction of the more modern highway should, therefore, be along lines both utilitarian and aesthetic. To develop a highway which will ultimately fulfil all of its requirements one should be governed by the following principles: (1) The building of a road in the best possible location as to line and level. (2) The macadamizing of the road of suitable width and depth. (3) The conversion of such road with a consolidated rock foundation into a bituminous pavement by hard surfacing. Desirable and necessary as paved roads may be, it is not financially possible for most municipal authorities to undertake at the outset a large mileage of permanent roads at a higher first cost. But arrangements can generally be made for the construction at reasonable cost of a good paved road in the above successive steps.

In commenting on roads and pavements, it is natural to first discuss the former and its relationship to the latter. Road or street construction has gone through a period of evolution—the modern paved street of to-day being the logical outcome of the roads of yesterday, just as the modern macadam road has replaced the trails of the pioneer and the prospector of earlier days. Increased traffic, the easy and economical transportation of heavy loads, consequent upon the settlement of the country, made necessary the conversion of the first rough trails blazed through the forest, into passable thoroughfares.