

The rural roading system of the Dominion comprises 46,088 miles of formed roads, made up as follows:—

	Miles.
Dustless surfaced roads	1,184
Metal- or gravel-surfaced roads	30,219
Unsurfaced roads	14,685
Total	46,088

As the result of investigations carried out by the Department, it is estimated that the average surface thickness of the metal- or gravel-surfaced roads is under 4 in., and the following table shows the surface thickness required for the various allowable gross loads under the different classes:—

Classification of Road.	Allowable Gross Weights for Two-axled Heavy Motor-vehicles.	Maximum allowable Axle- loads for Two-axled Heavy Motor-vehicles.	Compacted Thickness of Surface required.
	Tons.	Tons.	Inches.
Unclassified	10·0	8·0	8
Class II	8·0	6·4	7
Class III	6·5	5·2	6
Class IV	4·5	3·6	5
Class V	3·0	2·4	4

Assuming that the average width of metal surface is 11 ft., and the present average thickness of the surface is 4 in., then, estimating the cost of metal or gravel in place at 10s. per cubic yard, the cost of bringing the metal- or gravel-surfaced roads up to the various standards is shown in the following table:—

Standard of Road and allowable Gross Weight.	Additional Metal or Gravel required per Mile.	Cost per Mile.	Interest at 5 per Cent. per Mile.	Sinking Fund Charges based on an Eight Years' Life per Mile.	Total Capital Cost for 30,219 Miles.	Total Capital Charges for 30,000 Miles.
	Cubic yards.	£	£	£	£	£
Unclassified (10 tons)	960	480	24	50·2	14,500,000	2,244,000
Class II (8 tons)	720	360	18	37·6	10,875,000	1,683,000
Class III (6½ tons)	480	240	12	25·1	7,250,000	1,122,000
Class IV (4½ tons)	240	120	6	12·5	3,625,000	561,000
Class V (3 tons)

The above figures show that it would cost this country over 14 million pounds, or just under 2¼ million pounds per annum in capital charges on metal or gravel alone, to strengthen the surfaced rural roads so that they would be suitable for regular gross loads of 10 tons on two-axled heavy motor-vehicles. If, however, the maximum standard aimed at is Class III, these ultimate costs would be halved, assuming that all the surfaced roads were brought to that standard; but if the road-classification is based on road-transport requirements, then Class IV and Class V roads will form a large proportion of the total mileage and the capital costs would be further materially reduced.

In order that this problem of road standards may be attacked, it is essential that a comprehensive road census be carried out, and from the information derived from such a census it would then be possible to lay down a definite national scheme of road-classification which, as previously pointed out, would result in very substantial savings in road-construction costs without materially affecting the efficiency of road transport.

In this connection it might be pointed out that the taking of a road census would be an eminently suitable work for the unemployed, supervised by Government and local-body engineers.

The present position as regards classification of the rural roads is as under:—

	Class II.	Class III.	Class IV.	Class V.	Total.
	Miles.	Miles.	Miles.	Miles.	Miles.
North Island	1,084	3,183	5,801	2,585	12,653
South Island	1,093	3,102	1,936	325	6,456
Totals	2,177	6,285	7,737	2,910	19,109