

those limits. In addition, much of the congestion which now exists on the long-distance lines within each of the two Islands will be considerably relieved. As soon as the above-mentioned systems are in operation consideration will be given to the question of installing carrier systems between other centres.

A great deal of work was also carried out during the year in the direction of extending and improving the facilities for short-haul traffic. In almost every part of the Dominion some facility was provided for the purpose of relieving congestion of traffic or for giving service to some backblocks settlers that had not previously enjoyed any of the privileges or conveniences of the telephone. In addition, the speech efficiency of toll circuits and the physical condition of the lines were considerably improved by the carrying-out of many reconstruction works. These works included the renewal of pole-lines, the replacing or respacing of poles, the strengthening of existing poles, the regulation of wires, the rearranging of transpositions, the substitution of copper for iron wires, and the re-erection of circuits on the twist system.

The steady expansion and growth of the local-exchange systems which has characterized telephone development in New Zealand during recent years was continued during 1928, the number of new connections installed being 12,119, as compared with an average of 12,112 per year during the preceding five years. The total number of telephone connections with departmental exchanges at the 31st March was 147,936, the number of telephones connected with toll stations and non-departmental stations 4,605, making a total of 152,541, which represents over ten telephones per hundred of the population, a telephone density exceeded only by the United States and Canada. A feature of last year's development in telephone-exchange systems was the large number of intercommunicating and extension telephones installed, the rate of increase being 7·7 per cent., as compared with 4·9 per cent. in the case of main stations. This was due to a large extent to the increased number of intercommunicating systems installed in business houses. The local intercommunicating system in most popular demand was the key-box interphone type, large numbers of which were installed in business establishments where the requirements in intercommunicating facilities did not exceed twenty positions. Next in order of demand were private branch exchanges of the full automatic type with capacities varying from twenty extension stations upwards.

The latest development in the automatic-telephone industry is the manufacture of a small type of automatic exchange suitable for rural communities and capable of giving a twenty-four-hour service. One of such systems has been obtained by the Department, and will shortly be installed in a suitable rural locality with a view to testing out its suitability in actual practice for the exacting conditions that prevail in rural exchange areas in New Zealand, and where a twenty-four-hour service under manual conditions would be economically prohibitive. Should the trial prove successful and the actual costs be reasonably low, the question of installing twenty-four-hour-service automatic exchanges in rural communities will be fully investigated. For economic reasons, however, the development of such a policy would have to proceed gradually, as a large capital expenditure would be involved.

The Christchurch Telephone Exchange, to which over 11,000 stations are connected, is one of the largest in New Zealand to be converted to full automatic operation, and will increase by approximately 14 per cent. the number of automatic telephones in use in the Dominion. The conversion to automatic working would have taken place many months ago had not there been some unfortunate delays in the delivery of the equipment. Notwithstanding these delays, however, the actual time occupied in the work of installation compares favourably with that for similar exchanges of like capacity in this and other countries where machine switching methods have been introduced. With practically all the essential equipment now in sight, an intensive effort is being made to hasten completion of the work, additional skilled labour from other parts of the Dominion having been concentrated at Christchurch to assist in the construction of the internal switching