

circuits. Increased facilities were also made available between Christchurch and Dunedin by the establishment of two three-channel carrier systems which were brought into commission between those centres in December last. One of the six channels thus provided has been permanently connected through to Wellington to give a direct toll outlet between Wellington and Dunedin, and a more efficient service between these two important centres is now assured. Consequent upon the provision of this Wellington-Dunedin direct-toll circuit, the twelve telephone channels available across Cook Strait have been allocated as follows :—

Wellington-Christchurch toll service	..	..	..	6
Wellington-Christchurch voice-frequency telegraph service	..			1
Wellington-Dunedin toll service	..	..	..	1
Wellington-Blenheim toll service	..	..	..	2
Wellington-Blenheim voice-frequency telegraph service	..			1
Wellington-Nelson toll service	..	..	..	1
				—
				12

As the toll and telegraph business expands additional carrier equipment will be installed to provide further facilities over the coaxial telephone cable for inter-Island traffic.

A three-channel carrier system was brought into operation between Seddon and Greymouth during the year, and the three channels have been extended to Christchurch by way of Seddon-Christchurch circuits in order to provide temporary toll facilities between Greymouth and Christchurch pending the rearrangement of the toll and telegraph lines via the Oira route necessitated by the enlivening of the Canterbury-Westland 66,000 volt transmission-line.

Other carrier systems brought into service during the year were as follows :—

Wellington - Palmerston North : One three-channel system.
Wellington - New Plymouth : One three-channel system.
Auckland - New Plymouth : One three-channel system.
Auckland - Hamilton : One three-channel system.
Hamilton - Napier : One three-channel system.
Gisborne - Napier : One three-channel system.
Wellington - Napier : One three-channel system.
Dunedin - Invercargill : Two three-channel systems.
Nelson - Takaka : One single-channel system.
Dunedin - Cromwell : One single-channel system.
Dunedin - Heriot : One single-channel system.

Other improvements to the plant and equipment used in connection with the toll and telegraph services include the installation of toll switchboards at a number of exchanges, including important extensions to the existing equipment at Auckland, Hamilton, Palmerston North, and Wellington, the installation of special toll-switching equipment at Lower Hutt, and the laying of a special underground cable providing 150 trunk lines between Napier and Hastings. In addition, new outlets for toll traffic were provided by the erection of additional aerial circuits between various centres.

The first multi-channel voice-frequency telegraph systems to be used in New Zealand were established during the year, the initial installations comprising a three-channel system between Wellington and Christchurch and an eight-channel system between Wellington and Blenheim, while further extensions are pending. This system of utilizing carrier-speech channels for telegraphic communication makes it possible to operate up to eighteen two-way teleprinter or morse telegraph channels over one carrier-speech channel.

The number of telephone connections continues to increase at a rapid rate, the net gain in subscribers during the year totalling 9,755, compared with 9,710 for the previous year. The grand total of telephone-stations in the Dominion on the 31st March was 206,216, which is 14,197 in excess of the previous year's figures.