

More particularly as regards the use of gates or barriers the following information as to the practice in certain important cities and States in America may be of interest.

At Indianapolis the general tendency has been to replace gates and level-crossing keepers by flashing-light signals. Seventeen crossings have been equipped with flashing-light signs where crossing-keepers were previously employed, and six gates have been taken away and protection afforded by the light signals.

During 1928 one railway company installed eighty-eight Griswold signals in St. Paul and Minneapolis. This type of signal was decided upon after conference with the city authorities. In this case sixty-six gates were removed and protection afforded for the twenty-four hours of the day by means of the light signals, and it is stated that the number of accidents has been materially reduced as a result of the new installation.

The Griswold crossing signal consists of an octagonal yellow sign which is turned parallel to the street traffic when the crossing is clear and thrown at right angles when a train approaches. A flashing-light signal is erected at each side of the octagonal sign while a flood light illuminates the whole signal.

In East St. Louis the Louisville-Nashville Railway Company has replaced crossing-keepers and gates at six crossings by flashing-light signals.

In the State of Connecticut there is very strong opposition to the provision of gates, the opinion held there being that they fail in visibility at a distance of more than 200 ft. at night, even with the rays of a motor-car headlight.

Notwithstanding the provision of warning-devices, accidents continue to happen at level crossings, and the position in this regard in New Zealand is not peculiar to this country only. The position is similar in the United States of America, while the General Manager of the South African Railways in his report for the year ended 31st March, 1929, said that out of 219 level-crossing accidents during the year on the South African railways no fewer than 131 were at crossings protected by gates, booms, or chains, warning-bells, and/or flagmen.

There is no doubt that the great majority of road-users exercise sufficient care to obviate accidents at level crossings. On the other hand there is a small minority of persons driving road vehicles who by indifference or recklessness continue to endanger not only their own lives and property, but also the lives and property of Railway people and of those who use the railways. Absolute safety can be obtained only by the entire elimination of the crossings. This, as has been so often said, is an economic impossibility. All that can be done is to take such reasonable measures as are feasible in the circumstances.

We in New Zealand have proceeded with the elimination and protection of crossings in association with the Highways Board and in some cases the local authorities according as our finances have permitted. We endeavour to lay out the money available to secure the greatest possible advantage and in this connection it is to be remembered that the cost of eliminating one crossing is generally sufficient to provide warning-appliances at quite a number of crossings. Elimination can therefore be justified only where the circumstances make the crossing particularly dangerous even for the reasonably careful road-user. The elimination of any other crossing is simply affording the small minority protection against their own folly at the expense of the greater measure of protection that could be afforded to road-users as a whole at a larger number of crossings.

Having regard to the economic limitations to the entire elimination of crossings, the ultimate appeal must be to the human factor and the improvement of this factor must lie along the lines—

- (1) Of a process of education of road-users to a proper sense of responsibility to themselves and others; and
- (2) The prevention of accidents by depriving people who show an indifference to their responsibility in connection with the use of level crossings of the capacity to create dangerous situations.

The general line of action in this latter regard will be by the withholding of licenses, while the education to a proper sense of responsibility will be very much stimulated by the more rigorous administration of the law regarding the use of level crossings and the imposition of such penalties on those found guilty of breaking the law as will have a definitely deterrent effect.

In the case of a person driving a car while in a state of intoxication heavy penalties are very rightly imposed, while, in the case of a breach of the law at level crossings the penalties are in no way comparable, and I am afraid that all too often there is a misplaced sympathy for the motor-driver whose vehicle is damaged in consequence of his own failure to rise to a proper standard of responsibility when using a level crossing.

#### ROLLING-STOCK.

I desire to draw pointed attention to the position in regard to our wagon stock. This part of our plant is increasing in average age, and we must definitely look for a higher proportion of rolling-stock-maintenance work and a more rapid rate of scrapping than has been the case in the past. Indeed, we recently had a survey made of the situation and found that quite a large proportion of our rolling-stock is approaching the end of its economic life.

With the growth that is taking place in our goods traffic it is absolutely essential that our building programme should not only keep pace with the scrapping programme, but also that we should have as much additional margin as will balance the increase in our goods ton-mileage.

In recent years we have been dropping back by reason of the fact that our stock of wagons has not nearly kept pace with the quantity of work required of them, until now we have arrived at a stage that is becoming serious.