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THE GROWTH OF SHANNON:
THE IMPACT OF ECONOMIC CHANGE ON A COUNTRY TOWN

A Thesis Presented in Partial Fulfilment of the Requirements
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By

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Preface

"Geography in any of its branches must be a genetic science: that is it must account for origins and processes."

Sauer.¹

The purpose of this study has been to use the historical perspective to arrive at a better understanding of the present condition of a small New Zealand country town.

Many variables interact in the growth and development of a settlement. Amongst these are such factors as political system, social organisation, religion, technological level and the resources of the particular physical environment. It is probable that the factors broadly classed as economic have the greatest influence in a newly settled, developing country.²

Economic pressures are many and variable. In the first days of a settlement, while it still forms part of the pioneer fringe, the fundamental drives are for food, clothing and shelter.³ Later, when these needs are made secure, the settlers may embark, as did those in the Middle West of the United States, on the

"forging of a commercial civilization based on great natural resources."⁴

With changing economic pressures the functions of the small urban nuclei also change. In the North Island of New Zealand many of the original forest settlements failed to survive after the pioneering era had passed.⁵ Others remained only as vestiges fulfilling a minor economic role and providing a centre for social activity. A few became thriving cities. Some, like Shannon, experienced fluctuating fortunes.

It is apparent that Shannon's uneven rate of growth has been a response to economic change. Improved technologies, the vagaries of world commodity markets and revolutionary changes in the exploitation of her resource base have resulted in altered economic functions for the town. These, in turn, have affected the morphology of the settlement.

Realising that the very full investigation required to attain complete knowledge was beyond the scope of an individual project of this kind it was decided to select the economic variables which appear to have had the most profound effects and to examine these as dynamic entities. As some of these have deviated in nature and development from the North Island norm it could be expected that relics of this different history would remain in the town and account, to some extent, for its individualities of appearance and character.

Part I deals first with the setting and early beginnings of settlement in the area and then with three economic activities which affected subsequent growth; the flax industry, the dairy industry and the harnessing of the power resources of the adjacent mountain ranges. In Part II a number of the elements of the present day town such as population, housing and the central business district are examined and attempts are made to relate their present form to past events and to contemporary economic activity. As manufacturing was found to be of considerable current importance it seemed fruitful to give this subject some consideration.

Several methods of investigation were used. Apart from the historical background obtained from such well-known sources as Petersen's The Pioneering Days of Palmerston North, Adkin's Horowhenua and Buick's

Old Manawatu primary sources were consulted as far as possible. Old records held by the Shannon County Town, the Manawatu Catchment Board and the Shannon Primary School were examined. Publications of the time such as the Cyclopoedia of New Zealand, Annual Reports of the Wellington and Manawatu Railway Company and old newspaper files proved particularly rewarding. Unfortunately there are only two copies extant of Shannon's own newspaper The Manawatu Farmer, but The Manawatu Herald, apart from gaps between 1881 and 1889 and 1900 to 1902, is preserved at Foxton. Microfilm copies are now available, as well, at the Palmerston North Public Library. Historical material was also printed in the three jubilee booklets of the Shannon School. Early maps and plans held by the Department of Lands and Survey in Wellington and the relevant reports and papers preserved in the Appendices to the Journals of the House of Representatives were also consulted. Finally, this section of the investigation was assisted by old residents who not only helped with recollections but also searched out old photographs.

The evaluation of the present was based largely on a number of surveys taken in the town between 1965 and 1968. The housing data was obtained from field maps compiled in January 1965 and again in January 1967.

Information about the retail establishments came from interviews with the proprietors in September 1966. A questionnaire on manufacturing (Appendix P) was also taken personally to factory managers in September 1967. All those visited were co-operative and helpful.

The most extensive survey, however, was that of the households (Appendix O) which was completed in May 1967. Although it might have

been preferable to obtain information from every household this was discarded as being beyond the capabilities, in the time available, of one investigator. The alternative of posting the questionnaires was also considered inadvisable, partly on the grounds of expense, but mainly because such a sampling would be weighted in favour of the co-operative people most likely to reply. It was further considered that the experience of personal contact with the persons being interviewed would add additional information beyond the answers to the formal questions. A random sampling, therefore, of one third of the households was decided upon as, under the circumstances, the best alternative.

Apart from this practical field work additional information was obtained from the Headmaster of the School and from such official sources as the relevant volumes issued by the Department of Statistics, Meteorological Records, Valuation Rolls, from the Chief Postmaster, Shannon, and from the Department of Labour in Palmerston North.

Although practically everyone approached has been most helpful and co-operative there are a number whose ready assistance has been particularly appreciated. Mr. I.R. Matheson of Palmerston North, who has made a comprehensive study of the history of the flax-milling industry in the Manawatu, permitted me to consult the extensive notes which he has compiled and offered much helpful advice on fruitful avenues of research. Mr C.E. Taylor of Palmerston North, Mrs. Bovis, Mrs. Tippler, Mrs. E. Burke, Mr. Clayton and Mr. Moynihan of Shannon are amongst the many who have given valuable information about the flax industry and the early days of Shannon. Mr P.G. Redmayne of Mt. Biggs supplied newspaper cuttings from the scrap-book kept by his ancestor G.V. Shannon and added further details in maps

and correspondence. Mr. Thompson of the Electricity Department, Palmerston North, Mrs Jamieson of the Shannon County Town Office, Mr. Beech, Superintendent of the Mangahao Power Station and Mr. Brown, secretary of the Manawatu Catchment Board gave helpful assistance. Thanks are also due to Dr. G.C. Petersen of Palmerston North and to the staff members, who have been so helpful, in the Massey University, Palmerston North Public, Turnbull, General Assembly, Wellington Public and Ministry of Works Libraries. Finally I must acknowledge the helpful cartographical advice of Mr. B.G.R. Saunders and the kindly yet pertinent encouragement of my supervisor, Professor K.W. Thomson.

Footnotes

1. Sauer, 1965, 352.
2. There are, of course, exceptions such as the Barossa Valley Settlements in Australia or Waipu in Northland, New Zealand. See also Pownall, 1956, 173.
3. Bowman, 1957, 248.
4. Sauer, 1965, 353.
5. Franklin, 1960, 158.

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White's Aviation

SHANNON FROM THE SOUTH -WEST

Figure 7

PART I

Chapter I

THE SETTING AND EARLY SETTLEMENT OF SHANNON

Physical Setting

Shannon is situated near the south-eastern margin of the Manawatu Lowland (Fig. 2), the most extensive plain in the southern half of the North Island of New Zealand. The town, approximately eleven miles from the coast and three from the base of the Tararuas, stands at the edge of the terrace country, a zone of soft sandstones which, stretching south from the Manawatu Gorge, fringes the western side of the hard greywacke of the main axial range. This zone, which varies in width from a few hundred yards just south of the Gorge to approximately four miles east of Linton, is about three miles wide in the vicinity of Shannon. Steep sided little valleys with flat, sometimes swampy floors, have been cut by the streams which cross this zone of soft material to join the Manawatu River. Frequently these streams have built quite large alluvial fans at the valley mouths. Shannon is sited at the wide entrance to the valley of the Mangaore; the southern part of the town is traversed by a small tributary of the Mangaore, the Otauru, which joins it to the west. The site is mainly level, well drained and above flood levels although there is a small strip of lower-lying land along the course of the Otauru; to the south of this again there is a short, rather steep rise out of the valley.

The Tararuas to the east of Shannon provide the town with a quite impressive backdrop (Fig. 2). The level of the summits is here much higher than further to the north where the distinctive "sag" near the Manawatu Gorge has resulted in more modest altitudes. Behind Shannon there are peaks up to 2,866 ft. and not very far to the south the Dundas Ridge rises to almost 5,000 ft.¹

SHANNON REGIONAL SETTING

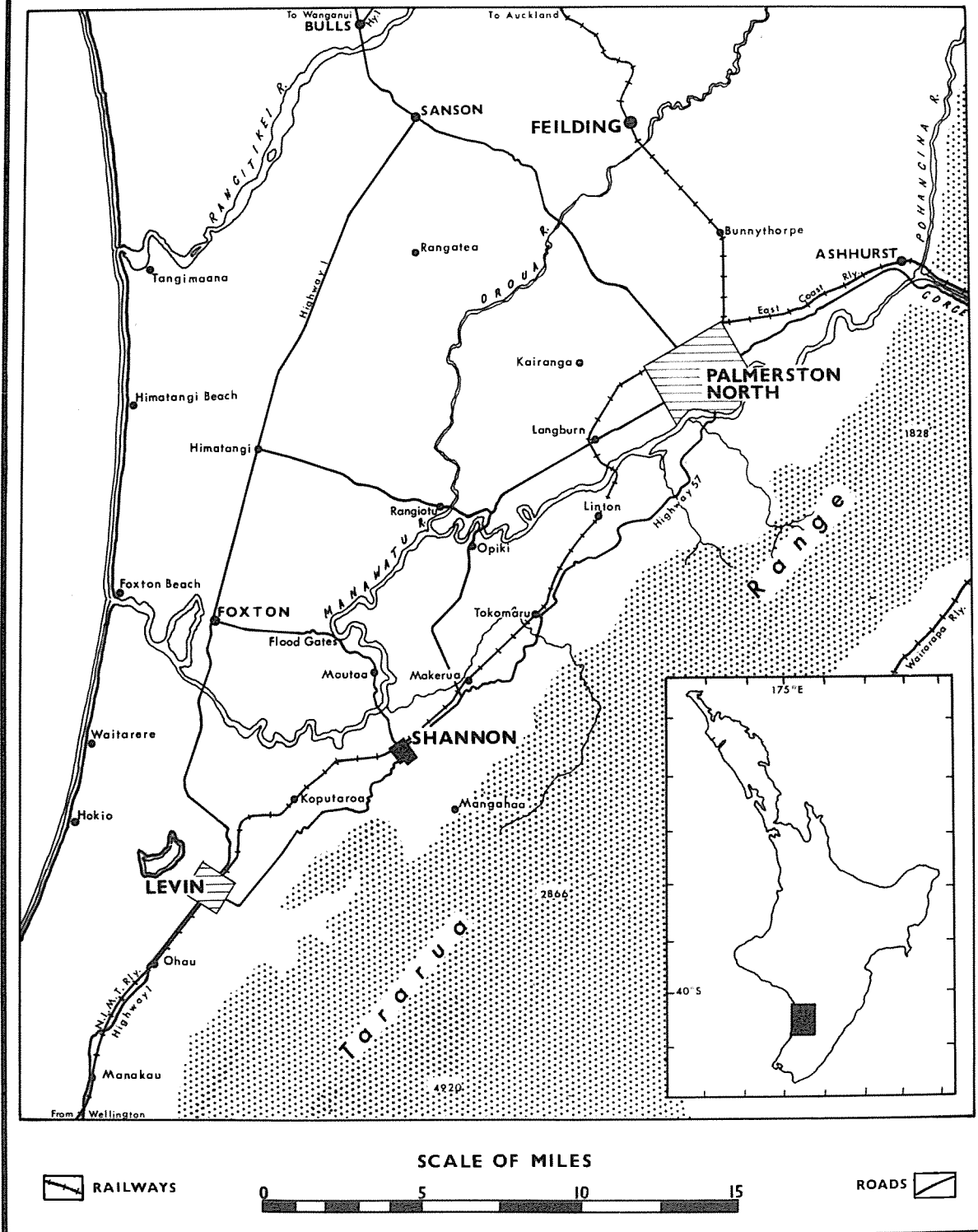


Figure 2

To the west of Shannon lies the extensive flood-plain of the Manawatu River. In its natural state this area varied considerably in wetness. Where the Manawatu and its tributaries had built their natural levees or where the streams from the terrace country had deposited fans the land was normally dry and only threatened by exceptional floods, but the levees also obstructed the drainage of extensive areas where the water lay permanently forming very large stretches of swamp country.² The Manawatu River, which meanders frequently in this section of its course, has often changed the position of its channel sometimes leaving oxbow lakes to mark its previous location. There is one such lake adjoining the site of the present Nylon Factory, and the former meander at Te Maire (Fig. 3), which was there in the early years of last century, was cut off sometime about the 1850's³

To the south of Shannon the Levin Anticline rises to rather higher elevations than the terrace country to the north.⁴

Climate

Unfortunately detailed weather records are not available for Shannon. Judging, however, from the amounts of rainfall received and from general impressions the climate would seem to be fairly typical of the Manawatu as a whole.

The salient features of the Manawatu climate are the evenly distributed, reliable rainfall of 35 to 40 inches, the comparatively mild winters and warm summers, and the occurrence of frequent strong winds, often from a westerly quarter. Sunshine totals vary from over 2,000 hours in coastal

localities to 1,800 hours closer to the ranges.⁵

The greater height of the Tararuas behind Shannon probably causes slight modifications. There is evidence of less frequent winds and it is likely that greater cloudiness slightly reduces the hours of bright sunshine.⁶

Rainfall increases very rapidly towards the ranges. From an annual average of 40 inches at Shannon, 100 feet above sea level, it rises to 60 inches at Mangaore three miles distant and at an elevation of 360 feet. Arapeti a further mile into the Tararuas and 1,190 feet above sea level receives an average of over 100 inches.

Natural Vegetation

The vegetation of the area has been completely transformed in less than a century.⁷ But even before this the process of change had been started by the Maoris. A great fire about 1760 swept along the tops of the Tararuas from a point somewhat north of Shannon to the Manawatu Gorge inducing a regime of scrub vegetation which has shown no sign of reversion to the former forest cover. On the lower levels there were many examples of clearings of varying extent probably made by the pre-European inhabitants. The Maoris, too, often made plantings of groves of Karaka (Corynocarpus laevigata) to provide crops of berries.

On the whole, most of the area was heavily forested when the first white settlers arrived. There were differences in the composition of the forest caused by altitude, height of water table, nature of soil or recency of development; there were also extensive areas of swamp vegetation. The Tararua Range between Shannon and Levin carried a Northern Rata (Metrosideros

robusta), Rimu (Dacrydium cupressinum) association to about 2,000 ft. with Kamahi (Weinmannia racemosa) and Hall's Totara (Podocarpus Hallii) becoming more frequent towards the upper levels and penetrating into the higher zone of Silver Beech (Nothofagus Menziesii) above. There was also some Red Beech (Nothofagus fusca) mixed with the Silver Beech at lower levels. A scrub zone with Leatherwood (Olearia Colensoi) dominant led in turn to the Tussock (Chionochloa spp.) of the highest levels.

The forests of the terrace country, though of less antiquity than those of the ranges had been established much longer than those of the river flats. Northern Rata (Metrosideros robusta), Tawa (Beilschmiedia Tawa), Hinau (Elaeocarpus dentatus) and Black Maire (Gymnelaea Cunninghamii) were associated in greater quantities with the podocarps.

On the alluvial lowlands forests dominated by Kahikatea (Podocarpus dacrydioides) and Pukatea (Laurelia Novae-Zelandiae) grew near the swamps. Totara (Podocarpus Totara), Matai (Podocarpus spicatus) and Rimu were to be found on the better drained situations such as the river levees.

The different vegetational zones in the swamps were caused by variations in the height of the water table. In the Makerua Swamp Toe Toe (Cordateria spp.) and flax (Phormium tenax) were the most common species. The flax increased greatly as various drainage schemes lowered the depth of water in the swamp. Beneath it lay the thick beds of peat built up over many centuries and below these again, as settlers sometimes discovered to their sorrow in later years, were the great logs of a former forest.

Maori Settlement

To the Maori the economic resources of the area were considerable. There was good timber for the building of house frames and canoes. Flax for clothing, cordage and nets was plentiful. Raupo (Typha Muelleri) for thatching was abundant in the swamps. Eels could be trapped in the rivers. There were fish and birds to catch and the land, when cleared, made fertile kumara plots. Sheltered by the forest and high and dry on the river levees the Maori kaingas must have been quite comfortable and healthy.⁸ Transportation was easy, too, with the Manawatu River providing an easy waterway for canoe traffic. In places the Maoris had improved on the natural conditions by cutting channels across the necks of meanders and into nearby lagoons.

As shown on the map (Fig. 3) the number of kainga and pa sites identified by Adkin is large.⁹ It must be remembered, however, that not all of these would have been in use at the same time. Nevertheless it is apparent that in terms of old-time Maori settlement quite a numerous population was living there in an economy of subsistence.

Economic Modification through Culture Contact with Europeans

Modifications in the exploitation of the resource base came as the result of trader and missionary influence. Contact with the Europeans encouraged a shift towards a part subsistence-part trading economy to satisfy new needs and appetites. Areas of cultivation were increased to accommodate crops of potatoes, wheat, pumpkins, and tobacco and the Maori women were set to work scraping the flax fibre which the traders would exchange for a whole range of desirable items. The first traders had been active in the area before 1840 when Jack Duff made his journey up the river and through the

Manawatu Gorge and the missionary Octavius Hadfield, stationed at Waikanae, was there early the same year.

N.Z. Company Plans

There would have been an even more rapid change in the economy of the Shannon area if the plans of the New Zealand Company had not gone awry. It became apparent to the Company that the good land which its settlers were demanding could be supplied by the purchase of a large block of the Manawatu lowlands from the Maoris. Negotiations were entered into by Colonel William Wakefield with Te Whatanui and other Ngati Raukawa chiefs at Otaki. While the negotiations were in progress a party of surveyors led by William Mein Smith was sent on to make a reconnaissance. On the 13th December, 1841 they landed at Te Maire near the present site of Shannon where the chief Taikoporua had erected a chapel. Smith noted that at this place the river took a remarkable turn back upon itself and that through the narrow isthmus of thirty five feet the Maoris had dug a canoe channel (Fig. 3). He recorded that many of the people had become Christians and that there was a good attendance when worshippers were summoned to a service by striking on a gun-barrel which had been hung outside the building.¹⁰

During 1842 an area of land between the river and the Tararua Range and stretching from the Kahuterawa Stream to Lake Horowhenua was surveyed and subdivided into blocks; two townships were planned, one of them at Paiaka and the other at Te Maire (Fig. 3). A Wellington syndicate consisting of Capt. Edward Daniell, F.A. Molesworth, James Watt, Abraham Hort, William Guyton and Henry Taylor was formed for the purpose of laying out the latter township for which was prepared a very attractive plan with such features

as a riverside esplanade, a botanic garden, corn and cattle markets, church squares, customhouse, gaol and cemetery. But the town never materialised.¹¹

Early European Settlers

After the Wairau massacre Rangihaeata's attitude was so truculent that further negotiations for the land were out of the question. The Land Claims Commissioner reduced the extent of the original purchase to a mere 900 acres, and even the few independent settlers who had established themselves left the district for a safer environment. It was not long, however, before some of them were back again and by 1848 Mr. Stephen Charles Hartley was well established at Te Maire when Mr. Thomas Bevan and his father arrived there to set up a rope walk.¹² After giving a vivid description of the beauties of the bush along the river bank Bevan continues...

"In the clearings along the banks we saw Maori villages and crops of wheat which promised a rich harvest to their dusky owners, who took great trouble with their cultivations..... We reached Mr. Chas. Hartley's place. Here we found a fine Maori settlement composed of large pahs (sic) and hundreds of natives engaged in the cultivation of the rich river flats, and the preparation of fibre from the flax which grew in abundance in the vicinity. It was indeed a pretty place possessed of great natural beauty."¹³

A further processing industry had been established sometime before 1858 when J.T. Stewart prepared a survey of the Awahou Block for he indicates in his plan that a flour mill was situated beside the Mangaore Stream very close to where Shannon now stands (Fig. 3). There is in fact some doubt about the actual site of the mill, no remnant of it now being in existence, but it is affirmed by old residents that the stream was diverted into a mill-race to operate the water-wheel and that, even though the mill has long since gone, the stream has made the race its permanent course.¹⁴

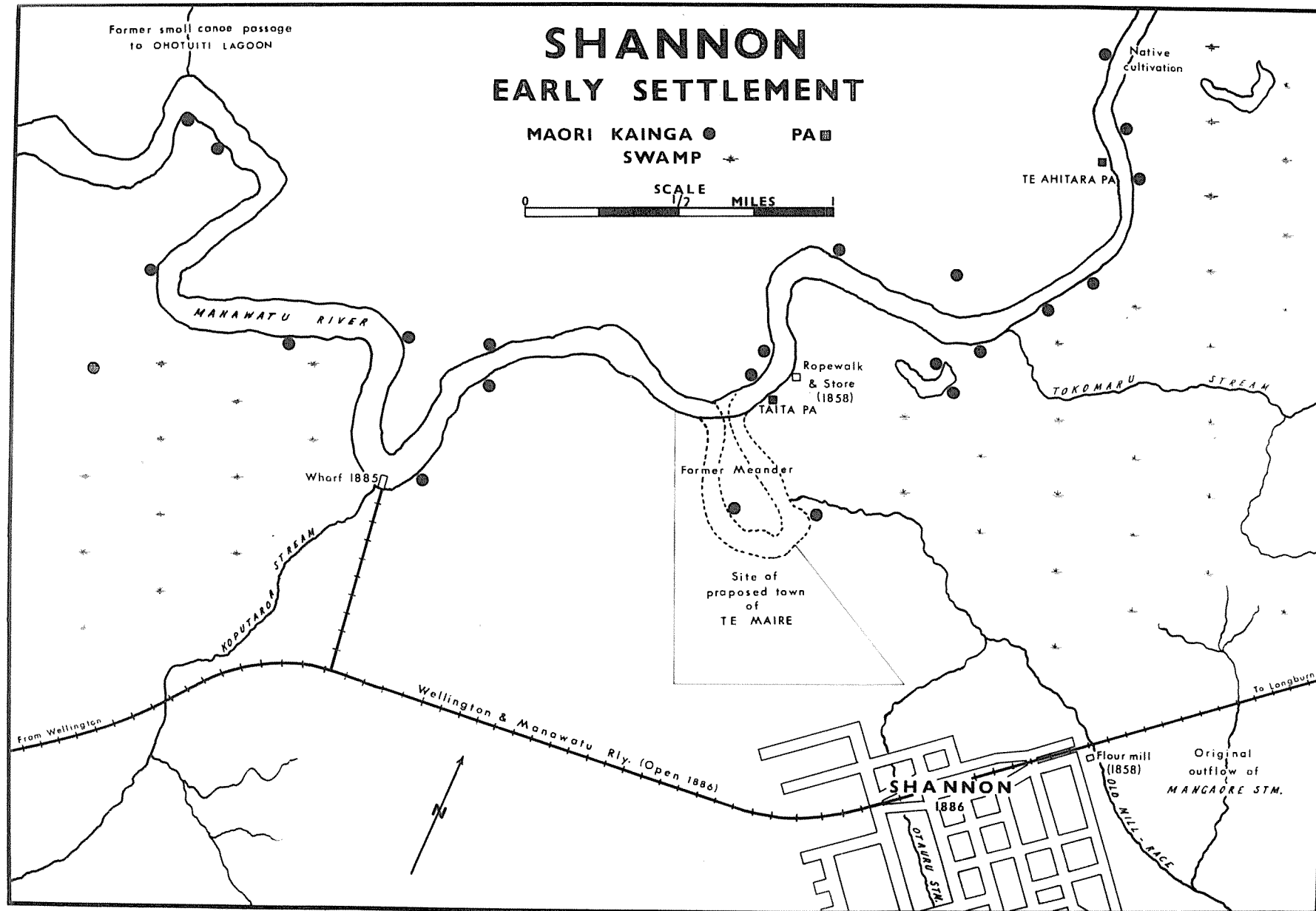


Figure 3

By the mid-years of last century, then, a thriving trade was being carried on in potatoes, wheat, flour, flax fibre and ropes which were being sent down river from Shannon to Foxton and from there to Wellington by sea. The European entrepreneurs had stimulated a more efficient use of the natural resources. Actual production, however, was still largely in the hands of the Maoris.

The Wellington and Manawatu Railway Co.

An even more intensive use of the area's resources, and the founding of the modern town, was brought about by the coming of the railway and by the activities of the private company which constructed it.¹⁵

By the last quarter of the nineteenth century it had become apparent to Wellington business interests that the comparatively slow rate of growth of that city was in part caused by poor transport links with the west coast. Potentially the most highly productive part of Wellington's hinterland, the Manawatu, remained largely undeveloped and, to a large extent, isolated from its natural outlet on Port Nicholson. For a period the Maori troubles had sealed off the southern parts of this tempting area and although sea transport through the port of Foxton had assumed fair proportions the efficient servicing of the Northern Manawatu required a direct rail link with Wellington.

Far-sighted men could also see that a railway following the shorter and easier west coast route out of Wellington would become a vital link in the entire New Zealand Railway system. In the immediate future it would enable travellers to reach Auckland within 24 hours by taking the train to

New Plymouth and then an overnight boat to Onehunga. Eventually the completion of a line through the King Country would bring the North Island's two chief cities within 16 to 18 hours of each other.¹⁶ Experience was to prove that the Manawatu line was quicker and more economical for all West Coast traffic and for all traffic from north of Woodville on the East Coast line. To have relied on the Rimutaka Incline-Wairarapa-Manawatu Gorge section as the southern leg of the main trunk line, as some government advisors proposed, would have led to very difficult working, longer journeys and considerable inconvenience to patrons.

Macandrew, public works minister in Sir George Grey's administration, saw the force of the Wellington argument and in 1878 it was announced that the west coast railway from Wellington to Foxton would be constructed. By 1879, when Grey's government was defeated, progress had been made with the earthworks at the southern end. But the new government, in the face of a worsening economic situation, and on the advice of a commission appointed to report on the line, had the work stopped.

When a group of Wellington citizens showed their faith in the West Coast line by undertaking to invest their own capital in the proposal the Premier, Sir John Hall, indicated that the Government would be prepared to make certain concessions if a joint stock company were formed. By 1881 £50,000 had been subscribed and the Company registered; in the same year the Land and Railway Construction Act was passed and a contract between the Government and Company was signed on 22 March, 1882. One of the major concessions by the Government was a grant of 215,000 acres of land in the Manawatu including large blocks along the coast as well as areas running well up into the foothills of the Tararuas.

