in detail and demonstrations have been given in a number of towns, but more than half the Fire Board brigades are still not provided with a fire-pump despite the fact that suitable machines are now available at a cost of £600 and upwards, depending on the type of body required.

It has been found necessary to call the attention of a number of the Fire Boards to the desirability of replacing the existing fire engines. The paint and metal work of these machines still shines and they have done very small mileage and are apparently in efficient mechanical condition. The reluctance to part with them is understandable, but it must be remembered that manufacturing technique has greatly advanced in the past ten years. The speed, road ability, and braking systems of modern motor-vehicles, together with the sealing of the roads, have resulted in a considerable increase in the average speed of traffic, and it is essential that the fire engines, or at any rate the main appliances, should be kept up to the modern standard. The machine of ten or fifteen years ago, with its high loadline and two-wheeled braking system, cannot be regarded as efficient for the high-speed work required of fire engines, and machines of this type should be relegated to duty as reserve equipment. There is also the additional factor to be considered that crystallization of metal is likely to take place even with machines not in constant use, and from this aspect also a machine of more than fifteen years' service cannot be regarded as anything but a reserve appliance.

*Brigade Turnout.*—Attention was called in the last annual report to the weakness which exists in many of the larger town organizations in respect of turnout to evening or weekend fires. The following table sets out the average losses in the cities for the past three years from daytime, evening, and night fires, and shows the necessity for maintaining an adequate staff for quick turnout during the evening hours. In a number of the larger towns arrangements have been made for at least one squad to be on duty at the station from 7 p.m. onwards, and the extension of this system to all the larger towns is strongly recommended.

*Three-year Average, 1934–36.*

| Period. | Number of Fires. | Percentage of Total. | Fire Losses. | Percentage of Total. |
|---|---|---|---|---|
| | | | £ | |
| 6 a.m. to 6 p.m. .. .. .. | 272 | 54·29 | 25,950 | 19·78 |
| 6 p.m. to Midnight .. .. .. | 148 | 29·54 | 49,474 | 37·72 |
| Midnight to 6 a.m. .. .. .. | 81 | 16·17 | 55,753 | 42·50 |

*General Equipment.*—The more general provision of salvage equipment referred to in previous reports is most desirable. In one case in which the equipment was provided for one of the smaller town brigades during the year, the saving at the first fire at which it was used amounted to several times the total value of the equipment. The provision of salvage gear also has a psychological effect on the brigadesmen, and encourages the adoption of fire-fighting methods which minimize water damage. Only a few of the larger brigades are provided with deluge sets or other equipment for large fire streams. These are only infrequently required, but their provision in the larger towns is most desirable. The question of smoke-protection equipment is referred to elsewhere in this report.

For the reasons set out in my last annual report the question of Fire Board expenditure cannot be dissociated from the insurance aspect of the problem. The opposition to the increased expenditure necessary for efficiency has not been confined to the local authorities' representatives on the Boards, and there appears to be a reluctance on the part of some of the insurance representatives to approve any increase in Fire Board expenditure which will increase the existing ratio between Fire Board levies and insurance premiums.

It is claimed by many of the insurance interests that they should not be required to contribute to Fire Board expenditure, since insurance rates are in principle based on the fire risk existing in the individual towns, and this is in turn controlled to a large extent by the comparative efficiency of the local fire-protection service. In theory this may be correct, but in practice, owing to insurance tariff anomalies which are difficult of correction, it is far from being the case. The fact remains that the law requires the insurance companies to provide approximately half the cost of Fire Board operations. It is prudent business practice to increase expenditure up to the point of maximum return. Under the present conditions a number of the brigades are unable, owing to inefficient equipment, to reach full efficiency and, judged from the business aspect only, the extra expenditure necessary to achieve a reasonable standard is amply justified.

Since 1930 the returns for fire losses in Fire Board districts have been checked with the returns supplied by the insurance companies to the Government Statistician, and the following table shows the average fire losses and Fire Board levies in fire districts, in comparison with the losses in the remainder of the Dominion, for periods of six and three years. The figures, which cover a sufficient period to be of value, clearly demonstrate the importance of the fire brigade operations in reducing the payments by insurance companies in respect of fire. It will be noted that the total payments—both fire loss and levies—made in respect of fire districts represent a much smaller percentage of premium income than the fire losses alone in the remainder of the Dominion and leave an ample margin for the small proportionate increases in expenditure recommended above. The comparison is even more favourable when it is remembered, firstly, that the insurance rates in fire districts are much lower than