

be replaced by multi-channel systems, so that a more substantial network may be established to meet the ever-increasing demands for improved facilities. A comprehensive scheme involving the installation of fourteen three-channel carrier telephone systems has been prepared, and an order has recently been placed for the equipment necessary to provide these systems. It is intended that the fourteen systems should be installed between the following centres :—

Auckland–Dargaville	..	..	..	One system.
Auckland–Whangarei	..	..	..	One system.
Auckland–Tauranga..	..	..	..	One system.
Auckland–Rotorua ..	..	..	..	One system.
Auckland–Hamilton..	..	..	..	One system.
Wellington–Napier ..	..	..	..	One system.
Wellington–Wanganui	..	..	..	One system.
Wellington – Palmerston North	..	..	..	One system.
Wellington–Seddon–Christchurch	..	..	..	Three systems.
Christchurch–Greymouth	..	..	..	One system.
Christchurch–Dunedin	..	..	..	One system.
Dunedin–Invercargill	..	..	..	One system.

These new installations, which are expected to be completed by about February, 1938, will effect a very marked improvement in the toll service throughout the Dominion, and they will undoubtedly serve to stimulate still further the general development of toll business.

INTER-ISLAND TELEGRAPH AND TELEPHONE COMMUNICATION CHANNELS.

The desirability of duplicating the submarine telephone cable between the North and South Islands is a matter which my Department has had under close consideration for some time past, and it has now been decided that a second cable should be laid as early as possible in order that continuity of both toll and telegraph services may be maintained under all conditions likely to eventuate and that adequate provision may be made for the steady expansion of business that is taking place, particularly on the toll side.

The new cable will be of the single-core coaxial type designed for high frequency carrier-current operation, and similar in general characteristics to the one that was recently laid by the Commonwealth Government across Bass Strait. The successful operation of this most modern type of cable marks a notable advance in the technique of submarine cable transmission—a fact which will be appreciated when it is stated that the proposed new cable for Cook Strait will be capable of providing an ultimate of twenty-four telephone channels and eighteen duplex telegraph channels over one insulated conductor.

RADIO TELEGRAPH AND TELEPHONE SERVICES.

The past year was one of marked activity in the Radio Branch of the Department. Apparatus at the principal radio stations was extensively modernized, with correspondingly increased efficiency and convenience in operating. This applies particularly to the Wellington station, where further building extensions were necessary to accommodate additional apparatus and to improve conditions generally. The improvements effected are referred to in more detail in the main report.

The installation of the necessary equipment at Wellington has enabled conversations over the Overseas Radio Telephone Service to be conducted in secrecy when the Australian inversion equipment is not in use for Anglo-Australian calls; and it is expected that, with the duplication of the equipment in Sydney in a few months' time, secrecy will be available at all times, subject to radio conditions being suitable. Pending the provision of additional apparatus overseas, however, the secret service can be given only during certain hours.