As the Company was not fettered by the Government's original proposals for the route to be followed the logical decision was made to run the line through the more valuable areas of its endowment and to make the connection with the existing system not at Foxton but at Longburn. Not only did this ensure the primacy of Palmerston North but it led to the establishment of new towns at suitable intervals along the line. One of these was Shannon.¹⁷

The Company was in effect both a transport undertaking and a land development organisation. In most cases it did little more than subdivide the land, provide rudimentary access and then offer the land for sale. But in the problem area of the Makerua Swamp engineering surveys, which showed the practicability of a drainage scheme, encouraged the Company to commence works designed to increase the value of this land. (Appendix A)

The Founding of Shannon

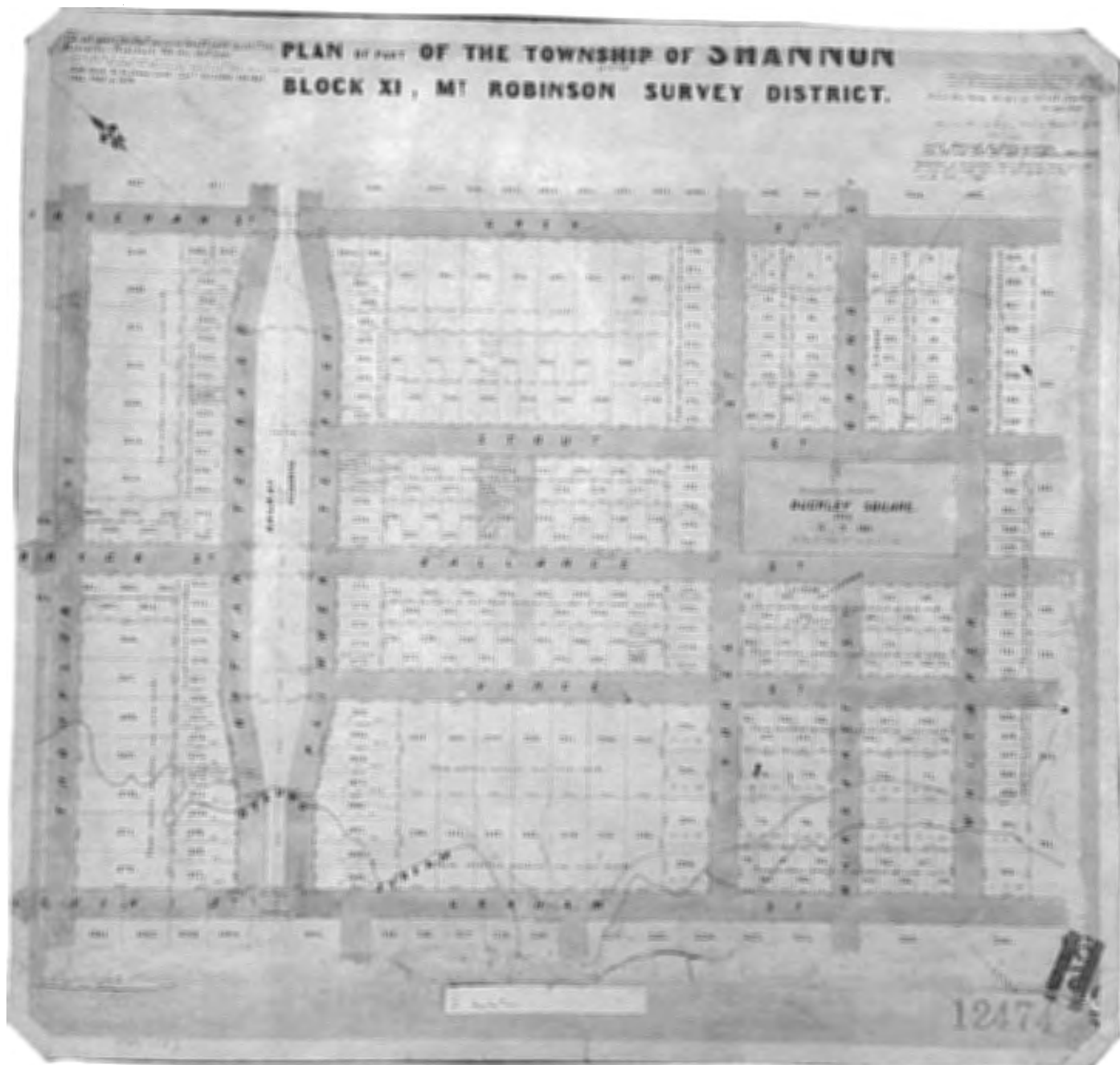
The township sites were selected at locations convenient both for the working of the trains and for the service of the surrounding country. Street and subdivision plans were then prepared and the land offered for sale. The plan for Shannon was prepared in 1885 by H.T. Palmerston of the firm of Palmerston and Scott and the land was offered for sale by auction on Tuesday 8th March, 1887 (Fig. 4). It was named after one of the energetic directors of the Company, a colourful Irishman G.V. Shannon, who would seem to have taken more than a passing interest in the town that was to bear his name.¹⁸ The names of several of the members of his family were given to streets and there are contemporary accounts of the excitement he displayed on inspecting the site.¹⁹ That Shannon was envisaged as the most important town along the line is indicated by the size and scope of the

original plan when compared with those for the other towns. The plan for Levin, for instance, is comparatively unambitious.²⁰

Even before the line was open for traffic the construction work brought considerable economic activity to the area. To facilitate the work and to reduce transport costs much of the heavy material for the line was brought up-river by boat and unloaded at a wharf a little to the south of Shannon. A spur line a mile in length connected the wharf, known as the Shannon Wharf, with the main line (Fig. 3). A contemporary observer states that.

"Although the wharf is 19 miles up the Manawatu, the river is navigable to this point for boats such as the s.s. Tui and s.s. Jane Douglas, which ply regularly from Wellington to Foxton, and this necessarily enhances the value of the land in the vicinity. The steamer Hauraki had arrived the day before my visit, and had landed about 80 tons of railway iron."²¹

The railway from Wellington to Longburn was completed on November 3rd 1886 when the Governor General, Sir William Jervois drove the last spike four years and two months after the company commenced construction work. The company ran the line efficiently and profitably until 1908 when the Government, in order to control the entire length of the newly completed Main Trunk Line from Auckland to Wellington, bought out the shareholders. Although many had taken shares from a sense of public duty it had proved to be a very lucrative investment, for this, the largest company in New Zealand at the time, paid regular dividends for many years and was in a strong bargaining position when it sold out. The operations of the company were of great benefit in promoting the economic development of the Manawatu Region.



Lands and Survey Dept.

FIRST PLAN OF SHANNON
PALMERSTON AND SCOTT 1885

Figure 4

The challenge which faced the first settlers in the Shannon area was similar to that which had confronted pioneers in other forested districts of the North Island.²² Apart from one square mile at the township site which had been cleared before the sections were put up for sale the surrounding country was still either heavily bushed or low-lying and swampy.²³ To the settlers the bush was an obstacle to production, and at first even to existence, so that here, as in so many other settlements, great quantities of good timber were destroyed. Not all of it, however, was burnt or left to lie rotting on the ground, for a profitable timber milling industry grew up in the town and for some years two mills were in operation. As the closer supplies of good logs were used up the millers had to go further afield for their raw material and a tram line was laid across to the slopes of the Tararuas.²⁴

Economy of Shannon circa 1900

By about 1906 there was very little standing timber left close to Shannon. Only one block remained about a mile to the east of the town. The rest of the country, judging from contemporary photographs, though supporting a good sward of grass presented a rather desolate appearance. Many stumps still cluttered the paddocks, for complete clearance would have taken more time and labour than the settlers could spare.

Most of the farms were on the terrace country for at that time the main economic value of the swamps was as a source of raw material for the increasingly important flax fibre industry.

The town's manufacturing industries were firmly based on local raw materials and the greater part of the output was exported either to Wellington

or to overseas destinations. Most of the processed flax fibre was sent out of the district. Although there was a steady local demand for building timber, and the joinery factory needed high quality materials to keep the Shannon builders supplied with doors and window sashes, most of the sawn timber from the mills was railed to other districts. The creamery established in 1894 was followed in 1900 by the butter factory. They represented important steps in the progress of the embryo dairy industry then developing rapidly to take advantage of the technological advances in refrigeration engineering which made an export trade in butter and cheese possible. The small wool scouring plant on the Otauru Stream and the woolshed operated by G.N. Woods indicate the presence, on a minor scale, of another exporting industry.²⁵

The brickyard, on the other hand, operated mainly to supply local needs, processing the local clay into bricks for chimneys and the occasional brick building. The bulky nature of the product encouraged small local plants in those days before the mechanisation and automation of modern kilns made centralised production near the best clay deposits economically possible.

The transport industry was important to the developing town. Shannon was well served by the Wellington and Manawatu Railway which ran frequent goods and passenger services between Wellington and Longburn. From Longburn it was possible to connect with the Government system which, although still incomplete, served most of the important centres in the southern part of the North Island. The Company prided itself on the standard of its service, even running a dining car on its crack trains, and it used efficient locomotives and comfortable rolling stock. Speeds were slower than today, more because of the early policy of using easily obtained and cheap local firewood for fuel than through any shortcomings

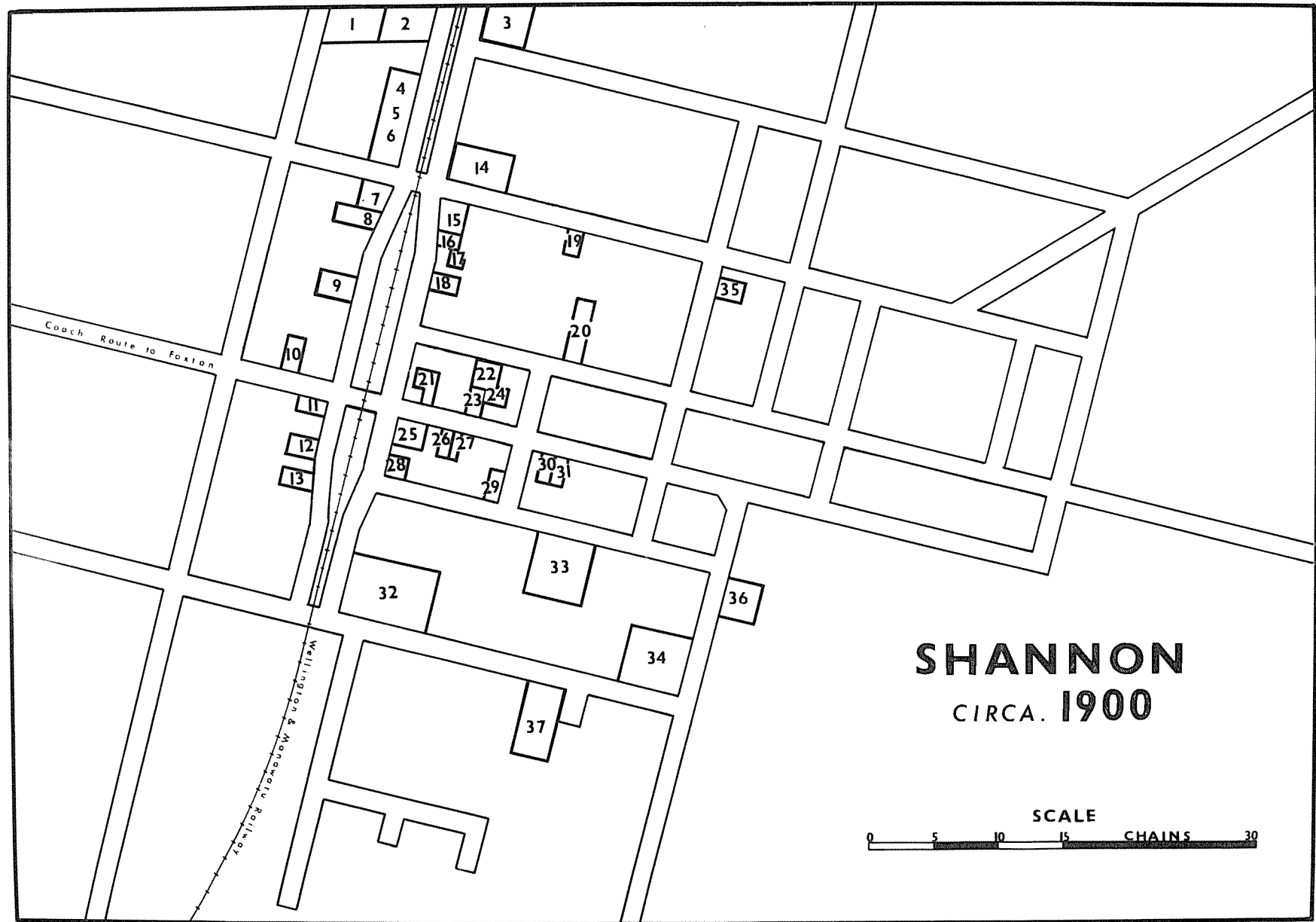
SHANNON circa 1900

KEY

1. Flax Mill
2. Rope Walk
3. Flour Mill
4. Hairdresser
5. Auction Mart
6. Tailor
7. Blacksmith
8. Druid's Hall
9. Law's Shop
10. Church of England
11. Presbyterian Church
12. Builder
13. Police Station
14. School
15. Albion Hotel
16. Bank of New Zealand
17. Baker
18. General Store
19. Butcher
20. Methodist Church
21. Tipling's Stable
22. Fitchett's Hall
23. Two-storey Shop
24. Stable
25. Club Hotel (Coach Terminus)
26. Bank of New South Wales
27. Butcher
28. Blacksmith
29. Roman Catholic Church
30. Carter
31. Bootmaker
32. Sawmill
33. Saleyard
34. Sawmill
35. Joinery Factory
36. Creamery
37. Brickyard

(Compiled with the help of Mr. T.P. Moynihan, Shannon)

Figure 5



of the line which was skilfully engineered and traversed level country for much of its length. The Shannon Station became the railhead point for increasing quantities of farm products such as dairy produce, wool, and fat stock. Bulky timber and flax-fibre were also sent away by rail.²⁶

In Shannon at the turn of the century a number of people found work in servicing the horse transport industry. The daily coach from Foxton, using a slightly different route from the present one (Fig. 5) crossed the Manawatu River by a ferry, and later by a bridge, about a mile downstream from the present crossing. The road into the town made use of a level crossing, which has since been removed, at the end of Ballance Street. The coach terminus was the yard of the Club Hotel.

For personal transport people travelled on horseback or in gigs; larger parties bound for picnics or other outings hired the brake. Drays and carts moved goods about the town or to the railway, but for hauling out the big logs from the bush bullocks were employed. It is not surprising that there was business enough for two stables and two blacksmiths.

Shannon was a much more self-contained retail and servicing centre at the turn of the century, just thirteen years after its foundation, than it is today. At that time an interesting change of location of the central functions was taking place. Originally Nathan Terrace, on the western side of the railway, had been chosen as the site for the Central Business District. Here were the shops, two of the four churches, the Police Station and, the venue for all indoor secular assemblies, the Druid's Hall. By 1900, however, the more recently established shops and facilities were on the eastern side of the railway, either in Plimmer Terrace or the adjacent side streets. Nowadays there are no shops in Nathan Terrace and even the old churches have

been abandoned.²⁷

The gradual shifting of the town's central functions was largely caused by the housing pattern which evolved. Owners preferred to build on the slightly higher land to the east; the shops and other facilities moved over to be closer to their clients. The centripetal forces which tend to centralise certain urban functions were reinforced later by the development of Plimmer Terrace as a section of Highway 57, the main route between Levin and Palmerston North. The inertia which had kept some of the premises in use on "the wrong side of the tracks" in 1900 was gradually overcome by such calamities as a serious outbreak of fire in the older section. Business, too, had gradually fallen off there.

All the day-to-day needs and some of the more exceptional requirements of the local population were provided by the retailers established in the town at that time. The shops in bigger centres could not offer the severe competition which they do today. There was a certain amount of mail-order business with Wellington and for a special purchase Shannonites could make a shopping expedition by train; but most goods were purchased locally; if the proprietor did not have the required item in stock he would obtain it through the usual trade channels.²⁸ At the turn of the century, too, the people of Shannon had fewer needs. They were mostly hard-working people thankful to earn enough for housing, food, and clothing but with little to spare for luxury and specialty items.

To give service to their customers the tradesmen of those days used to make far more deliveries than are customary today. At first, as there were few roads, they would take out the goods by horseback. Later, horse-drawn vans were used.

By the beginning of the 20th Century Shannon had developed into a well balanced urban settlement with a soundly based industrial element processing locally produced raw materials for export. It provided services for its own people and for the growing numbers transforming the surrounding forest into farmland or harvesting the flax from the swamps. It was equipped with saleyards, banking facilities, a range of retail businesses, two hotels, four churches, two halls and a racecourse (Fig. 5). It was serving, despite occasional interruptions from floods, as a convenient transportation node and its economy seemed to be securely based on flax, timber and farming. Though still close to the pioneering fringe the frontiers were being rapidly pushed further out from the town into the ranges and the swamps.

Footnotes

1. The Dundas Ridge in the Tararuas lies 10 miles S.E. of Shannon.
2. The Makerua, or Makurerua as it was first known, covering 12,386 acres, was the largest of several swamps in the area.
3. Brees, 1842, records the Te Maire Meander but it is not shown by Stewart, 1858.
4. Whatman, 1964, 21.
5. A succinct account of the Manawatu climate is given by Saunders, 1964, 45.
6. Confirmation of this impression is given by the tables of wind recordings based on three-hourly observations from Dines Recording Anemometers for three Manawatu stations reproduced by Saunders, 1964, 47. Shannon readings for 1938-45 show 47.7 percent of calms compared with 31.4 for Palmerston North and 9.2 for Ohakea.
7. Esler, 1964, 39.
8. Kainga refers to a small unfortified Maori village. A pa was a fortified village usually sited on a position giving natural advantages for defence. In the Manawatu the Maoris often resorted to the pa only in times of danger living meanwhile in the kainga. Buck, 1950, 139.
9. Adkin, 1950, plate X.
10. Petersen, 1952, 13.
11. Brees, 1842, Plan of Te Maire.
12. A rope walk was a place where ropes were manufactured. One man with the raw fibre wound around his waist walked backwards while an assistant turned a wheel with hooks to which the fibre was fastened. These long narrow alleys could be up to a third of a mile in length.
13. Petersen, 1952, 23.
14. Shannon School Jubilee Souvenir, 1949, 27.
15. For a detailed account of the Company see Mills, 1928.
16. Evening Post, 1886, November 4.
17. The principal settlements were named after directors of the Company: Plimmerton, Levin, Shannon, Linton.
18. Cyclopedia of New Zealand, 1897, 328.

19. In a personal communication Mr. P.G. Redmayne, of Mt. Biggs stated: "The following were G.V's (Shannon's) children: Graham, William, Trevor, Georgina, Florence, Margaret, Minnie, Kathleen and Eileen. Some have had streets named after them." As evidence of Shannon's interest in town planning he states, "On a farm near Bulls the title deeds are still cluttered with the plan of an unbuilt town. G.V. Shannon is still (1967) the registered owner of the streets and housing sections and the town hall space."
20. Nairn, 1964, 45.
21. Evening Post, 1885, (probably June).
22. Petersen, 1963, 66-79 gives a more detailed account of the difficulties of breaking-in the North Island bush country.
23. Contemporary survey maps place the bush line at the end of Julian Street on the approximate line of Elizabeth Street.
24. Manawatu Herald, 1892, March 10 refers to Jones Brothers' Sawmill and Manawatu Daily Times, 1901, April 11, to Campbell's Sawmill. See also Shannon School Jubilee Souvenir, 1939, 27.
25. Shannon School Jubilee Souvenir, 1949, 26.
26. Mills, 1928.
27. Mr T.P. Moynihan in a personal communication in 1967 described Shannon at the turn of the Century and located the main buildings, (Fig. 5).
28. The range and scope of retail businesses can be judged from contemporary newspaper advertisements.

Chapter 2

THE FLAX INDUSTRY

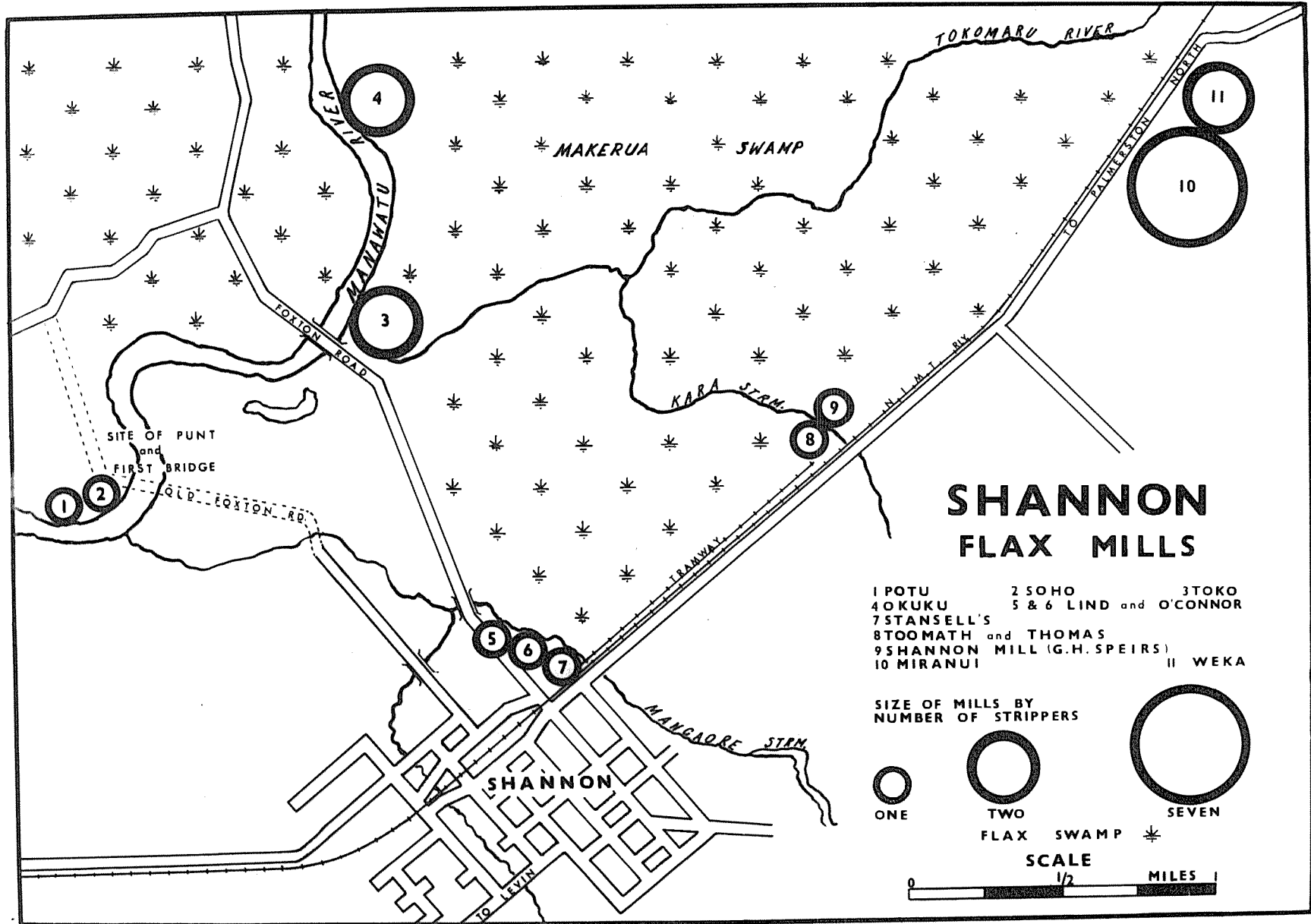
The flax-milling industry was economically dominant for most of the first forty years of Shannon's existence. During that period the growth of the town and the functions which it developed were governed, to a large extent, by the needs of its own mills, and those established in the vicinity, to process leaf from the very extensive Makerua Swamp (Fig. 6). When the industry eventually collapsed Shannon passed through a period of functional readjustment and accommodation to a lower level of economic activity.

The Changing Utilisation of New Zealand Flax¹

Changes in technology have resulted in considerable variations in the demand for the fibre obtained from the leaves of the New Zealand Flax, Phormium tenax. To the Maoris it was a very important plant. Not only did the fibre provide the raw material for clothing, sleeping mats, sails, fishing nets, and various kinds of bindings but practically every part of the plant was put to some use.² The presence of plentiful supplies in the Manawatu must have been one of the factors which made this district attractive for Maori settlement.

The arrival of the first Europeans and their more advanced technology brought an increased demand for flax fibre. The sailing ships of the time required a great quantity of rope for their rigging. As flax was the only suitable raw material available in this part of the world the rope makers of Sydney were willing to pay a good price for it. Adventurous individuals soon built up a thriving trade with the Maoris and it was not long before a few rope-makers had established themselves in New Zealand,

Figure 6



closer to the source of their raw materials.

A continuing demand, and the desire to exploit the resource more fully, led to the invention, in 1861, of machinery to replace the laborious hand scraping method of separating the fibres.

The industry which developed was profoundly affected by fluctuations in the world market for hemp in the late 1890's. The Spanish-American War which had broken out at that time cut off supplies of Manilla Hemp and the market, starved of cordage, turned accordingly to Phormium. Prices soared to the level of about £100 a ton and the number of flax-mills in New Zealand increased very rapidly. At Shannon new mills were built at this time to take advantage of the inflated market.

When this boom had passed, technological improvements in the harvesting of the wheat crops of the North American Prairies led to a continuing steady demand for Phormium fibre in the years before World War I. The use of the reaper and binder created a strong demand for a binder twine which could be digested by cattle fed with the wheat straw. As the Phormium binders had no ill effects there was a profitable market for the New Zealand product until a further technological advance in the harvesting of grain occurred with the invention of the header harvester.

The demand for Phormium fibre for binders was augmented during World War I by a general world shortage of cordage fibres and as a result the industry continued to operate profitably until these shortages were overcome in the post-war years. By that time, too, there was a reduced demand for ropes and on even terms Phormium could not compete with the greater breaking strain of Manilla. This and the loss of the North American market for binder-twine occurred at a time when the yellow leaf disease was making severe

inroads into the stands of flax. As far as Shannon was concerned the flax industry was finished.³

The Raw Material

The development of the flax industry at Shannon was based originally on a supply of raw material from the bushes growing wild in the Makerua Swamp (Fig. 6). The abundance of flax in the area is frequently referred to by early European traders and surveyors; Samuel Revans, for instance, who accompanied the New Zealand Company's Surveyor-General, William Mein Smith, on a preliminary reconnaissance of the Manawatu in 1841 wrote:-

"The flax on the river is in great abundance and of a remarkable size. When a flax machine shall be brought into use few districts will afford a larger supply of this valuable article that that which is dependent on the Manewatu (sic)"⁴

The flax, however, did not grow with equal luxuriance in all parts of the swamp and, although the supplies of good leaf available were ample to fill the needs of the Maoris and of the earlier small-scale mills, they were insufficient to support a large-scale industry. In 1889 Sir James Hector stated:-

"For the future, in the event of the Phormium becoming a permanent source of supply of fibre on the world's markets, there is no doubt that we must look to the establishment of the extensive and favourably situated cultivation... . If, for instance, such areas as the great swamps south of the Manawatu were successfully farmed for Phormium on a large scale, the supply of cheap leaves would be enormous. As a rule swamps only have Phormium plants growing on the margins, and past investigations prove beyond doubt the superiority of Phormium when growing along the margins of gently flowing streams. Obviously the best way to utilise alluvial swamps in New Zealand is to excavate a system of wide drains or canals so as to keep the water in constant motion. Such a system could be indefinitely extended by a reticulation of small drains...and large areas of the best land in New Zealand which, at the present moment is practically worthless, might be rendered profitable."⁵

Early drainage work, undertaken as the Wellington and Manawatu Railway Company began to discharge its land development obligations, reinvigorated the rather stunted *Phormium tenax* near the channels and supported Sir James Hector's theories.⁶ There was, therefore, ample evidence to support the proposals of the syndicate, in which Dr. Chapple of Wellington was a leading figure, to purchase and develop the Makerua Swamp.

