The Directing Committee estimates that, without return loading, in the early stages of development of a new area the transport costs with a 15-ton-pay-load unit should not exceed 5d. per ton-mile, and, with a specially designed 30-ton unit (which was included in the Council's original scheme) the cost should be reduced to about 3¼d. per ton-mile.

In general, the roads for such vehicles would not cost more than £200 to £300 per mile to construct, and the maintenance charges thereon should not be heavy.

It is regarded as important that the trials of the second unit be continued, and that the construction and testing of the 30-ton-pay-load unit be undertaken. In this connection, the Oversea Mechanical Transport Council hopes that it may be possible to proceed with such work through voluntary financial assistance from the dominions of the Empire, and in spite of the fact that no further contributions will be forthcoming from the Empire Marketing Board, now disbanded, which met the initial costs of the investigation and has provided half of the money already spent on the development of these special vehicles.

8. THE COMPRESSION-IGNITION ENGINE.

In view of the wide interest in the development of the so-called "Diesel" engine, not only amongst those directly concerned in road transport, but also by the general public, there is every justification for again making special reference to this type of engine in the Department's annual report.

During the year steady progress has been made with the compression ignition (Diesel) type of engine for road-transport purposes, and a good indication of the position in England to-day compared with that of a year ago may be obtained from the respective schedules of commercial vehicle specifications, as published by the Society of Motor Manufacturers and Traders, Ltd., London.

The issue of May, 1933, is the latest available, and, comparing the data therein with that supplied in May, 1932, the respective figures show that, in the goods-vehicle group :—

(*a*) Neither issue records any compression-ignition-engined unit below the class of 2-tons-pay-load capacity.
(*b*) Class 2 to 3 tons : 1 model in 1932, 4 models in 1933.
(*c*) Class 3 to 4 tons : 4 models in 1932, 8 models in 1933.
(*d*) Class 4 to 6 tons : 10 models in 1932, 12 models in 1933.
(*e*) Class over 6 tons : 15 models in 1932, 22 models in 1933.

Therefore the average percentage increase for the year in standard goods-vehicles with compression-ignition engines is 53 per cent.

In the passenger-vehicle group neither schedule records any compression-ignition models in the classes below 20-passenger capacity, and there has been no change in the aggregate figures—namely, 7 models—for the classes "20 passengers and over."

Although compression-ignition engines of comparatively small power and weight are on the English market and have proved dependable and economical for certain work, they are at present more or less in the experimental stage for service in the small-capacity motor-vehicle.

Vehicles fitted with Diesel engines are now common at all the important motor-vehicle exhibitions, and this type of power-unit is preferred by many experienced operators throughout the world, but, in so far as New Zealand is concerned, practically no progress has been made by this type of engine during the year, possibly because of the imposition in April last of special taxation on a mileage basis on motor-vehicles propelled by means other than motor-spirits. Such tax is approximately equivalent to 1d. to 1½d. per vehicle-mile, according to classification, which is determined from the maximum gross laden weight, and, from the taxation (revenue) point of view, it is approximately the same, class for class, as the tax on the motor-vehicle with a petrol-engine.

9. MOTOR ACCIDENTS.

(*a*) Fatalities Statistics.

It is gratifying to observe that fatal motor accidents still continue to decrease, the figures detailed in Table 24 indicating that for the year ended 31st March, 1933, there were 140 fatal accidents resulting in 143 deaths, as against 148 accidents and 157 deaths for the preceding year. As mentioned in last year's report, it is probable that one of the chief causes of this reduction is the lesser vehicle-mileage prevailing due to the present conditions.

Only fatal cases are subject to analysis, and therefore it is not safe to draw conclusions from the detailed comparisons in cases from year to year. Nevertheless, attention is directed to the following points based on comparing this year's figures with last year's :—

(1) An increase by 15 in the number of accidents to pedestrians and a corresponding rise of 12 in the cases when the motorist was at fault.

When the total reduction in fatal accidents is recognized, the rise in this class of accident, one of the most distressing of all, is to be deplored.

(2) A reduction of 5 in the number of railway-crossing accidents.

(3) An increase by 23 of accidents in hours of darkness in spite of the general reduction, and, of these, 4 were due to glaring headlights and 14 to insufficient lights.

The attention of motorists and other vehicle-users is particularly drawn to these figures. Of all the types of accident, this is one which vehicle-users have the best chance of reducing by mechanical and routine attention.

(4) Of the four centres the fatalities near Wellington and Dunedin are halved, whereas those about Auckland and Christchurch have increased. The South Island generally has a noticeably lower record than the North Island, but this may be due to the difference in traffic density.