

## FUTURE DEVELOPMENT.

*Estimating Requirements Years ahead.*—One large exchange company has a telephone engineering staff studying the requirements and development that may be necessary for years ahead, and making estimates of the capital that will be required. Experience of recent years is that their estimates generally come short.

## SPARE PLANT, ETC.

In most cases 40 to 50 per cent. of spare plant, lines, and switchboards are kept in readiness, and managers did not anticipate that any reduction could be made in this proportion.

## IMPROVED PLANT GENERALLY LESSENS COST.

Improvements in the construction of underground cables, the substitution of 400 pair for smaller cables in the same ducts, the substitution of central-battery equipment which saves the cost of maintenance of batteries at the subscriber's end, and the supervisory signals on switchboards which enable an operator to attend to more subscribers—all have tended to reduce the cost of an exchange service, so in a degree defeating the well-established tendency under former conditions for the cost to increase more than proportionately with the number of subscribers. Improved plant has enabled the American telephone companies to give a more efficient service at a cheaper rate than would have been possible with the old equipments.

## GREAT DEMAND FOR TELEPHONES.

One striking feature of the large American cities is the buildings of twenty to twenty-four stories, having perhaps 200 to 400 separate offices with telephones in each of them. One building will have as many telephones as ten years ago would be in use in a considerable town, and with the growth of suburbs demands arise for telephones to communicate with retail tradesmen, whose business may be almost entirely conducted by means of the telephone.

As an indication of the great use made of the telephone, it may be mentioned that the Western Electric Company in Chicago paid the telephone company £150 per month for their telephone facilities.

## PRIVATE EXCHANGES.

*Facilities to get Central, but Fees are charged.*—Every important hotel has a private exchange to which every bedroom is connected. This also applies to hotels in England. Some large warehouses or stores have a switchboard as large almost as that in any city in New Zealand. In Marshall Field's store in Chicago there is a branch exchange with thirteen attendants. In the same room were several cabinets for the use of customers who could be connected to the Central Exchange on payment of fees. In the halls of hotels there are also cabinets and an attendant, with a small trunk switchboard with circuits to central. For example, in a Boston hotel there were seven trunk wires connected to a small switchboard in the hall of the hotel and several cabinets for customers. The attendant collected fees, 5, 10, or 25 cents, according to the area spoken over, and this one hotel averaged some four hundred calls per day from 8 a.m. to 11 p.m. This switchboard was distinct from the hotel board connecting with the bedrooms.

## TELEPHONE CONTRACTS.

Contracts are made with the telephone company for so-many calls in a year by commercial companies, hotels, or warehouses. It may be remarked that, while every facility is given by telephone administrations, this must be paid for at a remunerative rate.

## PARTY LINES.

These are common in American exchanges, but in places have been discouraged as the service is not entirely satisfactory. Where the number does not exceed two on one line there is not so much objection.

## REMOVALS AND CESSATIONS.

Charges are levied for removals. There is a large proportion of withdrawals as compared with new subscribers, ranging from 20 to 36 per cent. A similar condition prevails in New Zealand in degree.

## FARMERS' LINES.

Prior to 1893, when the Bell patents expired, the smaller towns in America were somewhat neglected by the Bell companies. Since then many independent companies have catered for smaller towns, including farmers, at rates which in many cases did not pay. The larger companies found this reacting on their business, and they were compelled to attend to country districts at rates which barely cover expenses, but indirectly encourage exchange business in towns and cities, and toll and long-distance traffic.

Farmers' lines are erected under various conditions—by the farmers themselves in many cases, like our private-wire system in New Zealand, and in other cases by the companies. The terms of the different companies are not uniform. One system that came under notice may be referred to. The company erects a line six miles long, the line being very similar to our New Zealand lines, but two wires are provided for a metallic circuit, as there may be more than one pair of wires on any pole-line. A minimum of one subscriber is required for every mile, and the rate each is charged is \$18, or £3 15s. a year. This gives free intercommunication between the subscribers on the same line, and also through the local exchange with the subscribers to it within its area. Beyond, fees are charged.