In June 1902, the 12,386 acre Makerua Swamp, lying on the western side of the railway line between Shannon and Tokomaru was purchased from the Wellington and Manawatu Railway Company for £30,000 cash. Dr. Chapple outlined the intentions of the Syndicate as follows:-

"The area the Syndicate has purchased consists of about 7,000 acres of open swamp, about 5,000 acres of bush swamp and about 600 acres of dry land. All the flax in the swamp is undersized and underdeveloped, except in the vicinity of the drains made by the Company, where it grows luxuriantly. It is estimated that great results in flax culture will accrue from an expenditure of £1,500 on superficial drainage. For a further sum of £15,000 it is hoped to dredge and straighten the Tokomaru River in such a way as to carry off the bulk of the flood waters, so that a large portion of the land will be permanently reclaimed. The Syndicate proposes to vigorously prosecute drainage works and develop the flax industry for what it is worth, feeling assured that when the flax is finished with the land will give a handsome profit for pastoral purposes. If flax maintains anything like its present profitable price of £30 to £40 per ton in London, the land can be more profitably employed in growing flax."⁷

It was not the policy of the Estate Company to operate mills themselves but they cut the flax and delivered it to the mill owners for a contract price.⁸ Later, when flaxmillers desired to control their own supplies of raw material the Estate Company sold off large areas of the swamp. In 1906, for example the Miranui Company bought 4,200 acres of partially drained swampland and in 1911 the partnership of Alexander Spiers and A.J. Gibbs purchased 585 acres.

The policy of partial drainage (Fig. 7) appeared to keep the flax crop vigorous and healthy until, in the early 1920's the effects of yellow leaf disease became apparent. By 1922 its inroads were becoming so alarming that a Latvian botanist, G. Smerle, was brought out by the New Zealand Flax-millers' Association to investigate the problem. He established an experimental plot at Miranui and after three years study recommended a less severe cutting technique. This necessitated an increased force of cutters and to accommodate them a self-contained unit for sixty men was set up in the swamp.⁹

Even these expensive measures did not halt the depredations of the disease and with the uneconomic prices then obtaining the owners were forced to realize on their assets by clearing the land and subdividing it for dairy farming.¹⁰ In this way the productive value of the area was increased but the change in land-use, together with other developments, imposed an altered and, for a time, lesser economic function on the nearby town of Shannon.

Flaxcutting

Harvesting the leaf from the swamps demanded hard manual labour. Even today this task is largely carried out by hand although in the opinion of some observers there seems to be no reason why a suitable machine could not be devised.¹¹ There were times when this work was particularly trying, in the cold wet conditions of winter or in the summer when it became so airless amongst the tall, thickly growing bushes that men were sometimes overcome by the heat. The flaxcutters, using very sharp reap-hooks severed the leaves about a foot from the base of the plants.¹² The spears, about six feet in length, were then tied into bundles weighing over a hundredweight



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DRAIN IN THE MAKERUA SWAMP

Figure 7

each and carried to the tramway. There was a particular skill in lifting these unwieldy and slippery bundles. The tramways formed an essential link in conveying the bulky loads of leaf to the flaxmill. They could be lifted and re-laid with comparative ease and in the damp unstable ground conditions the sleepers distributed the weight evenly over the soggy and sometimes quaking surface.¹³

Flax-mill Location Factors

Practically all of the following requirements for the sitting of a flax-mill were available at a number of localities in or about Shannon. Some of the town sites, however, were rather short of "paddocking" space close to the mill and it was necessary to cart the fibre by dray to fields about half a mile distant. The outer mills were located to exploit more remote stands of flax; the Miranui Mill, which drew leaf from the central zone of the swamp being built on an extensive site close to its supply of raw material.

The principal location requirements were:-

1. An ample supply of leaf of good quality within easy reach of the site. As the milling process reduced bulk considerably it was economical to place the mill as close as possible to the raw material source.
2. A situation on dry ground above flood levels.
3. A good supply of clean running water. Mills were usually built near streams.
4. Adequate clear land close to the site for use as bleaching paddocks.
5. Good transportation facilities for sending away the finished product and for bringing in fuel, spare parts and other supplies. The

Wellington and Manawatu Railway provided excellent facilities for transporting the still rather bulky product from Shannon to Wellington for shipment overseas.

The Flax-milling Process

The fibre obtained from the Maoris by such early Europeans in the Shannon district as Hartley and Bevan was produced by hand scraping. Although it was strong, soft and of good colour and sold for as much as 1/- a pound its cost of production measured in man-hours was very high. In the work of selecting, cutting, stripping and cleaning only the most industrious could maintain an output of $1\frac{1}{2}$ pounds per day. It was also a very wasteful method of utilising the crop for only two perfect leaves from each fan were selected, the outer edge and the keel were thrown away, and only the top part of the leaf was stripped.¹⁴ It has been estimated that only one sixteenth of the available fibre in a fan of flax was obtained by this laborious method of scraping with a mussel or pipi shell.

Large-scale exploitation of the Dominion's flax resources was made possible by the invention by Messrs. Purchas and Ninnes of Nelson of a stripping machine. The machine then invented was essentially the same in principle, except for refinements in design and improved component materials, as those still in use today (Fig. 8). The stripper was a steel beater containing several flanges of blunt knife-like steel into which the green flax was fed through a mouth about seven inches in diameter. Running water conveyed the leaf through the machine and washed away the unwanted particles. The fibre which emerged was seized by a man termed a "catcher" who took a good sized bundle of the fibre and after twisting it placed it on a skid for removal outside. There the wet, green fibre was loaded on carts and taken



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FLAX MILL

STRIPPING MACHINE, IN USE

Figure 8

to grass paddocks where it was spread out to bleach. After about ten days the fibre was lifted from the ground and hung on wire fences for further bleaching and drying. Finally the dried fibre was carted back in hands or bundles to the scutching or beating machines which removed the rest of the unwanted material. The scutching machines were driven by the main engine while the men termed "scutchers" flung one end of the hank into the machine then pulled it out and threw in the other end. Before leaving the mill the fibre was pressed into bales rather like wool bales in shape but without any sacking or outer cover.¹⁵

The size of a flax-mill was gauged by the number of stripping machines it operated. Many of the smaller mills in the early days had but one machine but larger mills became more common in the later days of the industry and must have provided a constant and rather strident accompaniment to the daily activities of the Shannon residents.

The Shannon Flax Mills

The flax milling industry based on Shannon passed through a number of developmental stages. The first small mills erected close to the town or within its boundaries drew their leaf from the nearby swamp and were apparently well managed, reasonably profitable enterprises.¹⁶ Following the high prices of the 1890's, however, a number of operators with little capital or practical experience entered the industry in search of easy money. It was not long before falling prices and incompetence forced most of them to sell out, at a loss, to more able managements; several of them became bankrupt and at least one committed suicide.¹⁷ The final phase saw the coming of the really big plant, based on the increasing supplies of leaf from the central areas of the Makerua, and able to benefit from the economies

of large scale production.

The Soho Mill

The earliest mill in the Shannon area appears to have been the Soho erected in 1889 on a site on the right bank of the Manawatu River close to the ferry on the old Foxton Road (Fig. 6). After an early setback caused by a fire which destroyed practically all the plant and buildings the mill was re-established under new management. By the end of the year the mill was able to double production by installing another stripping machine. In 1891 the water supply was improved by the sinking of a bore to 132 feet. The Soho Mill appears to have closed down about 1895 and thereafter the river began to erode the site until, in 1902, it was reported that the site of the artesian well was in the river.

Lind and O'Connor's Mill

The first flax mill in Shannon itself (Fig. 6) was established in 1891 by Thomas Lind. He was later joined by a partner J.M. O'Connor and apparently this firm eventually operated two mills side by side. Not only were these mills competently managed but the owners apparently took advantage of new technological improvements; in 1906 they imported a new bleaching machine and theirs was the first mill in New Zealand to be operated by a gas suction engine.¹⁸ Fibre was paddocked on what is now the site of St. Joseph's School.

Stansell's Mill

Stansell's one-stripper mill on the banks of the Mangaore slightly

upstream from Lind and O'Connor's (Fig. 6) was established in 1901. In the first instance the fibre was set out for bleaching in an area about a mile up the present Mangahao Power Station Road but later land to the south of the town where Stansell had his residence was used. When he went out of flaxmilling he subdivided this area for housing and one of the streets was given his name.

Potu Mill

A second mill close to the site of the earlier Soho Mill was erected in 1902. It was the Potu Mill about four chains downstream from the old Shannon Ferry (Fig. 6).

"The Potu Flaxmill (Saunders Brothers, proprietors) on the Manawatu River near the site of the Foxton-Shannon traffic bridge was erected in December, 1902, by its present owners. The mill is up-to-date in every respect, and gives employment to 24 persons. The greater part of the flax is drawn from an area of about 80 acres near the mill, and the output is invariably of high grade. Messrs. Saunders Brothers have erected up-to-date accomodation houses for the men, and also good storage sheds."¹⁹

In February 1918, a fire, attributed to the carelessness of a smoking tow-presser, completely destroyed the mill. It was never rebuilt.

Okuku Mill

The Okuku Mill on the left bank of the Manawatu River upstream from the present traffic bridge (Fig. 6) was constructed in 1902 for Alfred Seifert.²⁰ It was sold in May 1903 to William Hamer, Foxton's only qualified chemist, and his partner, the resident physician, Dr. Bennett. In September 1905 after a fire at this two-stripper mill Hamer became bankrupt. Although the mill was in operation in 1906 no record of it after 1907 exists.

Toko Mill

This flaxmill, equipped with two stripping machines, was only at work for a few months. It was situated on the left bank of the Manawatu River near the mouth of the Tokomaru. Leaf was obtained from the Makerua Estate, some of it, at least, being floated down the Tokomaru River to the mill. Under the management of an ex-draper and an ex-bootmaker it failed to prosper and had been closed down by late 1903.

Toomath and Thomas's Mill

A small mill with one stripping machine was operated by the partners Toomath and Thomas (Fig. 6) on the south bank of the Kara Stream. It was in use in 1903 but it appears to have been closed when the Miranui Mill came into production in 1907.

Shannon Mill

All that now remains of the one-stripper Shannon Mill (Fig. 6) which was erected on the north bank of the Kara Stream in 1914, is a concrete block. This mill, one of the last to be built on the Makerua Swamp, depended for its supply of leaf on an area of 385 acres which had originally been part of the Makerua Estate. Spiers, who had had previous milling experience, bought it for £30.6.6 an acre. He improved the area by digging a number of drains to the Tokomaru River; a tramline conveyed the raw material to the mill and drays carted the hemp along the main road to the Shannon Station for railing to Wellington. There was ample land adjacent to the mill for paddocking the fibre.

As with so many flax-mills, fire impaired the smooth operation of the Shannon Mill.²¹ After a serious fire had damaged the scutching shed it was rebuilt a short distance away from the stripping shed to which it had previously been attached. In February, 1918 another fire burnt through 218 acres of the swamp. Flax to maintain production had then to be obtained from elsewhere; 3,000 tons were purchased from Seifert's adjoining estate and some was even railed from Porirua and Koputaroa. Only 100 acres of the damaged swamp was ever brought back into cultivation.

Miranui Mill

The largest flax-milling undertaking in the Makerua Swamp was the Miranui Mill (Fig. 6) operated by the A. and L. Seifert Flaxmilling Company Ltd.²² The Company, incorporated late in 1906, had a capital of £36,000. It purchased an area of 4,200 acres of swamp and a further 331 acres of higher ground for the mill buildings.

"The whole of the works were designed by Mr. A. Seifert, and the details carried out by Mr. A.J. Merrett, consulting engineer to the Company. The main buildings are the stripping sheds, 205 feet long by 74 feet wide, which contain seven gables, each holding a stripping plant, and in the centre is the power house, containing two suction gas engines, capable of developing 260 horse power. The seven strippers are worked simultaneously, but any one or more of them may be stopped without interfering in any way with the working of the others. The scutching house...has about 8,000 sq. ft. of floor space with machinery driven by two gas engines of a combined capacity of 90 horse power. The yards are floored to protect the flax in wet weather, and are capable of holding 400 tons of green leaf. The mill is connected to the flax area by a light line of rails, which, when completed, will be five miles in length, and on this a five ton locomotive with a train of trucks conveys the leaf to the mill. The mill is supplied with water from a dam, capable of holding 750,000 gallons, and is also provided with artesian wells. The establishment is capable of turning out 1,600 tons of dressed fibre per annum. It employs 170 men.²³

This large scale venture earned a clear profit, during the first seven years

of its operation, of £25,000.

Weka Mill

As the Miranui Mill was unable to cope with all the leaf offering a second mill, with two stripping machines, was built alongside it by H. Seifert (Fig. 6). This mill, close enough to be served by the original tramline, was called Weka.

The activity of this important industry with its changing pattern of ownership and operation had resulted in a growth of population and function which had been reflected in the changing morphology of the town. The considerable work-force, though not all domiciled in Shannon, had been dependent on it for transportation, for services and for entertainment.²⁴ The industry had brought not only prosperity, but also life and colour, for the flax-workers were, on the whole, of a virile manly type. The businesses which catered for their needs had done well and the two hotels had quenched the thirsts of those who had been toiling all week in the swamps. In many ways the closing of the flax-mills ended an era in the life and development of this small town.

Footnotes

1. The New Zealand flax, Phormium tenax, is a tall, stiff plant with leaves six to nine feet long and three to five inches broad. It is from the leaves that the strong, coarse fibres are obtained by a process of scraping away the tough, green connecting tissues.
2. Buck, 1950, 154, 160, 166. The following additional uses are listed by Richards, 1957, 149:- "The flower stalks were used for rafts, tinder and firewood. Baskets were plaited from the leaves. An antiseptic was obtained from the gum in the saddle part of the leaves. Honey was taken from the flowers."
3. Details of the vestigial flax industry now centred on Foxton are recorded by Saunders, 1964, 203.
4. Petersen, 1952, 13.
5. Taylor, 1965, 3.
6. Under the terms of its agreement with the Government, A.J.H.R., 1888 it was stipulated that the Wellington and Manawatu Railway Company was to drain the Makerua Swamp by one or more outfall drains.
7. Manawatu Herald, 1902, July 1st. (See also Appendix B.)
8. Manawatu Herald, 1903, April 11. "Messrs. Loveday and Perreau have secured a site for a flaxmill.....and the Makerua Estate Company will deliver the leaf at the mill at somewhere near £11 odd per ton of dressed fibre. The Estate is laying new tramlines into the flax."
9. Matheson, 1964.
10. According to Matheson, 1964, for example, the land purchased from the Makerua Estate Company to supply leaf to the "Shannon" Mill was eventually developed for farming. The swamp hoe was first used on this property to dig up the flax roots. Eight rehabilitation farmers from World War II now farm this land.
11. Dr. J.S. Yeates in a personal communication stated that it was only the action of the Trade Union which prevented such a machine from being developed.
12. The traditional method of harvesting was to cut over the whole plant once in every four years.
13. Transport of the leaf was occasionally hindered by streams and rivers. The leaf was sometimes swung across such obstacles on a suspended wire.
14. Buck, 1950, 163.
15. Gill, 1963, 2.

16. Manawatu Herald, 1889, Dec. 3.
17. Manawatu Herald, 1903, Sept. "William Loveday committed suicide while in a state of temporary insanity caused by excessive business worries and want of proper rest."
18. Matheson, 1964.
19. Cyclopoedia of New Zealand, 1908, Vol. VI.
20. This bridge must not be confused with the earlier bridge, further downstream, which was destroyed by flood in 1924.
21. The inflammable nature of the dry fibre caused a high level of fire risk. There are many recorded instances of mills being destroyed by fire. There was also a danger to growing flax near the railway line from engine cinders.
22. Matheson, 1964.
23. Cyclopoedia of New Zealand, 1908, Vol. VI, 691.
24. It is difficult to estimate accurately the size of the workforce engaged in the flax industry in the vicinity of Shannon. From what information is available, however, it would appear that about 300 were employed in the early 1900's and that by the 1920's the number had risen to about 600.

Chapter 3THE SHANNON DAIRY INDUSTRY

Of the original bases to the economy of Shannon farming, and dairy farming in particular, have been the least ephemeral. Although initially of relatively minor importance, being overshadowed by the returns from the timber and flax industries, dairy farming grew steadily in importance with the conversion of the bush and swamp into good pasture and with the development of new technologies in production and refrigeration. When the accessible timber had been cut out and the flax industry had collapsed dairy farming became of basic importance to the town, one of its continuing and increasing functions being to service the dairy farms and process the raw material they provided.

All farming in the district was hampered in the beginning by the need for land development by bush-felling and draining. But dairying, even though faced with a high labour input requirement and marketing difficulties, was more feasible than either sheep farming, which required more pasture than most settlers had available, or cropping, which demanded complete stumping and log disposal. The climate of the Shannon district is particularly favourable to dairying; temperatures are moderate ensuring pasture growth throughout the year and making it possible to leave cattle outside during the winter. Rainfall is adequate, well distributed and reliable. It was comparatively easy to establish an excellent pasture on the ash-enriched seedbed left by the bush-burn and to graze cows amongst the stumps and logs which had been incompletely destroyed.

At first dairying in the Shannon district was a completely home based industry, production, processing and marketing being carried out by

the farmer, his wife and their children.¹ Apart from the heavy work of bush-felling and draining without which production could not expand, there was the continuing, monotonous work of milking the cows twice daily by hand. The milk was set in large flat pans from which the cream was skimmed. It was then made into butter in small wooden churns and exchanged at the local store for cash or household supplies.

The first improvement on this crude system was the establishment of a creamery at Shannon in 1894. Farmers used drays to cart whole milk to the small plant. The separated cream was then railed to a butter factory operated in Palmerston North by the New Zealand Dairy Union.²

To cope with the increasing production, and^{to} overcome the disadvantages of transporting the cream to Palmerston North for processing, a privately owned butter factory was opened in 1900 in a small wooden building on the site of the present Shannon Dairy Factory. This facility proved to be unsatisfactory to the farmers because the payout for butterfat, about 6d a pound, was, in their view, unreasonably low.³ There were amongst the local settlers, however, men such as E. Law and W.E. Barber, who by 1908 had organised the farmers into a co-operative company to further the producers' interests.⁴ Their original plan of buying out the Shannon Dairy Factory having been thwarted by the high price being asked for the plant and buildings the new co-operative bought the creameries at Shannon, Moutoa, and Foxton and entered into a contract with the Dairy Union to manufacture the butter until 31st August, 1909. By January 1909 the owners of the Shannon Dairy Factory had lowered their price considerably and the Company was able to purchase it for £1,670. From the end of August, 1909 all butter was manufactured at Shannon and the farmers were receiving a payout of 11½d (Table I) a lb., almost double what they had been getting previously.

Table I

SHANNON CO-OPERATIVE DAIRY COMPANY, CREAM PAYOUT

<u>Season</u>	Cream Payout per lb. Butterfat.	<u>Season</u>	Cream Payout per lb. Butterfat.
1909-10	10 $\frac{1}{2}$ d	1938-39	16.12d
1910-11	11d	1939-40	16.57d
1911-12	12 $\frac{1}{2}$ d	1940-41	16.39d
1912-13	12d	1941-42	16.39d
1913-14	11.62d	1942-43	17.04d
1914-15	13.69d	1943-44	17.18d
1915-16	16.03d	1944-45	19.94d
1916-17	19.00d	1945-46	20.89d
1917-18	18.00d	1946-47	21.02d
1918-19	19.50d	1947-48	26.82d
1919-20	21.46d	1948-49	27.45d
1920-21	32.00d	1949-50	28.98d
1921-22	18.16d	1950-51	31.02d
1922-23		1951-52	34.32d
1923-24		1952-53	36.17d
1924-25	18.21d	1953-54	38.12d
1925-26	19.58d	1954-55	38.30d
1926-27	17.00d	1955-56	36.85d
1927-28	18.38d	1956-57	37.63d
1928-29	19.23d	1957-58	36.825d
1929-30	16.56d	1958-59	32.766d
1930-31	12.94d	1959-60	32.240d
1931-32	11.74d	1960-61	32.209d
1932-33	9.29d	1961-62	32.014d
1933-34	9.25d	1962-63	32.025d
1934-35	9.94d	1963-64	34.004d
1935-36	13.00d	1964-65	35.393d
1936-37	13.89d	1965-66	34.244d
1937-38	15.32d	1966-67	34.177d

Note: After 1949 there was a differential for whole milk

Source: Secretary, Shannon-Tokomaru Co-operative Dairy Company Ltd., Shannon

Meanwhile the introduction of milking machines was revolutionising the work on the farms. J. Kilsby of Koputaroa was the first to install a mechanical milking plant and he was soon followed by others.⁵ The first machines, powered by internal combustion engines, were less efficient than those of today, the cows having to be stripped by hand after the cups were removed, but they reduced the labour input per cow making it possible for each farmer to manage a larger herd. To some extent, they emancipated the

farmer's family from the slavery of the milking-shed.

Two further advantages in technology brought a complete reorganisation of the cream supply in the immediate post war years. The first of these was the invention of the small centrifugal cream separator. The first application to begin separation on the farm was made in 1912. In 1917 the two more distant creameries at Moutoa and Foxton were closed down and on the 1st July, 1919 all suppliers were required to adopt home separation. The second advance was the great improvement in the reliability and cheapness of the motor truck. In 1919 the service of collecting the cream from the farm gate was instituted with vehicles owned and operated by the Dairy Company. These two innovations not only brought great economies in time and cost but by reducing handling and centralising all processing at the factory there were considerable improvements in hygiene and in the quality of the finished product. The new organisation also facilitated the profitable sideline of pig fattening on the skimmed milk.

The smooth working of the new supply lines depended on good road communications. Generally the standard of roading kept pace with the new reliance on motor vehicles but the periodic flooding of the Manawatu River posed problems. Flood-blocked roads sometimes necessitated diversions of the Foxton and Moutoa trucks through Palmerston North. Towards the end of 1924 the old bridge over the Manawatu River was washed away. Much delay and inconvenience were caused by the temporary punt which remained in use until the new bridge was opened in 1928.⁶

The efficiency of farm production has continued to improve. In the 1920's the advent of power from Mangahao brought many new labour saving devices to the farm. Since then farm management has been improved by the

widespread use of tractors, by farm advisory services, by the use of super-phosphate and other fertilisers, by the introduction of better strains of ryegrass and clover, by using electric fences to control grazing and by the advent of new hay-making and storing techniques. The introduction of better veterinary services, herd-testing, more careful breeding, artificial insemination and the use of anti-biotics have improved the health and efficiency of the animals. Better milking machines and scientifically designed sheds have led to increased efficiency, greater cleanliness and an increase in the size of herds which can be handled by one operator.⁷

There has also been a continuing process of land development and improvement in the Shannon district. Only isolated remnants of original forest remain and the stumps and other debris of the initial clearing have long since been removed. The former flax-swamps have been drained and converted into pasture. Rows of exotic trees, usually Pinus radiata or Cupressus macrocarpa, have been planted for shelter. The completion by the Manawatu Catchment Board of the Lower Manawatu Scheme and the recent installation of high capacity pumps to remove surface water quickly have further increased the potential of the land.⁸

These continuing developments have led to a steady increase in the quantities of raw material to be processed. Between 1920 and 1930 the factory output doubled from 439 to 922 tons of butter (Table II). It was, therefore decided to rebuild in reinforced concrete and to re-equip with up-to-date machinery. Production continued to increase in the years before World War II with a record output in 1938 of 1,523 tons, a figure which was not surpassed until 1950. Many improvements were made to the plant in the 1950's when practically all of the out-dated 1930 machinery was replaced,

floor area was increased and butter-making capacity doubled. By 1958 output had passed the 2,000 ton mark.

Table II

SHANNON CO-OPERATIVE DAIRY COMPANY PRODUCTION

<u>Season</u>	Butter Tonnage	<u>Season</u>	Butter Tonnage
1909-10	170	1939-40	1,453
1910-11	158	1940-41	1,442
1911-12	196	1941-42	1,279
1912-13	220	1942-43	1,469
1913-14	265	1943-44	1,308
1914-15	303	1944-45	1,458
1915-16	339	1945-46	1,233
1916-17	345	1946-47	1,273
1917-18	325	1947-48	1,176
1918-19	348	1948-49	1,330
1919-20	439	1949-50	1,533
1920-21	455	1950-51	1,460
1921-22	570	1951-52	1,432
1923-24	703	1952-53	1,598
1924-25	762	1953-54	1,641
1925-26	741	1954-55	1,821
1926-27	763	1955-56	1,817
1927-28	814	1956-57	1,734
1928-29	933	1957-58	2,005
1929-30	922	1958-59	2,134
1930-31	1,102	1959-60	1,755
1931-32	1,131	1960-61	1,805
1932-33	1,270	1961-62	1,712
1933-34	1,405	1962-63	1,628
1934-35	1,365	1963-64	2,296
1935-36	1,421	1964-65	2,425
1936-37	1,487	1965-66	2,516
1937-38	1,523	1966-67	2,514
1938-39	1,349		

Note: Cheese was also manufactured between 1949 and 1960

Source: Shannon-Tokomaru Co-operative Dairy Company Ltd.

The present buildings including factory, boiler house, offices and store occupy one acre of the six owned by the Company.⁹ The almost level site, which has good road access, backs onto the Mangaore Stream. Water supply comes from the town reticulation supplemented by an artesian bore.

The difficult state of the butter market in England has been one of the factors leading to a recent reorganisation of the New Zealand dairy industry.¹⁰ In order to reduce costs by obtaining the benefits of large-scale production, and to increase the resiliency of the industry by diversifying the range of end products, there has been a streamlining of processing units. This movement, which has involved the amalgamation of smaller producer co-operatives into larger units, has been made possible by the recent introduction of tanker collection of whole milk from the farm.

The Shannon Co-operative Dairy Company entered into a number of outside associations during the early 1960's. In 1960 Shannon amalgamated with the Tokomaru Co-operative Dairy Company in association with the Levin Dairy Company and the Wellington Dairy Farmers Association out of which was formed the Horowhenua Co-operative Dairy Company to supply Wellington with milk.

The amalgamated Shannon-Tokomaru Dairy Company uses the factory at Tokomaru, formerly the premises of Horlick's the manufacturers of malted milk, for casein making. The Shannon factory continues to produce better. Whole milk, collected from the farms by tanker, is taken to Tokomaru for separation. The cream is then conveyed to Shannon while the skimmed milk retained at Tokomaru is used for casein manufacture.¹¹ The Company prefers to make casein rather than milk powder as it considers that the market for this product is less subject to price fluctuations.

The disposal of buttermilk from the Shannon factory has become an increasingly profitable sideline. During the first year of operations the buttermilk was sold to a local pig farmer for £20 but when Shannon linked with the Associated Dried Milk Company sending the by-product to the Awahuri factory, receipts rose sharply to reach £936 in 1964.

Because the Dairy Factory is a co-operatively owned concern it brings the town and its tributary district into a particularly close relationship. The farmers have a big stake in one of Shannon's basic industries and through this control they can initiate policies which have a direct bearing on the economy and growth of the town. One activity of the Company which has adversely affected the development of Shannon's private enterprise retailing sector is the large trading department operated from the factory.

In 1911 the Directors decided to establish a produce store at Shannon for the benefit of suppliers. The store, built at a cost of £51.5.0, recorded a turnover of £1,447 in its first year. By 1925 turnover reached £30,694 (Table III) and although sales were affected by the depression of the early 30's a trading level of £45,260 was reached in 1939. There was a falling off during the war but since World War II sales have more than trebled with a turnover in 1966, for instance, of £219,304. The company deals in groceries, hardware, drapery and all farmer's requisites. The store buildings have been extended and altered to cope with the increased business and modern trends in trading.¹⁰ The goods used to be sent out for delivery with the cream trucks but with tanker collection an alternative system of regular deliveries has been devised.

