

# The Canadian Engineer

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## GOOD ROADS AND THEIR INCOMES

THE economic benefits arising from country road improvement may be placed in three classes: the measurable, the tangible, and the intangible. Of the tangible, there are many. For instance, there is the development of motor traffic, linking more closely the railroad terminal city and country village, and at the same time acting as a feeder for the railroad itself. The reduction in the upkeep cost of automobiles must alone amount to many millions of dollars annually. Another is the stimulus to education, shown by the immediate increase in school attendance accompanying any road improvement. Still another is the improvement in local business which invariably follows in the sections contiguous to the betterment. Less tangible, but no less real, is the increase in direct distribution which must come with better roads. These are but a few of the more obvious effects.

Then there is the measurable benefit, which must be regarded as the direct return to the community upon its investment in road betterment. It lies in the difference between the hauling cost over a road before and after it has been improved. Of course, this is subject to considerable variation, depending as it does upon the condition of the road before improvement, as well as upon other factors. Nevertheless, it cannot be disputed that the reduction in all cases is very large.

This measurable benefit should be given the important consideration it demands when a community is thinking of borrowing money for road improvement. An investment therein returns an annual income to the community, arising from the reduction in cost of haulage.

This reduction may be termed, as the railroads are disposed to call it, an operating income. While many factors influence it, it may be estimated with conservatism, for, while basing an estimate on existing tonnage over the road, there is always a decided increase in annual tonnage as a result of the improvement and a corresponding increase in operating income.

As we all know, the railways spend millions of dollars in the effort to reduce the ton-mile cost of hauling freight only two or three miles. It is, they find, money well invested, and it is illustrative of what may happen in the development of better roads when the people of this country come to realize that such improvement may mean a saving on the hauling of many millions of tons not of a fraction of a cent, but a saving which may amount to as much as 10 cents, 5 cents, or even 2 cents, per ton-mile.

## VICTORY BONDS AS AN INVESTMENT

NEXT Monday, October 28th, the selling campaign in connection with the second Victory Loan will commence, and it behoves Canadian engineers and contractors to do all they possibly can to ensure the campaign proving a complete success.

Apart altogether from other reasons, the opportunity to invest money safely and at a good interest rate should be a sufficient argument to buy Victory Bonds to the limit.

The investment is as safe as an investment can possibly be, for, unless Germany should win, there is not the most remote possibility of loss. If the unthinkable should happen and Germany win, everything would be lost anyway.

The cry, "Its millions for defense or millions for indemnity," is not mere playing with words.

The rate of interest is attractive—is much higher than that paid by the banks—and practically as high as the average man can get without taking risks.

## SHIPBUILDING IN CANADA

HEALTHY competition is the essence of business, and enemy ruthlessness afloat, whatever else it may have done, has aroused a spirit of competition in regard to shipbuilding throughout the British Empire, and beyond, which the termination of the war will only serve to accentuate. The British Empire, of which Canada is a part, views with satisfaction the prospect of the moment, which tells of ship after ship being built, launched and placed in commission by one or other of the allied powers in allied effort to complete the overthrow of the common enemy. For as long as the war lasts Canada, can look with equanimity upon the efforts of her neighbors as being a means to an end, but the time has come when it might be worth while to reflect on their probable post-war effort. America, for example, is not likely to throw away a trade which she has long sought to possess, and which the fortunes of war have placed within her grasp. It is not likely that she has built great shipyards, like the one at Hog Island, near Philadelphia, with a frontage of two miles on the Delaware River, "for the duration of the war" only. Nor is it likely that either of the other new Government yards, let alone the numerous private concerns, will be closed down when the end of the war comes. On the other hand, it is more than likely—it is an absolute certainty