This store represents a very efficient type of retailing business. There are no bad debts, overheads are low, there is a large volume of trading and an excellent service is given to customers. As an additional inducement to patronise their own store trading profits are rebated back to shareholders in proportion to their purchases. In 1957, for instance, £6000 was credited to suppliers by way of rebates.

Table III

SHANNON CO-OPERATIVE DAIRY COMPANY STORE TURNOVER

<u>Season</u>	Store Turnover £	<u>Season</u>	Store Turnover £
1909-10	Nil	1938-39	45,260
1910-11	Nil	1939-40	43,614
1911-12	1,447	1940-41	
1912-13	2,638	1941-42	40,289
1913-14	5,006	1942-43	36,969
1914-15	8,025	1943-44	33,732
1915-16	10,594	1944-45	36,721
1916-17	11,599	1945-46	39,105
1917-18	14,313	1946-47	38,391
1918-19	15,729	1947-48	50,587
1919-20	19,032	1948-49	55,492
1920-21	21,124	1949-50	58,829
1921-22	20,092	1950-51	69,621
1922-23		1951-52	74,051
1923-24		1952-53	85,203
1924-25	30,694	1953-54	100,509
1925-26		1954-55	115,715
1926-27		1955-56	118,227
1927-28	27,357	1956-57	129,741
1928-29	27,974	1957-58	133,599
1929-30	30,700	1958-59	140,542
1930-31	27,141	1959-60	155,373
1931-32	28,914	1960-61	166,908
1932-33		1961-62	159,523
1933-34	25,681	1962-63	165,488
1934-35	29,157	1963-64	174,699
1935-36	34,104	1964-65	203,694
1936-37	38,445	1965-66	203,023
1937-38	41,210	1966-67	219,304

Source: Secretary, Shannon-Tokomaru Co-operative Dairy Company Ltd., Shannon

There is some merit in a producer co-operative also functioning as a consumer co-operative for the benefit of its farmer shareholders but there can be no doubt that this has been a factor in depressing the status of Shannon's privately owned retail shops. The town's biggest store is some distance away from Plimmer Terrace and the C.B.D. Even if it were there it would add little to the appearance of the town centre and increase only slightly the number of shoppers. There are usually a few cars parked outside the store to indicate that shareholders are selecting goods from the

neatly arranged display stands within, but most business is done by telephone, customers only visiting the store occasionally. Money spent on display windows and an attractive exterior would bring little additional trade. The store represents a form of trading with which the ordinary shops cannot compete and the private retail sector of Shannon's economy is correspondingly depressed.

The Dairy Factory has also had an impact on Shannon's housing. Eleven houses, all within a quarter of a mile of the plant have been acquired by the Company to attract and retain key personnel.

With 40 on its pay-roll the factory offers a range of employment opportunities and injects money into local circulation.¹³ It links the town and country in a particularly intimate relationship and it represents the channel through which Shannon has been most tangibly influenced by the developing dairy industry.

Footnotes

1. Manawatu Standard, 1965, October 19th.
2. Beer, 1958, 3. See also Philpott, 1937, 87.
3. Beer, 1958, 3.
4. W.E. Barber died at Foxton on January 14th, 1968 in his 100th year. He was a director for over 50 yrs.
5. Manawatu Standard, 1965, October 19th. See also Philpott, 1937, 86.
6. "On one occasion a truck ran off the punt into the Manawatu River." Beer, 1958, 14.
7. Sears, 1961, 67, contends there is still room for much improvement.
8. Evans, 1964, 55 gives an account of the Manawatu Scheme.
9. Beer, 1967, Personal communication.
10. Farm organisation into larger units with bigger herds is also taking place.

11. Warr, 1964, 178.
12. Beer, 1958, 19.
13. Beer, 1967, Personal communication.

Chapter 4THE MANGAHAO POWER SCHEME

During the years immediately after World War I the construction of the Mangahao Power Scheme (Fig. 9) in the Tararua Ranges close to Shannon resulted in an economic activity which had a considerable short-term impact on the growth and development of the town. The completion of the works, however, resulted in a period of re-adjustment. Since then the relatively small requirements of the power scheme and its staff have provided one of the relatively stable, but minor bases to the economy of Shannon.

The main economic gain from the scheme was more widespread. By harnessing the water resources of the catchment areas of the upper Mangahao and Tokomaru Rivers cheap power was provided for industry, agriculture and domestic purposes throughout the southern part of the North Island. Although Furkert's analogy might not stand up in detail to the scrutiny of a cost-benefit analysis it does illustrate vividly a changing evaluation of the economic importance of what had previously been written off as wastelands.

"...the turning on of the power...means the bringing into the field of usefulness of some of the wildest country in the North Island so that henceforth it will be practically as productive as the plains below. The Mangahao catchment area is capable of producing approximately one horse-power per acre, working twenty-four hours per day, without getting tired and never dying of old age. An acre of our fertile flats cannot do much more than sustain one flesh-and-blood horse."¹

In this wider benefit Shannon gained little more, because of government policy in equalising bulk power charges, than towns situated at the extremes of the reticulation area, except that close proximity to the source of power perhaps led to a greater assurance of continuity of supply.² This point, according to Magee, had some bearing on the location here of the Nylon

Factory.³

Although most credit for the harnessing of the latent water-power in this section of the Tararuas must go to the Government Engineers who finally designed and built the scheme local pressures played some part in focussing attention on its potentialities. Successful flaxmillers of the district, who had been amongst the first to introduce new techniques, were fully alive to the advantages of electricity as a motive power which would be not only convenient and economical but would also reduce the fire hazard in the mills. Flaxmilling interests were, therefore, amongst the most clamant in pressing for hydro-electric development in the Tararuas.⁴

The Palmerston North Borough Council had also, in 1907, investigated the possibilities of constructing a power scheme a little to the north of the present station, but, although favourably impressed, they considered that the expense involved was beyond the resources of, what was then, a much smaller town.⁵

The Mangahao Scheme was not included in P.S. Hay's classic 1904 report to Parliament on the hydro-electrical potentialities of New Zealand but he did have surveys made, in 1906, of a project broadly similar to the present one.⁶

The scheme that eventuated was largely the work of the then chief electrical engineer, F.T.M. Kissel, who designed this, the first of the Government's North Island hydro-electric stations, to enable the various supply authorities to proceed with their development work and load building before the major plants at Waikaremoana and Arapuni came into operation. When finished Mangahao was the largest power station in the country and until the Tuai Station at Lake Waikaremoana began to generate power in February 1929,

Mangahao supplied load to all the power authorities in the southern half of the North Island.

The only approach to the Mangahao Power Scheme is by the road from Shannon. The power house is situated at Mangaore at the base of the Tararua and three miles to the east of Shannon (Fig. 9). Eight miles of mountain roads link the power station with the storage dams on the distant side of the main North Island axial Range. The chief catchment area of approximately forty square miles experiences one of New Zealand's consistently wet climates with an average rainfall at No. 1 Dam of 140 inches per year falling on 225 days.

The generators derive their energy from the considerable fall available rather than from the use of a great volume of water. Water is taken from the Mangahao River and by passing it under the ranges through tunnels a useful maximum fall of 890 feet is obtained before the water is returned to the Manawatu River on the plains. The water's path to the sea is shortened by about 75 miles by this eight mile diversion, five miles of which is tail water discharged into the existing Mangaore Stream (Appendix C).

Construction Works

Because of its proximity to the site, Shannon, a minor nodal point on the main communications system of the North Island, was intimately concerned at every stage of the construction work.

The detailed surveys and river gaugings which preceded actual con-

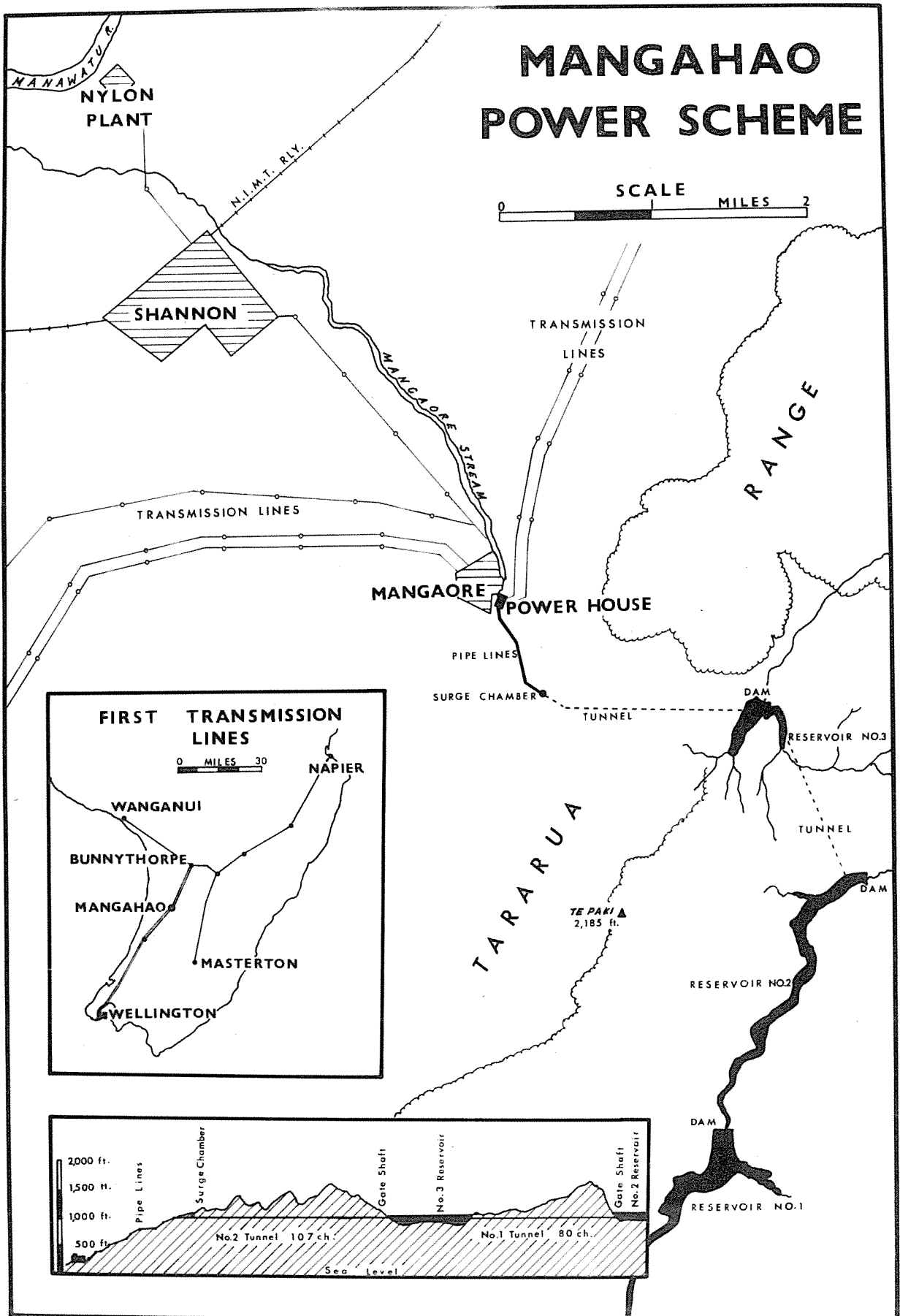


Figure 9

struction were commenced in 1915 so that by 1919 plans were sufficiently advanced to allow the road access to be started. By 1920 the major construction had begun and the works were opened up so that the project could be tackled from as many faces as possible. An inaugural banquet to mark the commencement of work was held in Shannon on the 28th February 1919.⁸

The period of construction which then began brought an influx of workers and generated a number of new functions for the town. The nature of the work, the living conditions and the types of men employed were variables which had direct and indirect effects on the development of Shannon.

For the period, the work was highly mechanised with extensive use being made of compressed air and electric power. Battery driven trucks to cart the spoil and concrete traversed the hundreds of yards of tramline which were laid. Rails were placed on the spur which had been chosen as the route for the pipelines and an electric winch hauled many tons of steel and concrete up the steep slope. Private cartage contractors based on the town helped to bring in much of the heavy equipment from the railway at Shannon, and trucks ground their way day and night up the steep, winding, access road.

There was, nevertheless, a much greater proportion of pick and shovel work than would be found on a similar job today.⁹ Most of the work was done by the system of co-operative contracts under which small gangs of men are paid according to the results they achieve. This method of payment by results, which has proved acceptable on many public works jobs in New Zealand, apparently worked well at Mangahao for, except when the tunnellers went on strike over a wage cut in 1921, there are no records of serious

stoppages.¹⁰

But, for the men employed there, work on the sites was often unpleasant and at times dangerous. The steep slopes and the wet climate brought many difficulties. A great deal of trouble was caused by the sudden floods which frequently swept down the rivers inundating the workings and damaging equipment and construction materials. Unexpected variations in the rock formations at the dam sites necessitated extensive redesigning of some of the structures. That some of the work was dangerous is shown by the toll of nine lives lost during the construction work.¹¹ For many of the workers the opportunity to spend a few leisure hours in Shannon provided relief and an easing of tension.

It was also a relief to escape for a short time from the spartan living conditions of the camps. Judging from contemporary photographs and reports in the annual Public Works Statements the standard of accommodation was much below that of present-day construction camps. As there was little level ground the huts or tents were frequently perched on slopes. Instead of being concentrated in one main village where good facilities could have been provided the men were dispersed into a number of smaller, rather primitive, camps. Only a proportion of the men were housed in wooden huts. Many of them were in tents and others were in part-timber, part canvas accommodation. Conditions were cramped and lacking in privacy in the four-man tents, but for the single men in the eight-man huts there was even less seclusion. Mattresses were of straw and the only light was provided by kerosene lamps or candles.¹² In the prevailing wet climate the life was hard and comfortless.

As the work proceeded the Department had to assume more responsibility for the comfort and living conditions of the work-force. Recreation halls,

drying rooms, Y.M.C.A. huts and billiard rooms were built and when the camp was erected at the site of the third dam much better facilities were provided. There were also continual complaints about the food provided by a succession of private caterers and in the end the Department had to take over the administration of the cook-houses.¹³

The men of the work-force were of many different types. Some were Returned Servicemen re-adjusting to civilian life; others were newly arrived immigrants. Although most of the men were law-abiding citizens there was also a more troublesome floating element. Some of the men were of the type who work hard and also play hard.¹⁴ It is not surprising that there were sometimes disturbances in Shannon on Saturday nights after the bars had closed and that an extra policeman had to be stationed in the town during the period of construction.

Despite these disadvantages the workers on the Mangahao Scheme were a lucrative economic asset to Shannon. In those days when few workers possessed their own vehicle the four motor taxis and the buses of Shannon did a profitable trade.¹⁵ The old brake was even pressed into service to collect workers from the Wellington train. As the nearest established town Shannon provided some of the extra services and recreational facilities which were lacking in the construction camps. The retail shops offered a more varied range of merchandise than could be stocked by the camp canteens and the town provided a modest range of essential personal services. The two hotels, as the nearest licensed premises, were extremely well patronised. Through these and other channels a large proportion of the men's pay was directed into the town.

The town also benefitted from the needs of the scheme itself. Locally

based transport firms did much of the cartage work. There was work for local mechanics in servicing the vehicles. There was greatly increased activity in the railway yards with the arrival of large quantities of cement, steel and heavy electrical equipment and there were improved job-opportunities, particularly for such local tradesmen as carpenters.

The completion of the work, however, meant the end of this high level of economic activity, and the export of hydro-electricity, because of the low labour content in its production, brought a very much reduced return to Shannon.¹⁶ Instead of the three to four hundred men needed for its construction there were now less than thirty permanently employed in the maintenance and operation of the station.¹⁷ At a very much reduced rate the power scheme was a continuing economic and social asset to the town.

Mangaore Village

As one of the first of the power station villages provided by the Electricity Department Mangaore set a high standard of planning and accommodation. The hilly site overlooking the power house has necessitated an informal street plan with the houses pleasantly situated on sloping sections most of which lie well to the sun. Of the twenty-five houses the earlier ones are quite adequate family units of wooden frame and weather-board construction. They are reasonably roomy and more attractive in outward appearance than the two later, rather stolid, state-house-type dwellings erected since World War II. The Department also provided a social hall and tennis courts, but there was no provision for shopping and no private individual could buy or lease land within the village for any purpose.

A feature which has added to the aesthetic appeal of the village was the planting of an interesting selection of exotic trees on some of the steeper slopes. These, together with the tree ferns thriving in the gullies and the neatly kept roadside lawns tended by a staff of two gardeners, add to the attractiveness of the setting.¹⁸

The people of Mangaore tend to stay there longer than is the case in some of the Electricity Department settlements. Ease of communications with such large centres as Levin, Palmerston North and Wellington and integration with the life of Shannon make this, like Karapiro, one of the most popular stations in the Service. Only the more ambitious promotion seekers are in any hurry to move on to more remote localities and, in fact, two of the residents have been there since the Station opened in 1924.¹⁹ The average length of stay is about fifteen years.

Mangaore, although separated from it by a three mile stretch of country is in many ways a part of Shannon. Because of its small population and lack of commercial functions it is a residential appendage dependent on the town for its services.

The advent of the private motor car, however, has decreased the retail and servicing functions of Shannon and the people of Mangaore now go further afield for many of their needs. With social and recreational activities, on the other hand, the impact of the motor car has increased the contacts between the village and the town. Mangaore people are now less dependent on their own resources for sporting and social life, and although a number of successful functions are still held, most of the residents belong to the many active clubs and societies of Shannon.

The village also depends on Shannon for its educational needs. The children are conveyed to the town daily by school bus. This dependence reinforces the social and economic ties between the two places and brings the parents together in such activities as the meetings of the Parent-Teacher Association and on fund raising projects and working bees.

In a number of ways this interesting example of a small settlement designed and conducted by a Government Department has affected the economic and social development of Shannon. The settlement is visual evidence of the only longterm, purely local benefit derived from the construction of the Mangahao Power Scheme.

Footnotes

1. Furkert, 1924, 3.
2. There has been some variation in this policy in connection with the bulk supply of electricity from Manapouri to the proposed Aluminium Smelter at Bluff.
3. Magee, 1966, 73.
4. Matheson, 1964,
5. Furkert, 1924, 3.
6. Furkert, 1924, 3.
7. Mr. Thompson, State Electricity Department, Palmerston North, personal communication.
8. The function was attended by the Minister of Public Works, Sir William Fraser, who had completed an arduous trip to and from the Mangahao River by survey track during the day. Furkert, 1924, 4.
9. Mr. Beech, State Electricity Department, Mangahao, personal communication.
10. Public Works Statement, 1922.
11. The worst accident was on July 3rd, 1922 when two men were smothered by noxious gas in one of the tunnels. Five others, while attempting rescue operations were also killed by the gas. Evening Post, 1922, July 4th.

12. Mr. Massey, Mangaore, personal communication. The mosquitoes were also extremely troublesome.
13. Furkert, 1924, 12.
14. "There was a "Two Up" school held on Sundays to which gamblers came from as far away as Wellington". Mr. Beech, Mangahao, personal communication.
15. Jubilee Souvenir, Shannon School, 1949, 26.
16. The official opening by the Prime Minister, the Rt. Hon. W.F. Massey assisted by the Minister of Public Works, the Hon. J.G. Coates, was followed by a banquet in Shannon. - Evening Post, 1924, Nov. 3.
17. There appears to be no record of the exact number of men employed on the works. From the evidence of hutments erected, as recorded in successive Public Works Statements, the maximum numbers would not seem to have been in excess of 400.
18. The maintenance staff is provided by the Electricity Department.
19. Information about the Mangaore Village was obtained in interviews with residents in January 1968.

PART IIChapter 5POPULATIONPopulation and Economic Change

A study of the composition and movement of population gives an indication of the changing economic status of a settlement. Although other variables operate, it is most often economic opportunity which attracts or repels population from a particular urban area. In the case of Shannon, changes in the economic activity of the town appear to be closely linked with the rates of population growth or regression and with the age-sex distributions at various stages of development.

This discussion of Shannon's population is based on census returns supplemented by school enrollment numbers obtained from the Shannon Primary School Diary and from the head teacher of St. Joseph's Convent School. Further information came from the survey of Shannon households. The school enrollments are valuable in that they give information from as far back as 1889, a time when the town was in its infancy. It can be seen, furthermore, that when the enrollment figures are compared with known population figures the trends disclosed show a remarkably close correspondence. Such factors as change in the national birth rate and variations in the age-sex composition account for such discrepancies as do occur. The enrollments, too, give a year by year index whereas the census, normally taken at five-year intervals, was deferred during the war years and at the time of the economic depression.

The population figures for Shannon, as reflected in the school enrollments, reveal that there have been two reasonably sustained periods of quite rapid growth and one, lasting about 20 years, when there was a considerable loss of people (Fig. 10).

During the first 40 years of its existence the population of Shannon increased from nil to over 11 hundred. There were occasional setbacks caused by variations in the overseas market for flax fibre, or to re-adjustments amongst the manufacturing units, but on the whole there was a yearly increase too great to be accounted for by local births alone. There were job-opportunities in the flax and timber industries, and agriculture, although largely denied the use of the wet-lands, was making steady progress and laying the foundations of co-operative enterprise. The town was developing as an organic entity with services and facilities to meet the needs of its own people and of the ever increasing numbers who worked in the swamps, at the mills, on the land or in the receding bush.

The timber industry was the first to show signs of its eventual demise. After 1912 the returns for goods handled at the Shannon Railway Station (Appendix E) record that more timber was railed in than out for each succeeding year after that time. Gradually the amounts sent away dwindled and although there were one or two brief resurgences as in the early twenties, sawmilling was obviously a declining industry in the town. But the effects of this decay of an industry were masked by the buoyancy of others. The flax industry and dairying continued to expand up to, during, and just after World War I when the returns on the overseas markets were particularly good. The pay-out for butterfat during the 1920-21 season (Table I) reached a record 32.00d per pound. At this time, too,

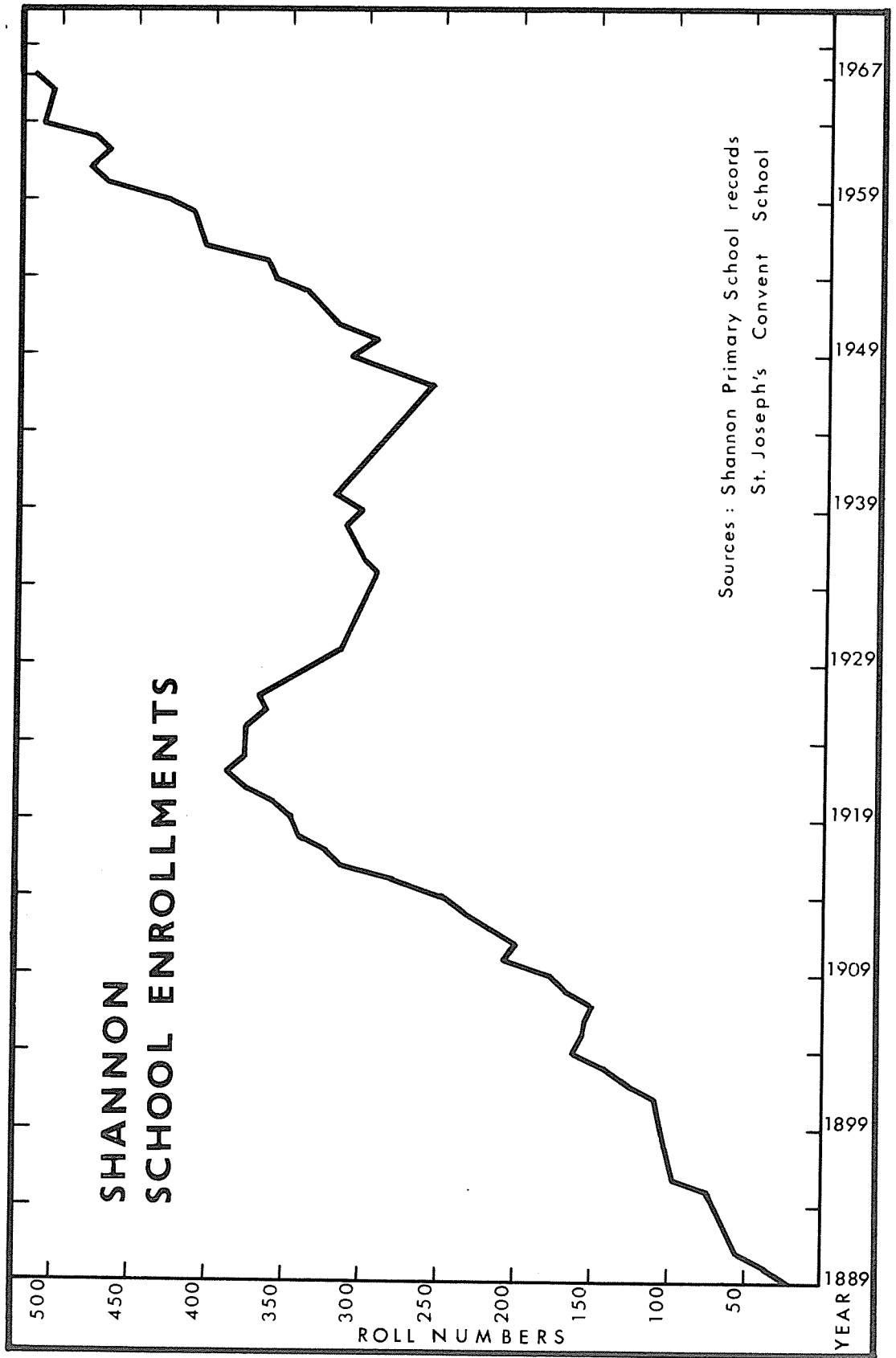


Figure 10

work commenced on the Mangahao Power Scheme and economic activity connected with this project masked the decline in Shannon's staple industries which soon began.

The steep rise in population numbers which had continued since the first days of Shannon started to level out after 1921 (Table IV). In the following five years there was a modest rise from 1,013 to 1,109 in 1926. This rise of 8.65 per cent was still lower than the national average of 10.73 per cent. The school enrollments during this time show a slight drop, although the number of children at the school remained at much the same level as in 1920 and a little lower than the peak of 1922 (Fig. 10).

Table IV
SHANNON POPULATION NUMBERS

Year	Population	Numerical intercensal Increase	Percentage Increase	N.Z. Average percentage Increase	N.Z. Urban Areas Increase
1921	1,013				
1926	1,109	96	8.65	10.73	
1936	900	*209	*18.84	11.77	12.2
1945	869	* 31	* 3.44	8.16	16.8
1951	1,044	175	16.76	11.08	15
1956	1,197	153	12.78	12.1	12.5
1961	1,398	201	14.37	11.09	14.9
1966	1,544	146	9.4	7.3	16.1

* Decrease

Note: Borough incorporated 1917.
Urban Areas includes only cities over 20,000 in 1966.

Source: N.Z. Census Reports.
N.Z. Official Year Books 1922-1967.

The next era in Shannon's history is one of regression. By 1936 the total population had dropped by 209 to the figure of 900. In this exodus the younger, single workers would have been the first to leave but there was also a serious loss of family groups. There was a further fall of 31 to the low point of 869 recorded in 1945.

The school enrollments, while confirming this overall trend, give a clearer picture of the two lengthened intercensal periods. They show that there were two sharp falls, one very steep one in the late 1920's and early 1930's and a less severe one during World War II. Between these times, in the late 1930's, the school numbers show a slightly rising tendency.

The very severe fall after 1927 emphasises the sudden and drastic effects of a number of economic changes. The first was the ending of the flax industry which had done so much to nurture and sustain the town from its earliest years. The next was the completion of the third and last dam required by the Mangahao Power Station. The departure of the construction workers removed a body of consumers. Local residents who had provided transport and other services for the project were now short of work. The third element of change was the world wide economic depression which came at a particularly inopportune time for Shannon. The former flax-lands were being drained and developed for dairy farming at a time when butter prices reached an all-time low. For the seasons 1932-33, 1933-34, and 1934-35 the butterfat payout per pound was 9.29d, 9.25d and 9.94d (Table I). Overall production was increasing but returns such as these caused great hardship amongst farmers, particularly those who were just starting to establish themselves. The final change which added further to the economic difficulties of towns like Shannon at this time

was the advent of the motor vehicle, Cars, trucks and roads all improved remarkably in the years after World War I although it was not until the worst effects of the depression had worn off that the full impact of this technological revolution was apparent. Shannon businesses found it very difficult to compete with Levin 10 to 15 minutes travelling time to the south and Palmerston North less than half an hour by car to the north.

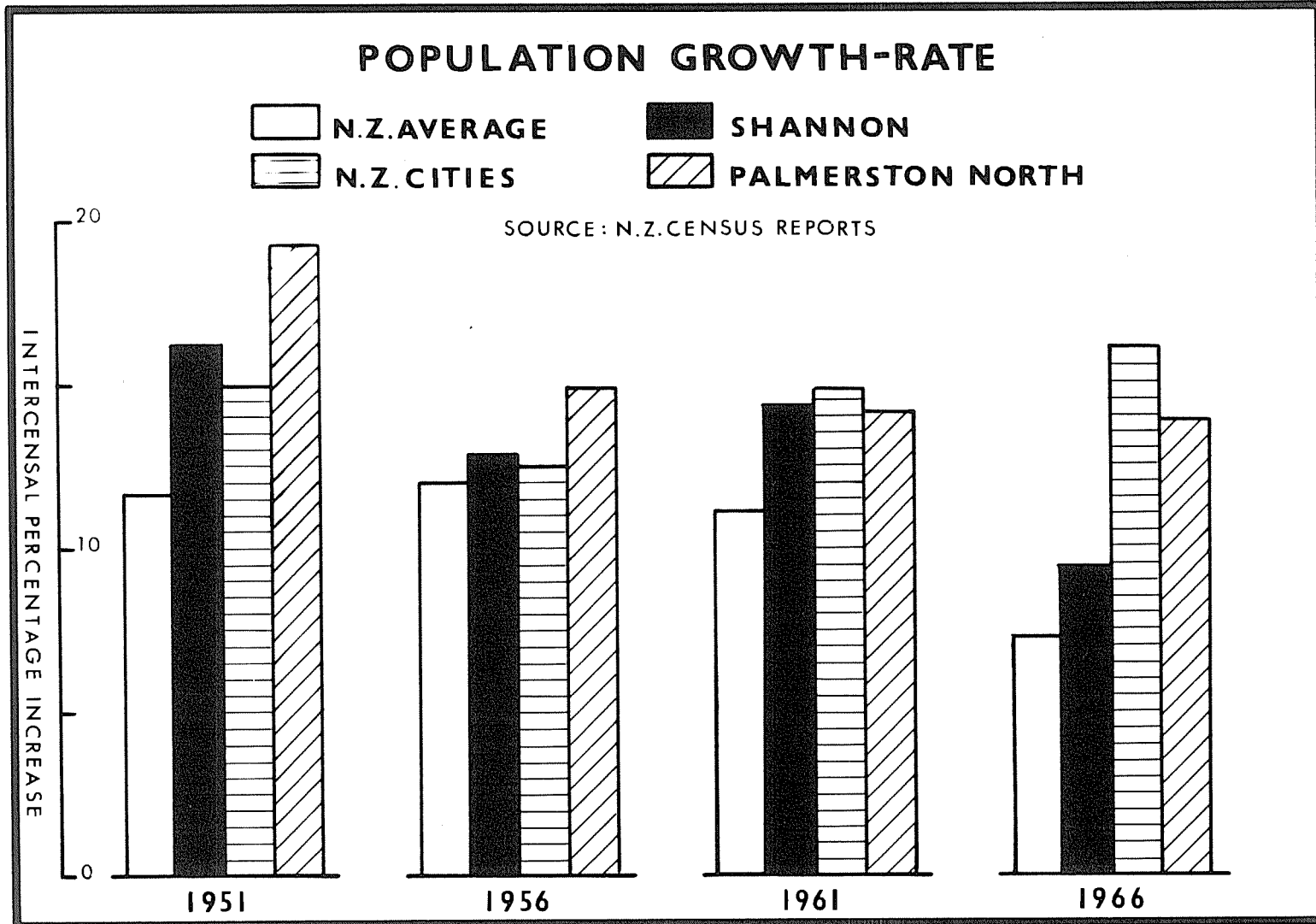
The improvement in school numbers in the late 1930's coincided with a building-up of dairy production from the new farms and an improvement in butter prices overseas (Table I). During World War II there was a further minor fall in Shannon's overall population (Table IV). Dairy production receded from the previous high point attained in 1938 (Table II) and a number of people left the town, either to serve in the armed forces or because they were man-powered elsewhere.

The second era of rapid expansion began soon after the war had ended. At each census since 1945 Shannon recorded population increases greater than the national average (Fig. 11). Although it is true that these gains fall short, at all but one census, of the very rapid rises in the main urban areas, they nevertheless represent a remarkable reversal of previous trends.

In the latest intercensal period there has been a slackening of the recent impetus. Despite the opening of the Nylon Factory the growth rate has fallen behind that of the more dynamic urban areas and cannot match that of Taupo, Whangarei, Rotorua or even Levin. The overall increase of 50 per cent in population since the end of the war is, however, quite significant.

The rejuvenation of Shannon since World War II can be largely

Figure 11



attributed to a further change in economic function. While retailing has retained a relatively minor position and transportation and dairying have made steady gains it is the expansion of manufacturing which has been the most dynamic economic variable in recent years.

The Maori Population

The Maori People have occupied the Shannon district for many years and, although the actual site of the town was in thick bush and uninhabited until Europeans began to exploit it, there was a numerous native population on and about the river banks from early times. It is not surprising, therefore, that there is a considerable Maori element in the present population of Shannon.

In determining the number of Maoris in a particular population the question of what constitutes a Maori becomes relevant. For present purposes he is one who states that he has half or more Maori blood. But none other than verbal evidence is required to substantiate the claim. In view of modern knowledge of genetics it would, perhaps be preferable to think of the New Zealand population as a gradation from European to Polynesian in which the genes from each source are becoming more mixed with each generation. As the years pass, the descriptive terms Maori and European may, from the physiological viewpoint at least, become increasingly misleading.

In the meantime it is convenient, though not always strictly accurate, to class as Maoris those persons in whom the number of genes of Polynesian origin predominates and who still retain sufficiently strong cultural ties with Maoridom to so describe themselves.

On this basis the Maori population of Shannon is sixteen per cent of the total, over twice as high as the New Zealand average of 7.4 per cent. This is a proportion which is likely to increase. Over the whole Dominion in recent decades Maori births have been consistently higher than European. There is a rising proportion of Maoris in the younger age groups and the current rate of growth of the New Zealand Maori population is 38.1 per 1000 compared to the 21 per 1,000 of the whole population. It has been estimated that if these trends continue, by the year 2000, the Maori population may well comprise 14 per cent of the New Zealand total, almost twice the present proportion. That these trends are evident in Shannon, which has always had a relatively high Maori component, is apparent from the returns of Maori children entering the primer classes at the Shannon Primary School. For the whole school in 1962 the proportion of Maori pupils was 14 per cent. By July 1967 the percentage for the whole school had risen to 25 per cent Maoris, but in the Primer I class comprising the new entrants, 17 of the 35, almost half the children starting school in 1967, were Maoris. It seems reasonably safe to predict that the Maori element in the Shannon population will increase proportionately in the future and that it will be a strong factor in maintaining a healthy growth rate for the town as a whole.

Age - Sex Structure

The age-sex structure of the Shannon population has varied greatly over the years (Fig. 12, 13). In 1921 most of the people were comparatively young. The largest groups of adults were in the over 25 and under 45 age classes. The balance between the sexes in these groups was slightly in favour of the males except in the 40 to 45 category. That

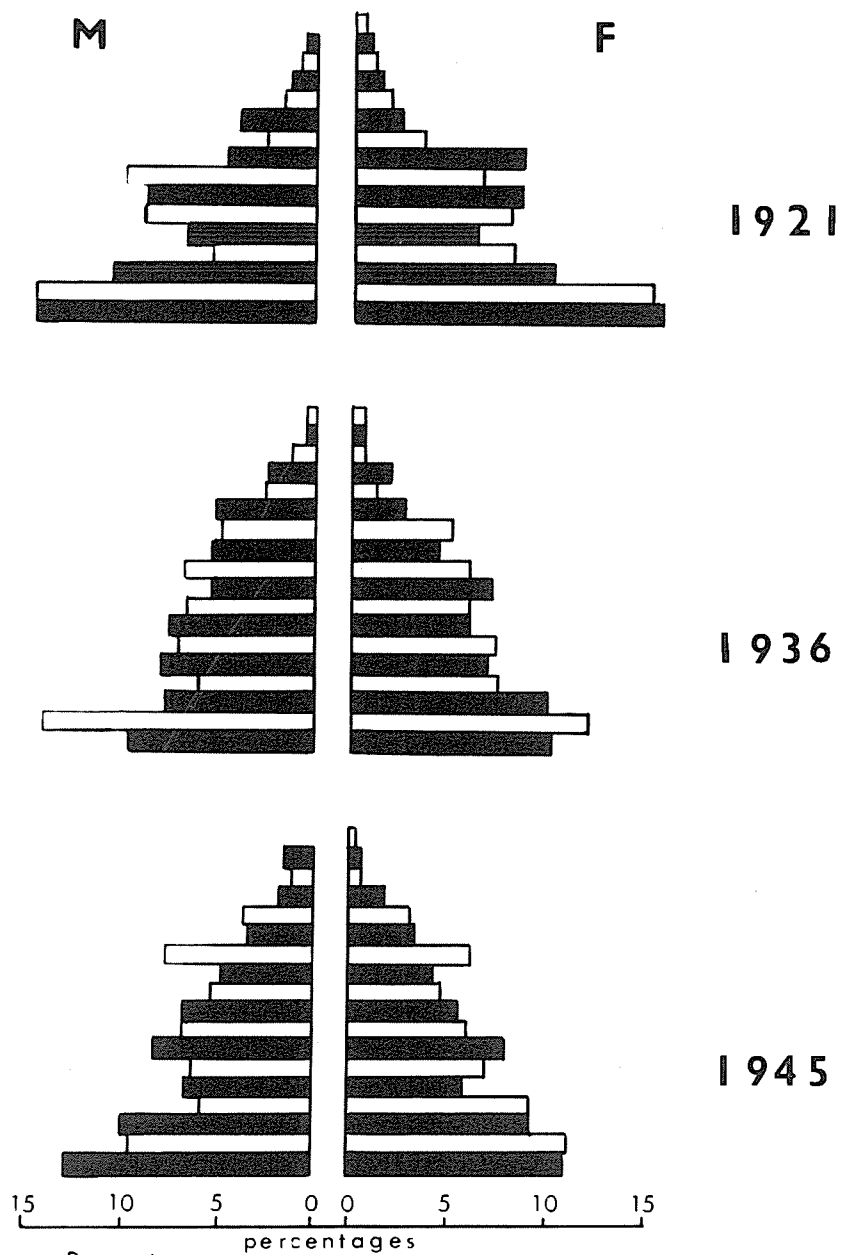
many of these people were married couples may be inferred from the large percentages of children in the under 10 class. The comparative dearth of adolescents and young adults can be attributed to the fact that most of the parents were comparatively young; war-time casualties would have affected males in the 20 to 25 years category.

The 1936 pyramid (Fig. 12) depicts an aging population. The higher percentages in the up to 70 age classes show that in the exodus which reduced the overall population numbers it was the younger adults who were most prone to move away. The small number of children under five is a result, not only of this predominantly older population, but of a nationwide trend towards a lower birth-rate during the depression of the early 30's.

From the data of succeeding censuses it becomes apparent that, with two exceptions, the population of Shannon tends to approach more closely to the New Zealand norm. The first of these differences is that there is a continuing dearth of males, in particular, in the young adult classes. In the early post-war years this can be explained in part by the lower birth-rate of the depression era, but more recently the deficiency is likely to have been caused increasingly by an outward migration of young people seeking the wider opportunities and interests of life in a big-city environment. The other difference from the New Zealand average is that Shannon, like rural areas in general, appears to have maintained a relatively high birth-rate. The high proportion of children is, no doubt, a result of the large proportion of family groups and the higher than average Maori component.²

SHANNON POPULATION STRUCTURE

(BY FIVE-YEAR GROUPS)



source: N.Z. Census Reports

Figure I2

SHANNON POPULATION STRUCTURE

(BY FIVE-YEAR GROUPS)

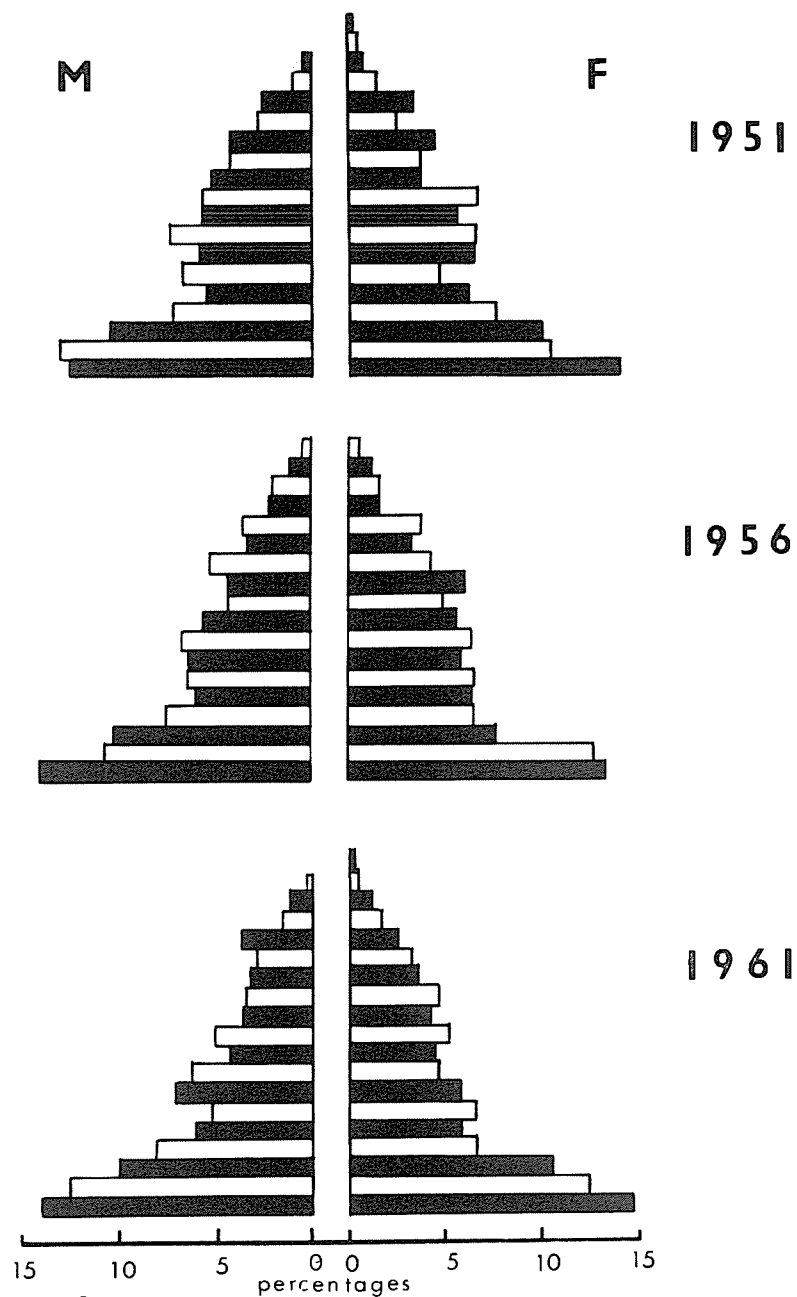


Figure 13

Population Mobility

Mobility is one of the strong characteristics of New Zealand's population. With so many fluctuations in economic development it is not surprising to find that there is considerable evidence, in Shannon, of population movement.

Table V

SHANNON: BIRTHPLACE OF HEADS OF FAMILIES

<u>Locality</u>	<u>Per Centage</u>
Overseas	11.41
South Island:	
Nelson Marlborough	4.02
Canterbury	3.35
Otago	2.68
	10.05
North Island:	
Wellington Province	49.66
Hawkes Bay	6.74
Taranaki	3.35
Auckland Province	1.34
	61.09
Shannon	17.45

Source: Survey May 1967

Of the heads of families who completed the questionnaire (Appendix O) only 17.45 per cent had been born in Shannon (Table V). Nearly 80 per cent were born in the North Island, 67 per cent in the Wellington Province and

just under half in what is usually recognised as the Manawatu Region. The majority of people who have moved into Shannon would seem to have come from relatively close locations and from smaller towns, country districts and provincial centres rather than from the big cities. Very few were of South Island birth.

Table VI

SHANNON - LAST PREVIOUS PLACE OF RESIDENCE

<u>Locality</u>	<u>Percentage</u>
Overseas	3.74
South Island	2.83
North Island	93.43
Wellington Province	72.9
Hawkes Bay	5.61
Taranaki	3.74
Auckland	10.28

Source: Survey May 1967

A similar pattern emerges with the table of previous places of residence (Table VI), except that fewer people had moved directly to Shannon from either overseas or the South Island. Times of residence in Shannon indicated a fairly even tempo of arrivals with a slight increase in the latest year.

Of the people who had come to Shannon 28.12 per cent had lived in more than one locality (Appendix G) in the five previous years, and of all the arrivals 60 per cent had taken up work, in Shannon, different in type from their previous employment. Most of those who had not changed their

type of work were tradesmen, technicians and professionals who had transferred on promotion or to better their prospects (Appendix H).

Some of the workers who had changed their type of job on coming to Shannon are no doubt examples of mobility amongst the unskilled and semi-skilled sectors of a labour-force experiencing a period of over-full employment. At least some of those who came to Shannon because work was available appear to have settled there to take advantage, while they raise a family, of the lower living costs.

There has also been out-migration from Shannon during the post-War years. Some moved to more senior positions, others to find more congenial work or because they found life in a country town too dull, but the most frequent migrants were the young adults who left home to sample the wider opportunities outside.

Table VII

TIME OF RESIDENCE IN SHANNON

<u>No. of Years</u>	<u>Number</u>	<u>Percent.</u>
0 - 1 year	14	9.34
1 and under 2 years	7	4.67
2 - 4 years	17	11.34
5 - 9 years	24	16.
10 - 19 years	31	20.66
Over 20 years	35	23.34
Whole life	22	14.65

Source: Survey May 1967

It was found during the survey that of the children no longer living at home (Table VII^I) only a little over a quarter were still residents of Shannon. Another quarter were in one of the major cities with the Wellington-Hutt area being the most popular. Nearly one fifth were in a provincial city with Palmerston North absorbing about half of this group, and the remainder were widely scattered in smaller towns and in the country. The distribution shows that of the children who had left home the majority had not moved very far. Over half, including those still in Shannon, were in the Manawatu Region and 80 per cent were in the Wellington Province.

Table VII I

SHANNON: PRESENT LOCATION OF CHILDREN NOT LIVING AT HOME

<u>Locality</u>	<u>Percentage</u>
North Island:	
Wellington Province:	
Shannon	26.99
Wellington and Hutt	19.01
Levin	6.13
Palmerston North	9.81
Other	18.43
	80.37
Hawkes Bay	4.29
Taranaki	2.46
Auckland	8.59
South Island	4.29

Source: Survey, May 1967

Most of the young women who had left home had become married, only 4 per cent being still single. Over two thirds of them, however, were living away from Shannon. The out-migration of young males would seem to have been at least partly responsible for the corresponding movement of young females. With fewer young men in the town young women hoping for marriage would need to move to a locality where there were more chances of meeting a suitable partner.

Table IX

SHANNON: OCCUPATIONS OF CHILDREN WHO HAVE LEFT HOME

a. Industrial Group in Which Employed

<u>Industrial Group</u>	<u>Percentage</u>
Primary	18.08
Secondary	27.60
Tertiary	54.32

b. Type of Work

	<u>Percentage</u>
Blue collar	78.67
White collar	21.33

c. Marriage

Percentage of women who have married	96.72
Percentage of women who have married and are living in Shannon	32.79

Source - Survey, May 1967

The list of occupations of children who have left home, while indicating a wide selection of jobs, does not provide many examples of positions requiring much above the minimum in education or preparatory training (Appendix J). Over three quarters could be termed blue-collar workers, and of these only a very small number could be classed as tech-

nicians. There was a slightly bigger group of tradesmen and mechanics who had served an apprenticeship but the remainder seemed to be in semi-skilled occupations. Amongst the white-collar workers the position is much the same. There are very few executives and professional people; most were in minor positions such as shop assistants and office workers. While it would be unwise to draw conclusions too hastily from a survey which was designed for other purposes there would appear to be a fruitful field for Educational research into the question of the undeveloped potential of the children of the New Zealand Country Town. Perhaps the operation of such a highly sophisticated plant as the Nylon Factory with its need for a cadre of highly trained personnel will act as a spur to young Shannonites and encourage them to obtain a better foundation of technical and scientific education. A reservoir of well trained people would no doubt be an attraction to any future industrialists considering location in Shannon.

As the statistics for Shannon tend to indicate a relationship between population numbers and economic activity it might be expected that a significant rise would have followed the recent opening of the Nylon Factory only a mile from the town. So far this event does not seem to have done more than maintain expansion at a healthy level. There has been no spectacular spurt; indeed when the factory was opened the Shannon School Headmaster, Mr Williams, reported that he gained only one pupil as a result. That there has been but a slow movement of Nylon workers into Shannon may be, in part attributed to the difficulties which were encountered in establishing the plant and achieving satisfactory production. Until their jobs were reasonably secure the employees may have been reluctant to cut off their lines of retreat. It must be remembered, too, that the factory is within fifteen minutes easy driving time of either Levin or Foxton,

much more acceptable access than many city employees have to their place of employment. There has, in fact, been a slow but steady movement of nylon workers into Shannon, a trend which may intensify with the consolidation of factory operations under the new management, and with such improvements in the amenities of the town as the completion of a sewage scheme.

Footnotes

1. See Chapter 8.
2. Franklin, 1958, 175.

Chapter 6

HOUSING

A survey of the housing of Shannon reveals a pattern woven by past economic changes. The extent of the housing of each vintage provides material evidence of the growth taking place at that time. The nature of the houses, their architecture, size and quality of construction, are evidence of the character and wealth of the original owners. The range of house types is a manifestation of the socio-economic structure of the society which built them.

Although it might be possible in a small town like Shannon to date houses quite accurately by searching the relevant documents and records it seemed sufficiently accurate for the present investigation to class the dwellings into three main age groupings based on their architectural features and type of construction. Such details as wooden or concrete piling, shape of verandah, style and size of window, height of stud, design of roof and eaves, roofing material, presence or absence of ornamentation and nature of outside wall are indications of the era of construction.

The three main periods selected for reasons of ease of house-age identification happen to coincide quite well with the three main periods of Shannon's economic history. The houses were classed into pre-World War I, inter-War and post-World War II divisions. When these were plotted on a map (Fig. 14) the distribution of each class could be followed more easily and a few simple patterns emerged.

It seems relevant to interpolate that one of the original objectives

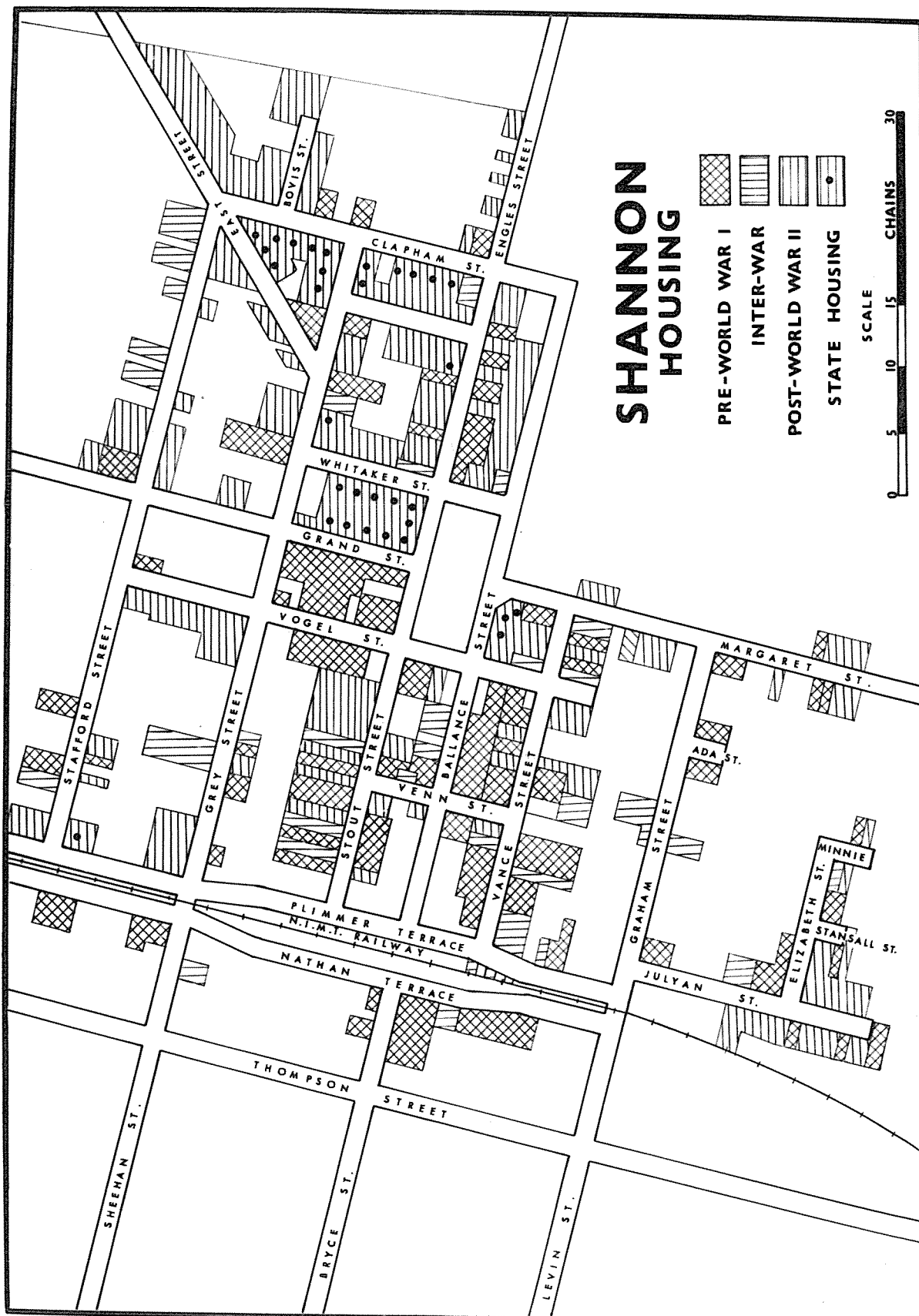


Figure 14

of the housing survey was to discover if there were any significant changes in the housing pattern and in the rate of residential growth following the establishment of the Nylon Factory. For this reason the houses were mapped in January 1965 and again in January 1967. This aspect of the survey may be dealt with quite briefly at this stage by reporting that there appeared to be no significant change during this time in either the rate of building or in the type of house being erected.

There are few extremes of quality in Shannon's housing. There are no "gentlemen's residences" and no two-storied houses. The older structures would fall into the classes "D" and "E" used by Clark for his analysis of Dunedin houses at the turn of the century.¹ And there are only a small number of these which, through neglect and failure to replace outdated facilities, border on the sub-standard. In most cases the older houses have been well maintained and are usually freshly painted in bright, if not always tasteful, colour schemes. Where there has been failure of the wooden piles and resultant unevenness of floor level this has often been corrected by repiling with concrete. The original indigenous timber was usually of good quality and though borer infestation is sometimes severe it is more of a nuisance than a danger to the strength of the structure.

With all of the older houses there has been some degree of modernisation. Electric light, for instance, is universal and there are very few kitchens where the black-leaded or aluminium painted "Orion" or "Zealandia" solid-fuel stove has not been replaced by an electric cooker. Refrigerators are now found in most homes and the old tubs and copper in the wash-house are replaced by an electric washing machine. In some cases the modernisation has involved structural alterations. Verandahs

have been glassed in, old style windows replaced and new rooms added. It would appear that with continued attention to maintenance and modernisation these older houses may give many more years of service.

The one facility which has, in some cases, been the most difficult to replace is the old fashioned, insanitary "privy". Although septic tanks are widely used in the town they are difficult to install in some of the smaller sections and there are problems of effluent disposal. It will be a great benefit to the town when the sewage scheme, which has already been approved, is finally completed.

The older houses were built on sections of varying size. Some of the outlying residences stood in up to an acre of land providing space for the orchard, fowl runs and vegetable garden which considerably reduced the cost of living. Some of these larger sections have now been subdivided to provide smaller plots for modern homes. Closer to the centre of the town the sections were smaller but there was always room for a garden in front and for a few vegetables and a drying green at the rear.

The very first houses, of which few signs remain, were built on the western side of the railway line, probably because this was where the original clearing was made in the days of railway construction. Today this is mainly an industrial area with three factories and a number of storage sheds and yards. A disused church has been converted into a scout den. Only a few houses, mainly of the pre-World War I era, now remain in this rather "seedy" area.

Most of the houses built before the First World War, mainly of class E, cluster in Venn St., Vogel St., Vance St., Ballance St., Stout St. and along the west side of Grand St. The class B residences

tended to be scattered in the more pleasant sites, towards the north, south and eastern boundaries of the town. There was a concentration of the working men in smaller houses near the centre while the slightly more affluent citizens tended to disperse onto larger sections.

In the early inter-war years Shannon reached a short-lived peak of development to be followed by years of regression and slow re-adjustment to a lesser economic role. This is reflected in the contemporary building. Overall there was less building during this period; the houses that were constructed date mainly from the early twenties.

There was no particular concentration of development although perhaps preference was given to available, vacant land near the centre. There was also some building further out, particularly on the north side of Stafford Street and in the higher Julyan Street, Elizabeth Street area. Again the structures were not elaborate; they were good, plain, builder-designed, bungalow type buildings usually constructed with timber frames, weatherboard walls, and corrugated iron roofs.

The Government began to have a more direct influence on Shannon's housing accommodation at this time. The pleasant Mangaore Village to shelter the permanent power station staff was completed three miles away in the foothills of the Tararuas. In the centre of the town, beside the marshalling sidings, the Railways Department dumped four of its prefabricated units. Those were the early days of pre-fabrication when the emphasis was on utility and cheapness rather than on aesthetic appeal and dozens of these products of the Otahuhu Railway Workshops now stand in groups or in lonely isolation beside the tracks of the New Zealand Railway

System. Despite their utilitarian appearance these houses are apparently quite comfortable, and, according to a housewife interviewed during the survey they are more roomy than they would appear.

In the post-World War II period house building has reflected the economic and population growth which has taken place. In the considerable expansion of these years Government housing policy has been a dominant influence and the effects of its changing emphasis have left their marks on the present appearance of Shannon.

In the immediate post-war years the development of areas of state rental houses was accelerated. The houses, well built of good quality materials, were excellent value for the rentals charged. The interior planning, though somewhat unimaginative, was a great advance; in space-saving and convenience, on the interwar bungalow. At first the exterior designs too, were quite pleasant, but in order to hasten the construction programme and to keep costs down, they became more and more austere with each new spasm of building. Too few ideas were used, there was no attempt to cater for climatic differences or for individualities of the site and the imprint of the Housing Department Architect was so apparent that from Whangarei to Invercargill a State House is instantly recognisable as such. In Shannon the Housing Department developed blocks of land on the east side of Grand Street, in Clapham Street and along Margaret and Ballance Streets. On these sections the usual assortment of single and double unit houses with their steeply sloping tiled roofs is becoming somewhat mellowed as the trees and shrubs planted around them reach maturity.

Although the policy of State Rental Housing has been gradually phased out the Government still has a big influence on house building

through the State Advances Corporation which, by lending money at reasonable rates of interest, enables clients to build and own their own homes. Most of the post-war houses in Shannon have been built with State finance and under the aegis of the State Advances Corporation. As sections are relatively cheap in Shannon less additional finance is needed to supplement the owner's resources and quite a pleasant house can be built. As the lending institution insists on certain rather conservative standards of design and structure the houses built, though usually of good taste and attractive in appearance and showing more variety than State Houses, still tend to be a little stereotyped in style.

The biggest areas of new housing are on the higher ground towards the eastern boundary of the town, stretching along East Street on the road to Mangahao, along the new Bovis Street and along Engles Street. (Fig. 14) There are smaller developments in the Julyan Street-Elizabeth Street area and quite a number of new houses have been built on previously vacant or newly subdivided sections nearer the centre.

An example of Local Body - Government co-operation is the set of four very attractive double-unit pensioner flats off Vance Street.

Altogether there has been much building in the town in the last twenty years coinciding with the increased economic activity and expanding population. The houses built have been predominantly good standard family houses for owners in the moderate income bracket. There is likely to be a further expansion of Shannon's built up area if economic buoyancy continues. The installation of a sewerage scheme will increase the attractiveness of the town and perhaps entice more of the employees in the nylon industry to settle closer to their work. The site of Shannon, with the

Tararuas rising in the background, has beauty; it only remains for the residents to exploit it to the full.

Footnote

1. Clark, 1962, 103.

Chapter 7THE QUALITY OF LIFE IN SHANNON

Life in Shannon, for the person of moderate income whose interests are centred around home and family, would appear to be quite as satisfying as that of his suburban counterpart. Costs of living are lower, the journey to work is shorter, the plentiful sporting facilities are less expensive and the community spirit is much stronger. Conditions are less satisfactory for the young adults¹ and for those at the executive and managerial levels.²

Analysis of the population data, and the author's recent survey, confirm that most people in Shannon form part of a family group. Of the few living alone, all those interviewed were older people, widows or widowers, still occupying the old family home or now in pensioner flats or other smaller premises. Unmarried children, unless they had moved to another locality, lived at home with their parents. No examples of young people "flatting" together were encountered.

The households with only two members (Table X) were of two kinds. A large proportion were older married couples, often retired, whose family had grown up and left home. The others were more recently married, childless couples, both of the partners often being in full-time work.

The small number of exceptionally large households shown in Table X belonged to Maori family groups, and as some of these were in State Houses this indicates severe overcrowding. Amongst Maoris kinship ties still have a broader basis than with Europeans. A Maori household is not restricted to a married couple and their offspring but may include more distant relatives.

Table XSHANNON: PERSONS PER HOUSEHOLD

<u>Number of Persons</u>	<u>Percentage of Households</u>
1	8.49
2	10.92
3	13.73
4	18.96
5	12.42
6	9.82
7	8.49
8	2.62
9	.65
10	1.3
11	1.3
12	.65
14	.65

Average number of persons per household: 4.19

Source: Survey, May 1967

In almost every case the head of the household was the husband and father. There were a few cases of widows, and a very occasional separated wife, bringing up the children and taking part-time work to supplement the family income.

The occupations of people covered by the survey, including all those employed (not merely the heads of households) will be found in detail in Appendix K. The occupations stated give a cross-section of the type of work available in the town and surrounding district, and show a preponderance of semi-skilled and manual workers with relatively small numbers of professional and highly trained people. They range from a factory manager, an accountant, a clergyman, nylon technicians and a tradesman to a hotel worker and a flax cutter.

The majority of the children from the households visited were receiving their education at the local schools, the Shannon State Primary

School administered by the Wellington Education Board and St. Joseph's Convent School. Nearly all the pupils of secondary age attended Manawatu College, Foxton, to which they were conveyed daily by bus. Only a small number were boarding at schools outside the area, two at Palmerston North Boys' High School, one at St. Mary's Wellington and one at Te Aute College, Hawkes Bay.

Table XI

SHANNON: LOCATION OF WORKPLACE OF RESIDENTS

<u>Location</u>	<u>Percent</u>
Foxton	4.18
Levin	6.84
Linton	.85
Longburn	2.56
Mangahao	1.71
Moutoa	1.71
Opiki	.85
Palmerston North	3.42
Shannon	76.17
Tokomaru	1.71

Source: Survey, May 1967

Table XI indicates that a quarter of the Shannon workforce is employed outside the town and that for these a certain amount of travelling is involved in the journey to work. The remainder are within a few minutes walking or cycling distance of home. For those who travel further afield, however, the journey to the most distant locality, Palmerston North, still compares favourably with that of workers who commute to Wellington from Paekakariki or Raumati. It will be seen (Table XII) that, apart from the secondary school pupils, most of Shannon's commuters travel by private motor transport.

Table XII

SHANNON: THE JOURNEY TO WORK

<u>Destination</u>	<u>Method of Travel</u>	<u>Percentage</u>
Shannon	Walking	58.45
	Motor car	22.71
	Bicycle	14.98
	Van or Truck	2.89
	Motor Cycle	.97
Foxton	Bus	87.18
	Motor car	12.82
Levin	Motor car	46.15
	Van or Truck	30.78
	Bus	15.38
	Motor cycle	7.69
Palmerston North	Bus	57.14
	Motor car	28.57
	Truck	14.29
Longburn	Motor car	100
Moutoa	Bus	50
	Truck	50
Linton	Motor car	100
Makerua	Truck	50
	Motor cycle	50
Tokomaru	Truck	100
Opiki	Motor car	100

Note: includes school children

Source: Survey, 1967

Both Levin and Palmerston North are readily accessible to the inhabitants of Shannon and many of them make regular visits to both centres. The questionnaire revealed a variety of individual patterns of visiting, but practically all, with the exception of a few of the very oldest residents, reported making at least one journey to Palmerston North each year. There were rather more journeys to Levin. On the average Shannon residents made visits to Levin compared with those to Palmerston North in an approximate ratio of 5:4 so that the greater attractiveness of the city overcame the doubled friction of distance.³

More people made weekly visits to Levin than to Palmerston North and one woman stated that she went to Levin at least once every day. A common pattern of travelling was to visit Levin once a week and Palmerston North once a month.

Table XIII

SHANNON: REGULAR JOURNEYS TO OTHER CENTRES
- BY NUMBER OF JOURNEYS

Destination	Daily	Weekly	Fortnightly	Monthly	Monthly ³	Monthly ⁶	Yearly	Occasionally	Totals
Palmerston North		13	8	47	29	16	22		1618
Levin	1	19	23	42	18	12	13	1	2059
Foxton		11	1	30	3	3	8	32	984

Source: Survey, May 1967

The most frequent reason for visiting Levin was for shopping. The Palmerston North journeys, on the other hand were for a much wider range of purposes. These included; obtaining specialist medical advice and treatment, visiting friends and relations in hospital, shopping in the larger stores or specialty establishments, being entertained at the cinema, a concert or a play, and enjoying the stimulation of joining a city crowd in the streets or at an important sports fixture.⁴ It was apparent that many of the people interviewed looked forward to their visits and spoke in almost affectionate tones of "Palmy".

In referring to Foxton remarks tended to be less complimentary and echoed a long standing rivalry between the two towns. Visits there

were less frequent, the main purposes given being to attend parent-teacher meetings at the secondary school and to enjoy a day at the beach in summer.

To make these journeys three quarters of the households possessed a car or a light truck (Table XIV). In some cases, where there was a working son living at home, there was a second and even, in one place, a third motor vehicle. These were usually older cars or motor-cycles.

Table XIV

SHANNON: VEHICLES PER HOUSEHOLD

Type of Vehicle	Number per Household	Percentage of Households
Motor car	3	1.32
	2	7.38
	1	65.76
Motor cycle	1	4.69
Bicycle	8	.68
	5	.68
	4	3.36
	3	5.37
	2	20.13
	1	28.85

Source: Survey, May 1967

Bicycles were plentiful for local personal transportation. Only eleven per cent of the homes had no bicycle and the numbers to each household rose to as high a figure as eight. Children were the most frequent cyclists many of them using this type of transport for travelling to school; a number of men cycled to work, however, and some women used bicycles on shopping or social visits.

Television receiving sets were even more widespread in Shannon than motor vehicles. Over eighty-one per cent of the residences, above the New Zealand average of the time, were equipped with receivers. With excellent

reception of the Wellington Channel from the powerful Wharite Peak transmitter this service has introduced a new dimension into the lives of Shannon residents.

The town possesses a bigger range of sporting and cultural facilities than would be found in most city suburbs (Fig. 15). Local pride, community spirit and team work have contributed to the establishment and maintenance of tennis courts, bowling greens, a rifle range, a golf course, a swimming pool and an excellent sports ground of over five acres.⁵ The same elements have helped to build up the various service clubs that operate in the town and to make the Volunteer Fire Brigade the efficient service which it is. Other organisations which are active in the town include the Plunket Society, Cubs, Brownies, Boy Scouts, Girl Guides, The 66 Youth Club, Jaycees, Lions Club, Returned Servicemen's Association, Old Folk's Association, Freemasons, Buffaloes, International Red Cross society, Country Women's Institute, the Shannon Band and the Parent Teacher Associations of the Shannon and St. Josephs Schools (Fig. 15). There are, too, the churches: Anglican, Roman Catholic, Presbyterian, Methodist, Brethren and Jehovah's Witnesses.

The two hotels of Shannon have always been of importance to the town. Recent extensive alterations to the Club Hotel (Fig. 17) included the provision of a very comfortable suite of rooms and an attractively decorated lounge and house-bar. The Albion Hotel has had similar, though less extensive, interior improvements. As these public houses are close to the homes of residents it is probable that leisurely evening drinking may evolve more quickly than in the cities where licenced premises are usually some distance from the residential areas.⁶

111

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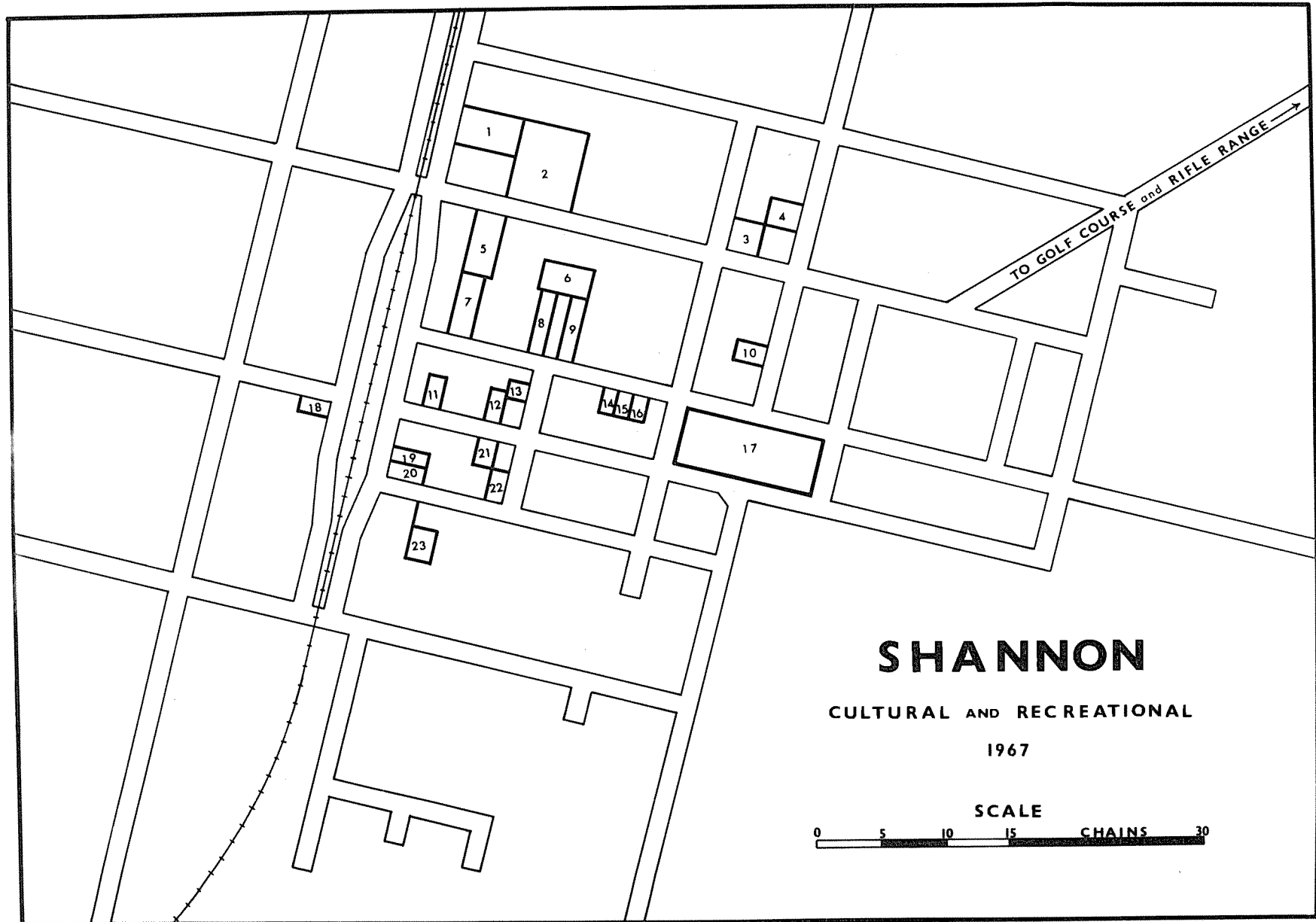


Figure 15

For the family groups, therefore, and the older people,⁷ the quality of life in Shannon appears to be satisfying, convenient and pleasant.

Footnotes

1. There is little social and intellectual life for young adults with more sophisticated tastes. The "Western" films shown at the cinema and the fellowship of the "milk bar" do not appeal to everyone.
2. The manager of the Nylon Plant gave this as one of his reasons for residence in Levin.
3. Woolmington, E.R. 1965, 359 discusses this factor and the distorting effects of the interposed Queensland, N.S.W. Border.
4. Many Shannon residents attend the horse races and the form of motor-racing known as "Stock-Car" racing has attracted many of them to Palmerston North on Saturday evenings.
5. The Rugby Football Club is proud of its new clubrooms and of the large scoreboard and "football clock".
6. One of the objectives of the opening of hotels in the evenings, introduced by referendum in 1967, was stated to be the introduction of more "leisurely drinking".
7. The "Shannon Old People's Club" with its pleasant new clubrooms and hall, is a very active organisation.

Chapter 8

INDUSTRY IN SHANNON

When the employment figures for Shannon are compared with the statistics for the whole of New Zealand the present importance of industry in the economy of the town becomes apparent.

Table XV

SHANNON: CATEGORIES OF EMPLOYMENT (APRIL, 1967)
BY PERCENTAGES

<u>Category</u>	<u>Shannon</u>	<u>N.Z.</u>
Professional and Administrative	3.75	18
Domestic and Personal Service	3.5	6.3
Commercial and Finance	10.5	21.5
Transport and Communications	5.75	11.8
Industrial	76.5	42.4

Note: Primary Industry has been excluded

Source: Department of Labour, Palmerston North

The Professional and Administrative Class is in a minority in the Shannon community and ranks far below the average for New Zealand as a whole. The broad sector of employment classed as Industrial, which here includes construction workers and power, water and sanitary services, takes three quarters of Shannon's workforce. This is well above the average for the whole of New Zealand and could perhaps entitle Shannon to be classed as an industrial town.

Of the workers employed in industrial occupations in Shannon sixty-four per cent work in manufacturing industry. Using the categories of manufacturing adopted by the Labour Department (Table XVI) it is seen, that although there is a higher emphasis on Textiles, Clothing and Leather than is typical for New Zealand as a whole there is an even distribution of

workers amongst the other three categories.¹

Table XVI

SHANNON: DISTRIBUTION OF FACTORY EMPLOYMENT (APRIL, 1967)
BY PERCENTAGES

<u>Category</u>	<u>Employment</u>
Textiles, Clothing and Leather	51.5
Engineering and Metalwork	18.8
Miscellaneous Manufacturing	15.9
Seasonal Manufacturing	12.8

Source: Department of Labour, Palmerston North

The two categories Food, Drink and Tobacco and Building Materials and Furnishing are represented in Shannon only by retailers. Apart from these two classes Shannon has quite an even spread of types of factory.

There is a considerable range of factory size in Shannon (Fig. 16). The two smallest, however, have potential for growth, and given reasonable economic conditions in the whole country one of them, at least, is almost certain to increase rapidly in size.²

Raw Materials

The factories in Shannon are links in a chain of manufacturing or processing which, in some cases, involves the use of raw materials of overseas origin. The Dairy Factory is integrated with the factory at Tokomaru which separates the cream, the raw material for butter making. The Container Factory obtains its raw material, fibreboard, from the Whakatane Board Mills, part of the complex which now processes timber from the exotic plantations of the Volcanic Plateau. Except for a proportion of the woollen cloth, most of the material used in the suit factory, however, is of overseas origin. The other plants in Shannon depend either directly

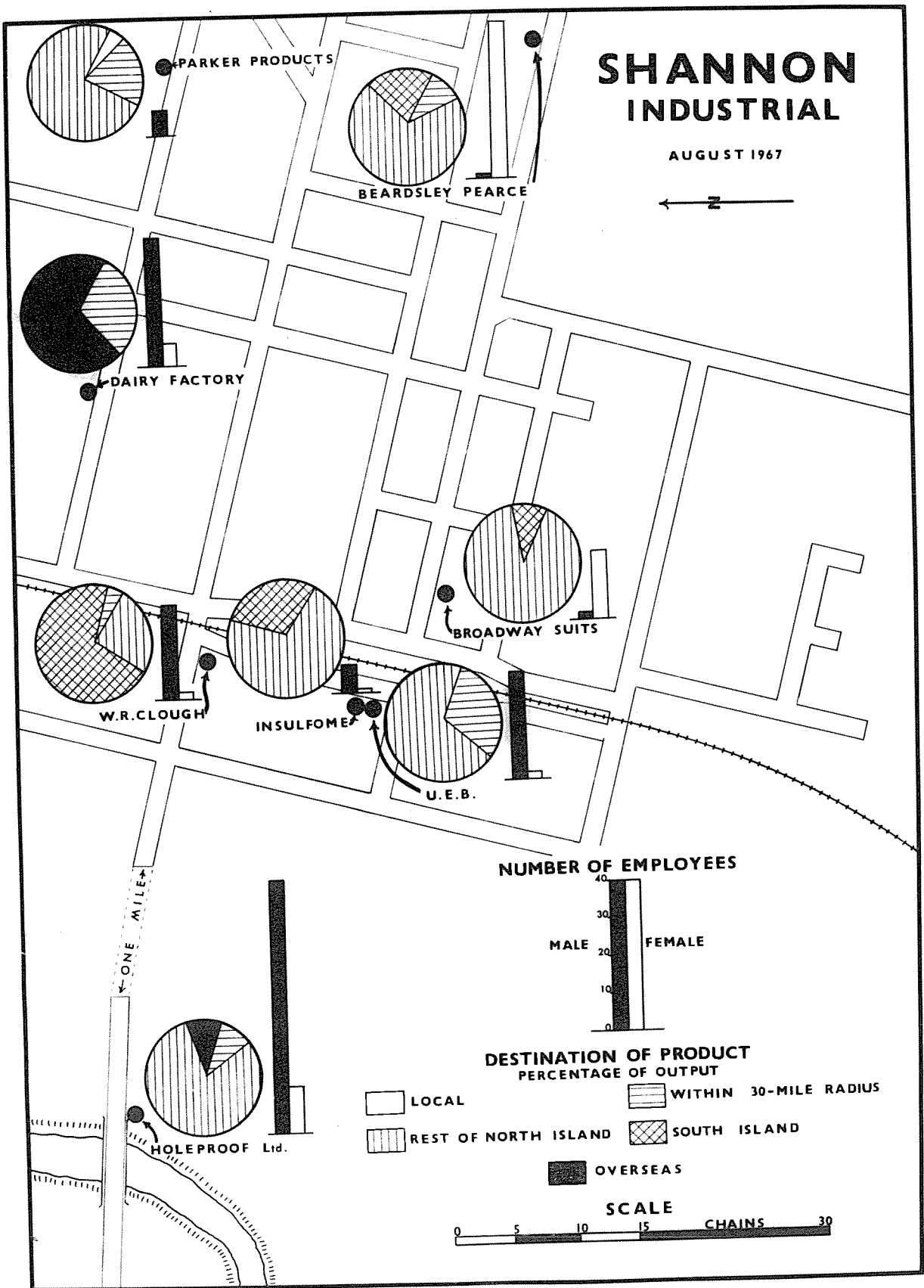


Figure 16

or indirectly on imported materials which have been processed to a greater or lesser degree in the countries of origin.

Table XVII
SHANNON FACTORIES
SOURCE OF RAW MATERIALS
AUGUST 1967

<u>Source</u>	<u>Material</u>	<u>Transport</u>
New Zealand	Cream	Tanker (road)
"	Cloth	Road, Rail
"	Yarns	Road, Rail
"	Components	Rail, Road
"	Fibre Board	Rail
Australia	Steels (high tensile)	Sea-rail
"	Plough components	Sea-rail
"	Steel (structural)	Sea-rail-road
United Kingdom	Steels	Sea-rail
"	Plough coulters	Sea-rail
"	Steel (structural)	Sea-rail
"	Cloth	Sea-road
"	Styrene	Sea-rail
Japan	Steel (structural)	Sea-rail, road
"	Cloth	Sea-road
West Germany	Polymer	Sea-rail
"	Styrene	Sea-rail

Source: Author's Industrial Survey of Shannon September 1967

It is thus noticeable, that, as for New Zealand manufacturing as a whole, Shannon's factories lean heavily on imported raw materials and would seem to be likely to do so, for some time to come. The Shannon factories, however, do not absorb a high proportion of manufactured components and none of them could be classed as mere assembly works.

Factory Output

The nature of the finished product from the Shannon factories again emphasises the dependence of one manufacturing unit on another and the

linkages that take place in modern industry. Only half of the plants produce for the final consumer. The remainder manufacture a product which has to pass through some further finishing process or processes.

Shannon manufacturing follows New Zealand trends in that the bulk of production is for the New Zealand market. It is only from the butter factory that most of the product is exported; there is a small export market for the nylon yarn and it is possible that when the Insulfome plant is well established it will export some of ^{its} output to the Pacific Islands.

Except for the dairy industry which is tied to the farms providing the bulky raw material, the rest of the Shannon factories are of the type which could be classed as "footloose" industries.³ Apart from the steel fabrication plant, they use compact raw materials which do not deteriorate during transit and can be satisfactorily conveyed by rail. The output, too, is of high unit value and can stand the costs of transportation by rail or road.

Location Factors

The managers of local factories gave a number of reasons for location in Shannon; these, of course, varied somewhat according to the kind of operation, but only one suggested that if he were to start over again he might prefer to do so in a different place.⁴

An important factor with all factories is the centrality of position. This allows easy distribution to all parts of the southern half of the North Island, and through the rail-road ferry, to the northern part of the South Island. As one manager put it, "The location is centralised and also de-centralised".

The local market is unimportant for most products, but location in the Manawatu Region gives access to the Palmerston North and Levin urban areas with their increasing consumer demand; the considerable textile industry of the Region was one of the factors influencing the choice of Shannon for the Nylon Plant. It was the local demand by farmers which led to the establishment of the agricultural implement factory; this industry has now generated a very good market in the South Island and has opened a branch factory in Timaru to assist in supplying it.

Important with most of the industries was the availability of cheap, level sties close to the railway. The good water supply was also a factor in several cases and the almost unlimited water from the Manawatu River attracted the nylon industry, not because the water was required initially, but expansion into other kinds of plastic manufacture would require high water availability. Proximity to the Mangahao Power Scheme bestows no cost saving for electricity under present charging policy but the short transmission distance does ensure more reliable continuity of supply.⁵

Situation on the Main North Island Trunk Railway is important to nearly every factory in Shannon. It gives a relatively short link with the main port at Wellington, and easy distribution to the rest of the North Island. Through the rail-ferry there is direct access to the South Island, and Shannon is well served with roads (Fig. 2).

In the case of the two clothing factories it was the availability of female labour which was the chief attraction of Shannon. Labour availability was important to the other concerns, too, and here the situation of Shannon enables it to draw on the labour resources of the whole of the Manawatu and, in particular, from Levin and Foxton. Fifty per cent of the

labour force of the Nylon Factory still commutes from these two centres. The one complaint of management was that skilled labour is difficult to come by, but this was thought to be a New Zealand-wide phenomenon and not one peculiar to Shannon.

Personal factors affected the location of the steel fabrication plant; the owner stated that one of his strong reasons for locating in Shannon was that he had always lived there and as other conditions were favourable he saw no reason to start-up elsewhere.⁶

Recent Developments in Technique

Shannon factories seem to be prepared to adopt any new techniques which become available. Several of the managers reported that palletisation and the increased ease of handling and storing which it brings had reduced their production costs. In one plant a re-organisation of the machinery had not only provided "flow lines" to reduce unnecessary handling but had also doubled the utilisation of floor space. In one of the clothing factories the possible introduction of a conveyer-belt system had been discussed. In all plants there was a constant effort to keep up with modern trends in style and design. As most managers considered they were making full use of floor space further expansion must entail additions to buildings.

Linkages

Most of the Shannon factories are linked in some way or other with other concerns and three of them form part of two of New Zealand's largest factory groups. The United Empire Box Co. group which controls two units in Shannon is a very large organisation with a New Zealand wide network of

factories operating in the packaging, plastics and textile fields. The two Shannon plants, though situated alongside each other, operate independently. Holeproof N.Z. Ltd. which now owns the Nylon Factory, controls a number of plants and is New Zealand's largest manufacturer of hosiery. By purchasing this factory the firm has established a backward linkage now manufacturing the most important raw material for its textile operations. The underwear factory is managed in conjunction with a textile factory in Levin with which its operations are co-ordinated, and the Dairy Company, amalgamated with Tokomaru and having close associations with other operators in the south Wellington area forms part of a large producer organisation. Butter marketing is highly organised under the general direction of the Dairy Board. The implement factory, though relatively independent, has built a branch factory in Timaru and established a dealer chain throughout the country.

Factories

Holeproof Ltd.

The establishment of the present pattern of manufacturing in Shannon has not always gone forward smoothly. Magee⁷ has dealt exhaustively with the founding of the Nylon spinning industry and the building of the factory a mile from Shannon (Fig. 16). In 1966 the firm of Enzlon N.Z. Ltd., bedevilled by production difficulties and with large unpaid debts had its assets placed in the hands of the receiver. The factory and plant were purchased by Holeproof N.Z. Ltd., and although information is hard to obtain it would appear that a satisfactory volume and quality of production has been attained under the new management and using German polymer.⁸

United Empire Box Co.

The operations in Shannon of this company have seen so many changes that the least confusing way of recording them is to set out a chronology of the main events.

- 1948. The United Box Co. of Wellington leased the old Druids Hall and employed five hands to make corrugated and solid fibre board containers.
- 1950. Purchased property and established carton-making plant (Fig.16).
- 1953. Built new shipping-container plant. Staff 50.
- 1954. Began manufacture of single-faced corrugated glassine.
- 1957. Early morning fire destroyed plant and building. Rebuilt as a shipping container plant.
- 1958. United Box Co. amalgamated with the Empire Box Co. to become the United Empire Box Co. Ltd.
- 1960. The company's Engineering Division was established at Shannon and all the engineering requirements of the company's factories throughout the Dominion were handled from there.
- 1965. Engineering Division transferred to Auckland. Staff reduced to 40. Shannon continued to manufacture fibre containers which are supplied to Freezing Works from Waitara south.
- 1966. Expanded Polystyrene business purchased from Taupo firm for transfer to Shannon. More land bought. New buildings erected. New factory established with separate management from container plant.
- 1967. Insulfome Ltd. commenced production. It is expected that staff will increase from present 8 to 40 as production of this insulating material increases.⁹

W.R. Clough and Sons Ltd.

This native Shannon firm has grown into the largest manufacturer of mounted ploughs in New Zealand. Approximately 900 Shannon designed ploughs to a value of over £100,000 and representing 70-75 percent of the New Zealand annual total are produced by the firm. Although the implements were originally made to satisfy a purely local demand the biggest sales are now

in the South Island where an assembly plant has been established at Timaru. 85 percent of the component parts are of New Zealand manufacture. The factory at the corner of Nathan and Sheehan Streets comprises a manufacturing area of 6,690 sq. ft., storage space of 2,700 sq. ft. and 410 sq. ft. of office accommodation.

Parker Products Ltd.

Started as a one man concern in 1960 this firm which specialises in steel fabrication and erection now has a staff of nine. The annual tonnage handled is in excess of 400. There are 2,800 ft. of factory space on a one acre site. The proprietor states that he finds Shannon centrally placed for operations in any part of the southern section of the North Island.

Broadway Suits Ltd.

This firm, situated in the upstairs area of a two-storied brick building in Ballance Street, manufactures made-to-measure suits, coats and trousers. The factory is linked to the head office and main factory in Wellington by road service which conveys a daily "hamper" between the two places.

Beardsley, Pearce Ltd.

This men's and women's underwear factory originally owned by the Shannon Underwear Co. Ltd., is now operated by a Levin firm in conjunction with its textile factory there. Road transport is extensively used for communication between the two factories.

Female Employment

One of the satisfactory features of Shannon's industrial development has been the balance maintained between male and female employment. Although this is partly the result of the work offered by the Nylon Plant, it is the two clothing factories which provide most of the employment for women. One of the reasons for the preponderance of males at the Nylon Factory is probably the regulation restricting the employment of women on late shifts.

Other Industry

Apart from manufacturing, building and construction work employs 11 per cent of Shannon's labour force. Not only is there usually a steady construction of new houses in the town, but local builders contract for work in the country and in Levin.

Transport and communications workers are concerned with the running of the railway station and yards, and with the two transportation and haulage firms with headquarters in the town. There is a considerable amount of stock transport work in the season.

The pattern of transportation has changed in Shannon as in all other parts of the Dominion. Appendix E shows how rail passenger traffic has fallen off since World War II, how stock transport has become of less relative importance than previously and how tonnages of general freight have increased. Although the nature of its business has changed the railway is still important to Shannon.

In addition to the freight carried by train the Railways Department's

trucks provide a direct Shannon to Wellington road service daily.

The railcar and passenger train services meet severe competition from the Wellington-Palmerston North-Napier road coaches operated by Newman Bros. and the Palmerston North-Levin Buses.

Private motorists, both local and through travellers create work for Shannon's three garage-service stations.

Primary Industry

Because so much of the land within the town boundary is not at present required for urban uses, 539 acres out of the town's area of 844 acres is still devoted to farming or market gardening.⁹ Of this only the 9 acres devoted to market gardening, and the three poultry farms are highly productive. The remainder is in fair to rough pasture.

Vocational Imbalances

Shannon possesses a number of advantages over some of New Zealand's other small manufacturing towns. Unlike Kawerau or Mataura she is not dependent on one industry. There is thus a variety of employment and a variety of employers. It is unlikely that the town will be crippled by the simultaneous failure of all her industries. Because of the emphasis on textiles and clothing there is a reasonable amount of work for women. Finally there is a psychological gain. There is a much greater air of freedom in a town which is not dominated, no matter how benevolently, by one large factory.

The disadvantages which Shannon shares with other small industrial towns are those of restricted vocational choice and lack of texture in social life. Not only is employment opportunity largely restricted to the manufacturing sector but the factory, itself is only part of the productive organisation. The big decisions by the "top" men are made in Auckland or Wellington and it is there that the main administrative personnel of the big combines do their work. With modern computerisation there is an increasing tendency to centralise all levels of office work, so that the factory itself will provide even fewer opportunities for administrative and clerical work.

Shannon an Industrial Town

The remarkable transformation of Shannon's economy in post-war years appears to be due to a resurgence of manufacturing. In its early years it was the industries which reduced the bulk and increased the value of raw materials from swamp, bush and farm that generated the rapid growth rates of the first developmental era. After a period of regression, factories of a more sophisticated kind using raw materials from further afield and producing for the domestic market, are proving to be the most potent stimuli to the economic growth at Shannon.

Footnotes

1. The Nylon Factory increases greatly the emphasis on textiles.
2. Insulfome Ltd. planned rapid expansion in the subsequent two years.
3. Linge, 1961, 196.
4. The manager of the Plough Factory thought his plant would have been better in the South Island closer to the biggest market for his product.
5. Magee, 1966, 73.
6. Carr, 1966, 47.
7. Magee, 1966,
8. Manawatu Evening Standard, 1966, May 12.
9. Nairn, 1964, 97.

Chapter 9THE CENTRAL BUSINESS DISTRICT

The motorist driving along Highway 57 from Palmerston North to Levin finds the centre of Shannon drab and old fashioned in appearance. The majority of the commercial buildings are single storied and built of wood or corrugated iron. Only the two hotels, the cinema, the bank and two brick shops rise to more than one storey (Table XVIII). Most of the shops have galvanised iron, post supported verandahs and an air of Victorian respectability is imparted to the otherwise plain buildings by parapets and facades of wood or of ornate plaster. On the western side of Plimmer Terrace (Fig. 17) a strip of lawn and trees provides the setting for two war memorials, creations of the monumental mason's craft, Newman's bus shelter and the ramshackle headquarters of the Volunteer Fire Brigade, and partly screens the North Island Main Trunk Railway and its sidings.

Table XVIIISHANNON CENTRAL BUSINESS DISTRICTTYPES OF BUILDING

<u>Present Use</u>	<u>Construction</u>	<u>No. of Floors</u>	<u>Number</u>
Shops	Timber	1	19
"	Brick	2	2
" (vacant)	Timber	2	1
" (vacant)	Corrugated Iron	1	1
			23
Hotels	Timber	2	2
Bank	Concrete	2	1
Post Office	Timber (plaster facade)	1	1
County Town Office	Timber	1	1
Cinema	Corrugated Iron (Plaster facade)	2	1

cont. over

<u>Present Use</u>	<u>Construction</u>	<u>No. of Floors</u>	<u>Number</u>
Offices	Concrete blocks	1	2

Source: Field Survey, September 1966

Most of the premises, despite their age, are freshly painted and the interiors of several have been recently redecorated and set out with modern fittings. On an average day they serve a steady trickle of customers.

It is the retail section of Shannon's economy, however, which has shown the least recovery from the difficult years of the nineteen thirties. The former shops, since converted to other uses (Fig. 17), or left disused and uncared for, are mute evidence of the shrinking process which took place at that time.

In the process of re-adjustment to lesser business the shops catering for day-to-day necessities are the ones which have survived. The most numerous are those dealing in food and clothing (Table XIX) and the scope and variety of services is similar to that of the average suburban shopping centre. In retail trading Shannon is but a suburb of Palmerston North or Levin.

It is a significant index of the level of trading that none of the chain stores, including the Manawatu Consumers Co-operative Society which has found it worthwhile to open branches in Foxton and Ashhurst, has yet established a shop in Shannon. The Dairy Company Store undoubtedly channels the retail trade of an extensive rural area through the town but in so doing it has a depressing effect on the private shops which must rely on local customers for much of their trade.¹

SHANNON CENTRAL BUSINESS DISTRICT

1967

SCALE

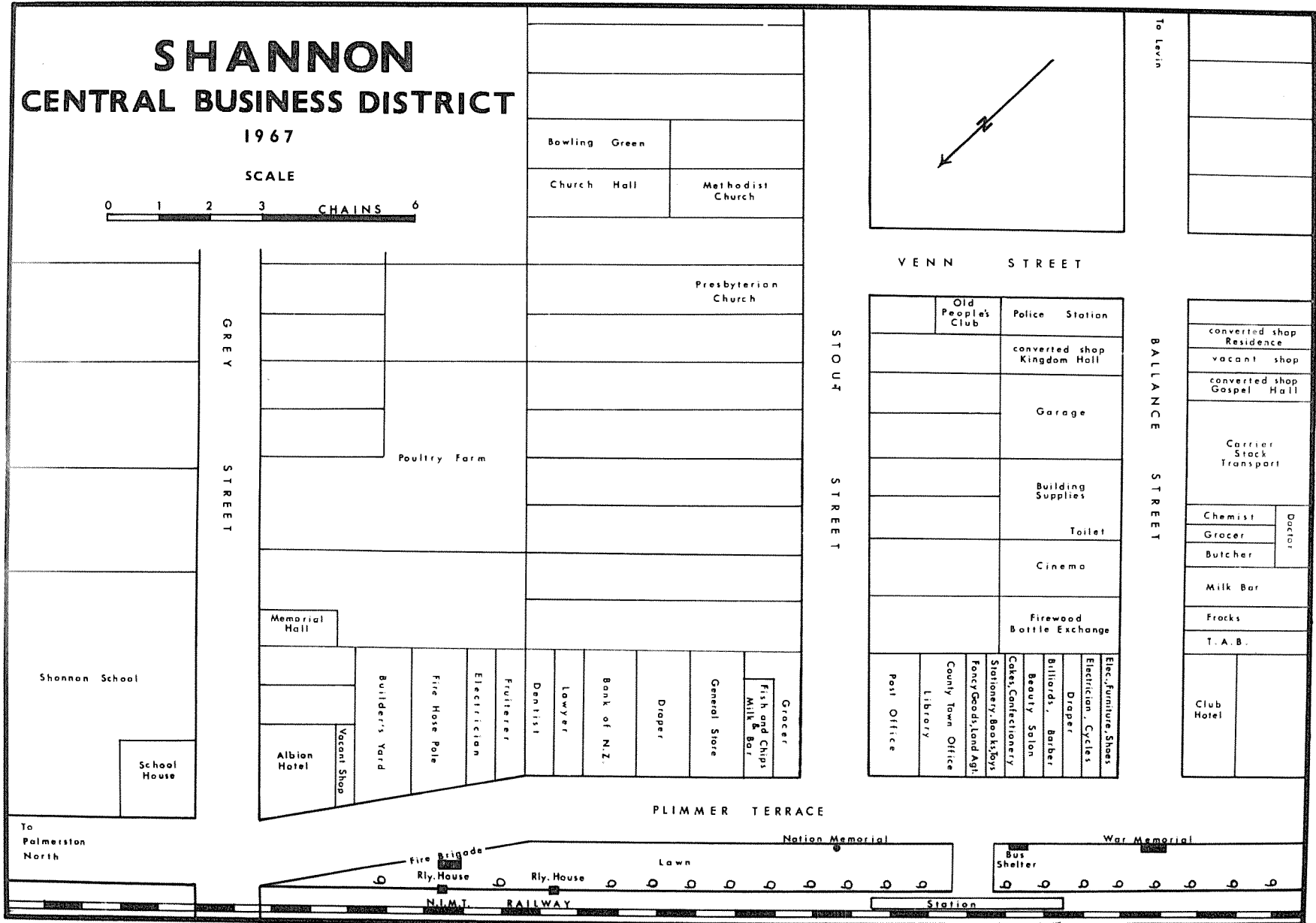
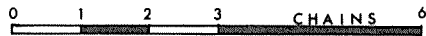


Figure 17

Table XIX
SHANNON
TYPES OF RETAIL SHOP 1.9.66

<u>Food</u>	
Grocers	3
Butcher	1
Baker and Pastrycook	1
Fruit and Vegetables	1
Fish and Chips	1
Milkbar Dairies	2
	9
<u>Clothing</u>	
Drapers	2
Men's Wear	1
Frocks	1
Shoes	1
	5
<u>Household</u>	
Electrical	2
Hardware	2
Chemist	1
	5
<u>Miscellaneous</u>	
Hairdresser (Mens)	1
Beauty Salon	1
Newsagent and stationery	1
	3
	Total: 22

Source: Field Survey, 1.9.66

Although the coming of the motor car took away business with one hand it did give, rather sparingly, with the other. The trade with passing motorists in light refreshments and other travellers' requisites is steady and at times brisk. Highway 57, however, carries a smaller volume of long distance traffic than the main route, Highway 1 (Fig. 2), and this trade is less lucrative than in Foxton or Bulls. The dairy-milk bar, the cooked-fish shop, the cake shop and chemist, nevertheless have their normal

business augmented by sales to motorists. The two service stations supply fuel to through travellers.

Entertainment facilities in the Central Business District include a branch of the Totalisator Agency Board, a billiard saloon, the two licenced hotels and the business known as the Shannon Dining Rooms which provides "fish and chips", milk drinks and a coin-in-the-slot record player. The latter, indicating the relative prosperity of the age-group for which it caters, is the only shop in Shannon which has enjoyed a sufficiently high level of business to justify complete rebuilding. The range of guitars stocked by the tobacconist is further evidence of the tastes of local youth and the continuance of the cinema, open three nights a week despite the advent of television is said to depend entirely on the patronage of teen-agers.

Few of the Shannon shopkeepers live on the premises and none of them employs a large staff. In the majority of cases the businesses are family concerns operated by the owner alone, by the owner and his wife jointly, or by the proprietor and a son or daughter. Sometimes part-time helpers are engaged to assist at busy times. Tippler's Grocery, The Cake Centre, Shannon Electrical, The Shannon Butchery and the chemist employ one or more full-time assistants who are not members of the family.

The majority of shopkeepers considered that the level of trading in Shannon was showing a small but steady rise. The others expressed a variety of opinions from "Business is terrible", and "Business has fallen off since Christmas" to, "Trade stays about the same". Several complained about the modern tendency towards "poaching", e.g. grocers selling goods which were formerly the prerogative of the chemist or the fruiterer, and



THE CLUB HOTEL SHANNON

September 1966

Figure 18

they all regretted the trading operations of the Dairy Company. The generalised opinion of the local bank manager was that most shops in the town were struggling, their chief worry being late payments and bad debts, and that only the two hotels and the Shannon Dining Rooms were really prospering.

The shopping centre of Shannon has already had one change of location and the question arises as to whether the present tendency for the town to extend its built-up area towards the east might, in time, draw the shops towards a more central position. Such factors as the density of traffic on the main highway, the possible construction of a by-pass road, the level of business in the town, the economics of constructing a shopping mall or the advent of a supermarket could all affect future growth and location. In the meantime there are few signs of change except the opening of a dairy-grocery in Grey Street close to the more recent sub-divisions.

The present location of the shops makes for convenience, especially for the motorised customer. The wide streets allow ample space for angle parking and it is usually possible to leave a car outside any particular shop. Although the main highway carries a fair volume of traffic through the two streets of the shopping centre flows are not yet sufficiently heavy at normal times to create a serious nuisance and the passing trade is valuable to shopkeepers. If through traffic were to increase greatly, however, or if expansion of the town generated more local vehicle movements the present arrangement could become unpleasant and inconvenient.

As well as its retailing and entertainment functions the Central Business District provides a limited range of other services for the towns-

people and local farmers. There is a branch of the Bank of New Zealand, a Post Office² and Automatic Telephone Exchange and the Municipal Buildings which house the County Town Office and the Library.³ There are also such health services as the Plunket Society Rooms, the headquarters of the district nurse and the consulting rooms of a resident medical practitioner. A Foxton dentist has a surgery in which he practices for a few hours weekly. A Foxton solicitor also operates an office in Shannon which he attends on a part-time basis.

The number and location of disused or converted shops is evidence of the contraction and centralisation of the retailing function (Fig. 19). The abandoned shops (Table XX) are at each extremity of the shopping area, one beside the Albion Hotel in Plimmer Terrace and the other four at the eastern end of Ballance Street (Fig. 17).

Table XX

REDUNDANT SHOP PREMISES IN SHANNON 1.9.66

<u>Location</u>	<u>Present Use</u>
Plimmer Terrace, next Albion Hotel.....	Empty
Ballance Street, next Gospel Hall.....	Empty
Ballance Street, south side.....	Gospel Hall
Ballance Street, south side.....	Residence
Ballance Street, north side.....	Kingdom Hall

Source: Field Survey 1.9.66

Apart from the re-built Shannon Dining Rooms there has been no new shop built in Shannon since the nineteen twenties. The substantial two-storied brick building in Ballance Street and the re-inforced concrete bank both date from this period.

It is the Central Business District and its range of functions which has been most severely and lastingly affected by the economic changes



DISUSED SHOP CONVERTED TO OTHER USE

BALLANCE STREET SHANNON

September 1966

Figure I9

of the inter-war period. Although some degree of renewal is gradually taking place, it is this part of the town which is least likely to revert to its former relative importance.

Footnotes

1. See also Chapter 3.
2. Appendix N.
3. The Library, open for two hours each afternoon and also on Friday mornings and evenings had the following membership: Senior Town Members 285, Junior Town Members 319, Senior Country Members 45. As with the retail shops the library patronage shows the same pattern of dependence on town residents.

CONCLUSIONS

The present investigation bears out the impression that the growth of Shannon has been greatly affected by the type and intensity of its economic activity. The extent to which it has followed a rather different course from that of some other North Island settlements would seem to result from an atypical resource utilisation. Shannon was not only The Village and the Bush¹, but also "The Village and the Swamp". Because economic development of the wet-lands followed a different pattern from that of the bush country on the terraces Shannon had a dual economic base. The rise of the flax industry in response to high prices and overseas demand gave an early impetus to the growth of Shannon which by 1917 had become a borough. Removal of the industry and transportation changes, although their effects were masked at first by the construction works of the time, left Shannon little more than a village in size and function. Franklin states:-

"The persistence of the village as an element of the economic structure is dependent upon the major functions which it performs for the surrounding rural population, the economic and the social. It is unlikely that it will lose any more of its services, and the possibility of further decentralisation of industry may create a few more economic opportunities especially in those villages which lie within the spheres of the provincial centres."²

That this has happened to Shannon is apparent. To the basic industries of buttermaking and electricity generation have been added a number of others which are nearly all examples of decentralisation; only one, the plough-making factory, can be described as a truly local creation.

Whether the growth so initiated will continue or whether the town will now stabilise at, or a little above its present level remains to be seen.³ There has certainly been a slowing down of population increase in

the last few years despite the opening of the Nylon Factory. This industry, however, is in some respects "at" Shannon but not "of" Shannon. Half of the personnel and most of the management still commute from Levin or Foxton. Provided that Shannon improves its appeal as a residential area many of these people may, in time, move into the town. This in turn would raise the level of trading and improve the status of the Central Business District.

There is always the possibility that a large combine such as Holeproof, requiring additional factory area for a new process or to expand production of an existing "line" of goods, may make increased use of the spacious site at Shannon. Recent overseas reports that Holeproof had raised a large sum of money in Europe may well have repercussions in Shannon.⁴ The recently opened Insulfome Factory, controlled by the U.E.B. Group, as it increases production to its planned capacity, will provide increased employment.

If New Zealand's economy is to enter the new phase which current balance of payments difficulties would seem to compel Shannon could well participate in the increased processing of farm products for export. The land close to Shannon is at present largely used for grassland farming. That this present use could be greatly improved and yield higher returns was frequently asserted by the late Dr. Sears.⁶

If, on the other hand, farming were further diversified and intensified, as is quite practicable, Shannon could well become a processing centre for vegetables or small fruits. The cultivation of onions and other vegetables in the Opiki area indicates the potential which exists.⁷ Such diversification has frequently been advocated by, amongst others,

Dr. W.B. Sutch.⁸

A further prospect of industrial dispersal leading to an increased growth rate in some of the smaller centres of the Manawatu could well result from a policy of regional development and planning.⁹ With its favourable location and good transportation facilities Shannon could provide a suitable growth-point for further development within a regional framework.

The step taken in 1966 of relinquishing borough status to become county town under the administration of the Horowhenua County Council seems to have increased the rate of progress in providing civic amenities. It is claimed that this change, by reducing the cost of administration, will leave a greater proportion of the rates for the provision of improvements. There are signs that this is indeed the case for some kerbing, channelling and footpath construction has been done in the last year and the old Municipal Building is due for replacement in 1968. Every assurance is given that the sewerage scheme will be commenced at an early date.

There is still a need, however, for a more enlightened approach to the question of improving the appearance of the town. There have been sporadic street-tree plantings and most householders maintain a high standard of tidiness in the roadside lawns which fill a large part of the over-wide streets. More than this is needed, however, and a comprehensive planting and landscaping programme, planned by an expert landscape-gardener, and perhaps carried out as a community project under the leadership of the combined service organisations, could do much to improve the environment and make the town more attractive to prospective settlers and businessmen.¹⁰

It was the aim of this study to arrive at a better understanding of the present functions and morphology of a small New Zealand country town through an examination of the principal economic processes of its past. It is apparent from this investigation that there has been a close relationship between intensity of economic activity and growth-rate. Furthermore, the nature of the economic activities affected the kind of development which took place. In addition, it was found that the changing functions necessitated by fluctuating economic forces left residuals which are not only a key to the past but also influence the present character of the town. Although it shares many of the characteristics of other small North Island towns the unusual nature of its past has bestowed a certain individuality on Shannon.

Footnotes

1. Franklin, 1960, 143.
2. Franklin, 1960, 180.
3. Nairn, 1964, 98.
4. Manawatu Evening Standard, 1968, January 4.
5. Manawatu Evening Standard, 1966, December 6.
6. Sears, 1961, 67.
7. Vegetable production in the Opiki district reached its peak during World War II to feed American troops. 800 acres of onions, 300 acres of carrots and many hundreds of acres of potatoes were grown.
8. Sutch, 1964, 12.
9. A Regional Development Council was established in the Manawatu in 1967 with representatives from all the Local Bodies in the region.
10. There will be a good opportunity to carry out an extensive planting programme when the streets are being restored after the installation of the sewerage system.

Appendix AEXTRACTS FROM ANNUAL REPORTS OF THE WELLINGTON
AND MANAWATU RAILWAY CO. LTD.

- 1885: "The survey of 15,000 acres of purchased land and Township of Shannon is in progress and well in hand."
- 1886: "There are upwards of 40,000 acres of land surveyed and mapped ready for sale at the present time. This includes the townships of Linton, Tokomaru and Shannon. It is the intention of your directors to delay the sale of lands which adjoin the railway until intending purchasers can have the use of the line to inspect for themselves."
- 1887: ".... excellent proof of the value of the company's estate has been given by the results of recent land sales. Judging by these, and the knowledge of the large areas yet to be disposed of, the future of the company as a financial success may be deemed assured."
- 1889: "This is a favourable moment to draw the attention of directors to the great value and importance of the swamp reclamationAlthough it may be considered speculative to value the swamp for flax production the fact remains that at the present time similar flax lands only partly drained in the neighbourhood of the Manawatu River return from £4 to £5 per acre.... The company's swamp is much more accessible as it has a frontage of eight miles to the Railway Line and can be reached from any point in that distance."
- 1894: "Satisfactory progress has been made with the drainage works of the Makerua Swamp. The bed of the Tokomaru River, which will be the main outfall of the drainage, has been cleared of timber for $3\frac{1}{2}$ miles."

Appendix B

Extracts from: Seifert, H.A., 1936, The Makerua Estate,
Manawatu Daily Times, October 30, 31.

"The Estate Company's land stretched almost from Shannon to Linton. The west boundary was Mr. William Aker's Riverside and Opiki properties. At the Shannon end Mr. Barber's property was the boundary.

A route had been surveyed for the line (railway) running directly from Shannon to Longburn across the swamp but this was abandoned owing to construction costs and poor prospects for the land there. This survey was invaluable to Dr. Chapple as it showed there was considerable fall from the centre of the swamp to the Tokomaru Stream. Land could thus be drained. He hired a Maori guide and canoe and spent several days prospecting the subsoil with a long sharp pole. He proved that there was solid ground beneath the peat at no unreasonable depth thus disproving popular rumour that the swamp was a bottomless morass.

There were three drains when the property was taken over - Makerua Drain, Seifert's Drain, and Tokomaru Main Drain. These had been constructed by the Railway Company.

The Estate's first task was to remove Maori eeling weirs from the Tokomaru River. Under the engineer Mr. W.C. Breakwell many miles of drains were dug.

The Makerua Estate Company was very profitable returning its sponsors the best part of £90,000 profit. An estimated value of production from the land up to 1936 was £4,560,000. Flax contributed £3,750,000 and grazing and dairying £810,000."

Appendix CMangahao Power Scheme: Principal Works

The scheme consists of the following principal works:-

1. Two storage dams, approximately two miles apart, on the Mangahao River. The largest is No. 1 dam which was not completed until 1928 four years after power was first generated. It has a capacity of 3,800 acre-feet and floods are discharged over an automatic spillway and through a dispersal valve into No. 2 reservoir. No. 2 dam with a capacity of 1,240 acre-feet has similar automatic gates for flood discharge. Its construction posed unforeseen problems; excavations for the foundations disclosed that an ancient movement of the river in the native rock then forming its bed had left unstable conditions which could only be overcome by much re-designing of the structure.
2. A tunnel 81 chains long and 7 feet in diameter to convey the water into the Tokomaru Valley.
3. No. 3 dam, sometimes known as Arapeti, which stores water from the Tokomaru River and acts as a regulating basin. It has a storage capacity of 700 acre-feet and being 5 feet higher than No. 2 reservoir, flood water can flow back into that lake to be discharged through the automatic gates into the Mangahao River.
4. A tunnel, 105 chains long, between No. 3 dam and the surge-chamber. This tunnel is 8 feet in diameter.
5. The surge-chamber, 87 feet 5 inches wide at the top 19 feet at the bottom and 75 feet deep connects the tunnel with the end of the pipe lines.
6. Two pipe lines emerge from the surge-chamber and run parallel for 2,296 feet where each bifurcates to two pipes for the remaining 1,497 feet before they enter the power station. To take care of the increasing pressure, the diameters of the pipes are changed in steps from 66 inches to 60 inches, to 46 inches and finally to 36 inches. At the same time the thickness of the steel pipe-walls is increased from $\frac{5}{16}$ to $\frac{11}{16}$ of an inch.
7. In the reinforced concrete power house the high pressure water operates three 8,000 H.P. and two 4,000 H.P. Pelton Wheels which are connected to generators with a total capacity of 24,000 KVA.
8. From the generators the power is stepped up from 11,000 volts to 110,000 volts for transmission to the various substations through which the local power authorities draw their load. The Horowhenua Power Board takes power directly from Mangahao into its 33,000 volt distribution system.

Source: Information supplied by Mr. Thompson, State Electricity Department, Palmerston North.

Appendix DMangahao Power Scheme: Standard of Availability

Except for periods in 1925-26 and the summer of 1928-29 when the rainfall was exceptionally low and when the station did not have the assistance of other hydro-stations, its standard of availability has been very high. Throughout its long history there have been no major breakdowns of plant and the only important alterations have been in some of the control gear and in the substitution of direct pipes to the pelton wheels in place of the less efficient bus-pipe system originally installed. The individual machines have been running or immediately available for running for an average of 98.53% of the time, the remaining small percentage of the time being used for routine inspections and the inevitable repairs required by rotating machinery.

Source: Information supplied by Mr. Thompson, State Electricity Department, Palmerston North.

Appendix E

Traffic - Shannon Station

	Passengers	Goods Outward				Goods Inward			
		Cattle and Calves	Sheep and Pigs	Timber Sup.ft.	Other Goods	Cattle and Calves	Sheep and Pigs	Timber Sup.ft.	Other Goods Tons
	(Railway taken over Dec. 1908)								
1909	5,230	251	13,738	186,000	189	81	4,372	69,700	612
1911	15,753	1,372	37,727	573,900	481	447	8,263	25,500	2,965
1913	17,645	1,682	24,890	397,000	485	774	9,512	471,900	5,423
1915	15,054	1,687	35,211	33,200	477	444	12,346	628,500	7,275
1917	18,250	1,701	25,953	16,100	8,722	1,322	9,240	502,500	8,164
1919	17,872	1,204	22,467	31,300	8,914	884	6,861	318,600	10,113
1921	20,619	2,284	28,041	25,800	6,646	696	10,513	514,400	8,468
1923	21,875	1,562	19,186	83,000	5,331	576	9,138	528,300	14,508
1925	21,943	1,808	23,371	108,100	7,907	812	14,241	561,300	18,972
1927	24,926	1,668	24,084	166,800	7,426	1,222	19,762	258,400	11,030
1929	18,466	3,039	33,313	25,200	5,419	1,046	20,041	223,900	6,584
1931	25,969	5,345	60,134	60,460	2,920	1,659	31,278	225,500	5,061
1933	33,216	7,183	60,463	136,800	5,173	772	13,018	178,700	5,115
1935	34,272	6,605	67,286	8,400	3,664	982	26,638	145,300	4,470
1937	35,634	7,700	64,749	4,600	4,366	836	24,853	250,900	5,220
1939	32,963	10,369	69,978	1,200	3,427	1,377	24,502	250,600	6,403
1941	32,572	6,478	71,797	11,000	4,346	1,490	26,211	177,500	8,233
1943	47,548	12,701	78,968	18,800	5,039	3,027	37,445	460,200	9,600
1945	33,088	12,022	65,081	1,300	5,889	3,157	37,162	147,200	10,560
1947	29,005	13,901	87,912	5,400	6,011	2,835	39,679	106,200	10,013
1949	21,419	15,888	85,828	2,200	5,269	3,906	50,610	88,500	10,028
1951	20,326	16,078	76,319	119,200	4,760	4,385	50,129	121,600	11,053
1953	8,075	15,463	78,098	12,500	6,375	2,968	33,019	266,100	12,090
1955	7,418	17,123	80,843	4,200	6,926	4,796	30,090	79,500	13,821
1957	6,280	18,312	59,934	6,500	5,419	3,500	24,179	147,000	11,167
1959	5,389	15,449	57,972	4,100	5,051	5,167	31,429	209,800	9,203
1961	5,332	16,168	68,465	-	8,164	4,292	34,240	271,000	10,757
1963	6,290	18,160	60,711	9,600	7,609	2,962	33,572	253,000	14,640

Appendix FShannon: Birthplaces, Heads of Families

<u>Locality</u>	<u>Number</u>	<u>Locality</u>	<u>Number</u>
<u>Overseas</u>		<u>NZ. (cont.)</u>	
Australia	1	Nelson	2
England	9	New Plymouth	2
Holland	1	Norsewood	1
Ireland	2	North Auckland	1
Samoa	1	Ohakune	1
Scotland	3	Otaki	2
<u>New Zealand</u>		Paekakariki	1
Ashhurst	2	Pahiatua	2
Blenheim	2	Palmerston Nth.	9
Cambridge	1	Picton	1
Carterton	2	Pipiriki	1
Christchurch	4	Porirua	1
Clive	1	Rangiwahia	1
Coromandel	1	Rotorua	1
Cross Creek	1	<u>Shannon</u>	26
Dannevirke	4	Stratford	2
Dunedin	1	Taihape	1
Eketahuna	1	Tawa Flat	1
Featherston	1	Te Awamutu	1
Feilding	3	Tokomaru	2
Foxton	4	Turakina	1
Gisborne	1	Wanganui	7
Havelock S.I.	1	Wainakarua	1
Hawera	1	Waipawa	1
Huntermville	1	Wellington	12
Invercargill	1	Woodville	2
Levin	9		
Little River	1		
Manakau	1		
Martinborough	2		
Masterton	1		
Milton	1		
Napier	2		

Source: Survey, May 1967.

Appendix GShannon: Last Previous Place of Residence

<u>Locality</u>	<u>Number</u>	<u>Locality</u>	<u>Number</u>
<u>Overseas</u>			
Australia	1	Makarewa	1
England	1	Maranui	1
Ireland	1	Masterton	3
Scotland	1	Moutoa	2
		Napier	1
<u>New Zealand</u>			
Auckland	1	New Plymouth	2
Blenheim	1	Norsewood	1
Bunnythorpe	2	Ohakea	1
Carterton	1	Ohura	1
Cheltenham	1	Opiki	2
Dannevirke	2	Otaki	4
Eketahuna	2	Paekakariki	1
Feilding	4	Pahiatua	1
Foxton	7	Palmerston Nth.	8
Gisborne	1	Paraparaumu	1
Glen Oroua	1	Patea	1
Hamilton	3	Plimmerton	1
Hastings	1	Pongaroa	1
Hatuma	1	Rongotea	1
Havelock S.I.	1	Rotorua	1
Horopito	1	Tauranga	1
Kakariki	1	Te Kuiti	1
King Country	1	Tokomaru	1
Koputaroa	1	Wanganui	2
Levin	8	Wellington	14
		Woodville	1

Appendix HShannon: New Residents

- (a) Percentage of new residents who lived in more than one locality in 5 years before coming to Shannon
28.12
- (b) Percentage of new residents who changed type of occupation on coming to Shannon
60.00
- (c) Percentage of new residents who did not change occupation on coming to Shannon
40.00
- (d) Types of occupation not changed on coming to Shannon
- | | |
|----------------------|----------------|
| Accountant | Fitter |
| Baker | Nylon Worker |
| Builder | Plumber |
| Clergyman | Teacher |
| Dairy Factory Worker | Timber Worker |
| Electrician | Railway Worker |
| Farm Worker | Waitress |

Source: Survey, May 1967

Appendix IShannon: Present Location of Children
Not Living at Home

<u>Location</u>	<u>Number</u>	<u>Location</u>	<u>Number</u>
Atiamuri	1	Otaki	2
Auckland	5	Otara	1
Bulls	1	Paekakariki	1
Christchurch	4	Palmerston Nth.	16
Dannevirke	1	Paparangi	1
Dunedin	1	Paraparaumu	1
Feilding	5	Rata	1
Foxton	2	Rongotea	1
Gisborne	1	Shannon	44
Hamilton	2	Taradale	1
Hastings	3	Taumaranui	1
Kimbolton	1	Taupo	1
Levin	10	Tauranga	1
Longburn	2	Te Puke	1
Marton	2	Titahi Bay	2
Masterton	2	Waipukurau	1
Maxwell	1	Wanganui	1
Moutoa	2	Wellington	31
Napier	1	Whangarei	1
Nelson	1	Woodville	1
New Plymouth	3	Wyndham	1
Opiki	1		

Source: Survey, May 1967

Appendix JShannon: Occupations of Children Who Have Left Home

(a)	<u>Industrial Group</u>	<u>Occupation</u>	<u>Number</u>	<u>Total</u>
	<u>Primary</u>	Farming Work	15	
		Agricultural Contractor	1	
				<u>16</u>
	<u>Secondary:</u>	<u>Manufacturing</u>		
		Technician	1	
		Dairy Factory Worker	4	
		Wool Scouring	1	
		Engineer	4	
		Freezing Worker	2	
		Casein Worker	1	
		Nylon Worker	1	
		Textile Worker	1	
		Plastics Worker	1	
		Trainee Machinist	1	
				<u>18</u>
		<u>Building and Construction</u>		
		Painter	1	
		Builder	1	
		Carpenter	3	
		Builders Labourer	1	
				<u>6</u>
	<u>Tertiary:</u>	<u>Transport and Communication</u>		
		Drivers	6	
		Railway Worker	5	
		Mechanic	6	
		Car Dealer	1	
		Motor Assembly Worker	2	
		Travel Agent	1	
		Printer	1	
		Post Office Worker	3	
				<u>25</u>
		<u>Wholesale and Retail Trade</u>		
		Warehouseman	1	
		Shop Assistants	2	
		Butcher	2	
				<u>5</u>
		<u>Personal Services</u>		
		Hairdresser	2	
		Hotel Worker	1	
		Nurse Aid	1	
				<u>4</u>

<u>Fuel and Power</u>			
State Electricity Dept.	1	<u> </u>	
			1
<u>Finance, Administration, Security</u>			
Insurance	2		
Public Service	2		
Police Force	1		
Army	1		
Navy	1	<u> </u>	
			7
<u>Professional</u>			
Barrister and Solicitor	1		
Teacher	3	<u> </u>	
			4
<u>Miscellaneous</u>			
Public Park Caretaker	1	<u> </u>	
			1
<u>Married Women</u>	61		
<u>Married Women Living in Shannon</u>	20		

Shannon: Occupations of Children Who Have Left Home

(b)	<u>Industrial Group</u>	<u>Percentage</u>
	Primary	18.08
	Secondary	27.60
	Tertiary	54.32
(c)	<u>Type of Work</u>	<u>Percentage</u>
	Blue Collar	78.67
	White Collar	21.33

Appendix KShannon: Occupations of Members of Households

<u>Occupation</u>	<u>Number</u>	<u>Occupation</u>	<u>Number</u>
Accountant	1	Joiner	2
Baker	1	Journalist and	
Beamer (Nylon)	1	Agent	1
Butcher	1	Labourer	5
Caretaker	1	Machinist	5
Carpenter	8	Machinist, textiles	5
Chemist	1	Manager, Factory	1
Clergyman	1	Milk Vendor	1
Clerk	6	Motor mechanic	4
Clothing Machinist	9	Painter	1
Cook	1	Panel Beater	1
Dairy Factory Worker	7	Plumber	1
Driver	10	Printer	1
Electrical Worker	7	Production Manager	1
Engineer	5	Rabbitier	1
Farmer	1	Railways, Permanent	
Fitter	4	Way	1
Flax Cutter	1	Retired	1
Foreman, Textile	1	Shift Manager	1
Forest Service	1	Shop Assistant	7
Freezing Worker	3	Soldier	1
Grocer	3	Steel Worker	1
Hairdresser	1	Supervisor, Nylon	1
Horticulture	1	Storeman	1
Hotel Worker	1	Taxi Driver	1
Invalid	2	Teacher	2
		Timber Worker	1
		Well Driller	1

Appendix LShannon: Marital Status of Head of Household

	<u>Status</u>	<u>Percentage</u>
Male:	Married	88.58
	Widower	1.35
	Single	nil
Female:	Married	.67
	Widow	1.35
	Single	1.05

Source: Survey, May 1967

Appendix MShannon: Employment, April 1967

<u>Industrial Group</u>	<u>Units</u>	<u>Full Time Workers</u> (Including Working Proprietors)	
		<u>Male</u>	<u>Female</u>
Food, Drink & Tobacco (Other than Seasonal)	1	1	1
Textiles, Clothing & Leather	3	52	64
Building Materials & Furnishings	1	2	-
Engineering & Metal Working	5	41	4
Miscellaneous Manufacturing	2	33	3
Power, Water & Sanitary Services	2	32	-
Building & Construction	10	44	-
Transport & Communication	4	23	-
Distribution & Finance	11	26	15
Domestic & Personal	4	6	8
Administration & Professional Services	3	6	9
Seasonal Manufacturing	1	26	3
TOTAL:	47	292	107

These figures include Local Body and Government employees.

Source: Labour Department, Palmerston North

Appendix NShannon Post Office Statistics, September 19671. Savings Bank: (Ledgers only established in Shannon 1949)

Savings Bank Live Accounts	1,351
School Accounts	507
Thrift Accounts	106

2. Miscellaneous transactions:

1959	25,028
1960	26,648
1961	27,530
1962	29,186
1963	30,082

3. Telephone Exchange (Fully automatic)
Paying subscribers:

1956	357
1957	368
1958	381
1959	394
1960	411
1961	430
1962	442
1963	466
1964	484

Appendix O

MASSEY UNIVERSITY
Department of Geography

URBAN RESEARCH QUESTIONNAIRE

Locality Interview Number

1. How many persons live in the house?
2. Is the head of the household:
- (a) married single widow
- (b) male..... female
- (c) Maori Pakeha
3. Where was the head of the household born?
4. What are the ages of those living in the household? (Mark in males with a cross x and females with a circle O.)

0-4 years
5-9 years
10-14 years
15-19 years
20-29 years
30-39 years
40-49 years
50-59 years
60-69 years
70 +

If married, circle those who are not one's sons or daughters.

5. How long has the family or individual lived in Shannon?
- 0-1 year
1-and under 2 years
2-4 years
5-9 years
10-19 years
20 + years
all life

6. (a) What was the previous locality or town of residence?
 (b) List other places where the family or individual has lived with the approximate period in years, and type of employment.

<u>Town or locality</u>	<u>Number of Years Residence</u>	<u>Occupation</u>

7. (a) If married, how many children in the family?
 (b) List the number of children who no longer live in the household, their present place of residence and their occupation.

<u>Number</u>	<u>Town or Locality</u>	<u>Occupation</u>

8. List the occupations of those persons in the household who are employed and those who attend school. What is the address of their place of work or school and how many trips does each make per day?

<u>Occupation</u>	<u>Address of place of work or school</u>	<u>Number of trips per day</u>	<u>Method of travel</u>

9. For those in the household who are not employed list the number of trips per day, the purpose of each and the method of travel.

<u>Number of trips</u>	<u>Destination</u>	<u>Purpose (e.g. shopping, recreation, social, etc.)</u>	<u>Method of travel</u>

10. How many passenger vehicles are owned by persons in the household?

Number of: cars
 motor cycles
 bicycles

11. Do you have a T.V. set?

12. How often do you visit Palmerston North, Levin, Foxton?

Daily Weekly Monthly Yearly

Palmerston North				
Levin				
Foxton				

Appendix P

INDUSTRIAL SURVEY QUESTIONNAIRE - 1967

A. GENERAL

1. What is the nature of this Company's product or service?
(i.e., manufacture of electrical appliances, dry cleaning, etc.)
.....
2. If the Shannon factory is not the only factory operated by this company, please outline the extent of the Company's operations in the other areas.
.....
.....
.....
.....
3. What affiliations, (if any), has this Company with other concerns?
.....
.....
.....
.....

B. SITE & BUILDINGS

1. Please give the following details of present site and buildings:-

Total Floor Area of Buildings

Address	Area of Site	Manu- facture	Storage	Office	Date Est.

2. Are the present premises owned leased by the Company
3. If there was a choice, would this Company prefer leasehold or freehold site?
4. To what extent would you estimate the present building area is utilised
- 50% 60% 70% 80% 90% 100%
5. Outline any significant changes in floor area of utilization of floor area since World War II.

6. What major changes (if any) have there been in recent years in the mode of operation (e.g., automation of bulk storage), and to what extent has this effected the space requirements of this company?

7. What major changes (if any) are likely in the next 5 to 10 years in the mode of operation, and to what extent would these affect the space requirements of the Company?

C. LOCATION

1. What factors influenced this Company to establish in Shannon?

2. If the factory has been relocated since World War II, please give details of the previous location and major reasons for the change.

3. What problems (if any) are associated with your present site and buildings?

4. Does the Company envisage moving from its present site within the next 5 to 10 years?

If yes, what are the major requirements as to location, size, facilities, etc., that will influence the selection of the new site.

5. If it were possible to start afresh, where would you locate the factory and why?

D. RAW MATERIALS

1. Please complete the following table:-

Nature of Materials or Parts	Source	Mode of Transport

2. Which of the New Zealand produced materials or parts used by the Company are affected by the system of main ports pricing.

E. MARKETS

1. Please complete the following table:-

Market	% of Output	Mode of Transport
Local		
Within 30 mile radius		
Rest of North Island		
South Island		
Overseas		

2. Outline any significant changes in markets or marketing methods since World War II.

3. What changes (if any) in markets or marketing methods are anticipated in the future?

F. EMPLOYMENT

1. Number employed MALE FEMALE

2. What is the average yearly staff turnover? MALE FEMALE

3. Are there any seasonal variations in employment?

4. Do you experience any difficulty in obtaining staff?

	<u>MALE</u>	<u>FEMALE</u>
Unskilled
Skilled
Administrative

5. (a) In your opinion is the shortage of labour in any of the above categories related to:-

- Factory Location
- Labour conditions in Shannon
- Labour conditions in New Zealand
- Any other factor

(b) In your opinion is the adequacy of labour supply in any of the above categories related to:-

- Factory location
- Labour conditions in Shannon
- Labour conditions in New Zealand
- Any other factor

6. Outline any changes in employment numbers since World War II.

7. Do many of your staff commute to work from outside Shannon. If known, please state how many and from where.

G. MISCELLANEOUS

1. In what ways do you think the County Council could encourage the development of industry in Shannon?

2. Have there been any significant changes in the nature of the finished products in recent years? If so, please outline them below:-

3. Are there any significant quantities of waste (solid liquid or gas) generated by the company's operations? How is this waste disposed of?

Appendix QShannon Retail ShopsFood

Name of Shop	Range of goods	No of Staff	Customers			Notes
			Town	County	Others	
Olsen's 4 Square	Groceries, fruit	2	90%	10%		Business increasing
Mortimer's G.H.B.	Groceries, fruit, Crockery, hardware	2 $\frac{1}{4}$	75%	25%		Business increasing
V.E. Tippler G.H.B.	Groceries, fruit, vegetables, Hardware.	3				Manager relieving. Busy.
Peach's Shannon Meat Coy.	Butcher	4	66 $\frac{2}{3}$	33 $\frac{1}{3}$		Business increasing slowly.
Shannon Cake Centre	Cakes, pies, ice-cream etc.	2+1 baker	60%	30%	10%	Slacker this year
Supreme Milk Bar	Dairy-Milk Bar	2				Improving slowly
Shannon Dining Rooms	Fish, Fish & Chips, Pies, Hot dogs, Soft drinks etc.	2				Business Good.
Shannon Fruit Shop	Fruit and vegetables	1	80%	20%		Business slack. Untidy. Small range.

Shannon Retail ShopsClothing

Name of Shop	Range of goods	No of Staff	Customers			Notes
			Town	Country	Others	
D. Wilton	Men's Wear	1 $\frac{1}{4}$	75%	25%		Slow improvement in business.
Shannon Drapery	Drapery. Wool. Materials, patterns etc.	1				Maintaining level. Demand for Knitting Wool.
Gunning's.	Materials, Wool, Haberdashery etc.	2+1	80%	20%		Little change in rate of turnover.
Bettina's Botique	No stock in shop					Opening shortly to replace a frock shop which closed end of August.
Hydes Shoe Store	Men's, women's, children's footwear	1	75%	25%		Slow improvement.

Shannon Retail ShopsHousehold

Name of Shop	Range of Goods	No of Staff	Customers			Notes
			Town	Country	Others	
Shannon Electrical	Full range of appliances.	2	50%	50%		Already fully committed. Repair and installation work town 33 $\frac{1}{3}$ % in value, country 66 $\frac{2}{3}$ %
Tony Duckmanton	Shop closed					Now concentrating on repairs and installations.
Hyde's Electrical	Appliances, T.V.'s, Travel goods	1	75%	25%		Also owns and operates the picture theatre. 3 showings per week. Barely pays. Only young people attend.
M.S.D. Spiers. also Mr Henshall land agent.	Hardware, paints, timber etc. Builder's suppliers.	2	90%	10%		Business slowly improving. Supplies local builders who may be working town or country.
McKay's	Hardware, China, Jewellery. Land agent.					Business poor.
E.A. Collins Chemist	Drugs, prescriptions, cosmetics, toilet goods, photographic.	3	70%	25%	5%	Doctor's consulting rooms upstairs. Newly decorated premises. Considerable trade with holidaymakers in summer. Business slowly increasing in volume.

Shannon Retail ShopsMiscellaneous

Name of Shop	Range of goods	No of Staff	Customers			Notes
			Town	Country	Others	
R.G. Vinsen	Jewellery, watches, Tobacconist, Sporting goods, Newman's depot. Hairdresser. Billiard saloon.	1 and 3 part time	60%	30%	10%	Business level.
Babette Beauty Salon	Women's hair- dresser, Waving etc.	1				Level.
Thompsons	Newsagent, toys, Stationery, Cards Books etc.	1½	60%	35%	5%	Level.

Professional and other services in Shannon

Medical Practitioner	Dr. Poor.
Dentist	J.S. Hornblow & Son.
Barristers and Solicitors	Blenkhorn, Todd and Whitehouse.
Post Office	
Bank of N.Z.	
County Town Office & Library	Library 2 hrs each afternoon, Fri. Morn. & Eve.
District Nurse	(Sen. Town Members - 285 (Jun. Town Members - 319 (Sen. Country Members - 45
Hotels etc.	Albion Hotel Club Hotel
T.A.B.	

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