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TOURISM IN THE MANAWATU: AN ANALYSIS  
OF SPATIAL PATTERNS IN THE DEMAND FOR  
AND SUPPLY OF MOTEL ACCOMMODATION

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VIJAYA DEVI

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## ABSTRACT

The study concerns one form of accommodation, the motel, in the Manawatu, a non-key tourist area in New Zealand. Initially prompted by a claim that Palmerston North, the regional centre, was losing out on important conference custom because of a shortage of accommodation, the study considers this question and proceeds to both describe and analyse motel characteristics in the region.

Description includes salient characteristics of moteliors, motels and clients obtained from a questionnaire survey conducted in May 1980. Spatial variations in the characteristics are accounted for in terms of centre types: regional, subregional, market and recreation centres. The theory of hierarchical diffusion and the concept of central places are used in an attempt to explain the location of motels.

Findings showed that a large proportion of tourist traffic comprised transient tourists; the shortage of accommodation at Palmerston North appeared to be seasonal rather than absolute; accessibility in terms of visibility did not influence profit and some measure of 'amateurism' was evident in motel management. Time constraints and the limited area of study, however, could have influenced these general findings.

It is suggested that transit tourism may be important in other non-key tourist areas, most obviously in the Waikato because of its similarity to the Manawatu, and that further study of this overlooked aspect of tourism seems worthwhile.

## ACKNOWLEDGEMENTS

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To Professor K.W. Thomson and all the Massey Geography Department staff, my sincere thanks for making my stay in New Zealand and work at Massey University rewarding and enjoyable. To my supervisor, Dr. A.C. Walsh, I am indebted for his kindness and helpful criticism as the work progressed and for other reasons which he knows best.

Finally, if this work requires a dedication, it must be to my family - my parents, my brothers and sisters and their families - whose love, concern and financial help have permitted me to spend the past two years studying in New Zealand.

V.D.B.



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All statistical tests were carried out at the 95 percent level of confidence.

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## CHAPTER 1

## THE SCOPE OF STUDY: AIMS AND AREA

During the last decade New Zealanders generally have increased their interest in culture, leisure and recreational activities. Increased leisure time, mobility and affluence have resulted in a substantial expansion of outdoor recreation and domestic tourism.

Tourism, both domestic and international, is recognised as benefitting New Zealand by its contribution to national and regional income and employment. The tourist industry has been accepted by local governments as one means of stimulating the economic growth in many regions.

In the Manawatu region the local branch of the National Travel Association has been engaged in promoting Palmerston North as a tourist centre. Tourists on conducted tours beginning at key tourist areas such as Auckland, Rotorua and Christchurch either bypass or stop for only one night at Palmerston North, to be taken the following morning to the next destination on their itinerary. To further comment on the success of the promotional efforts is speculative because an assessment of tourist numbers is difficult to determine for several reasons.

Firstly, a tourist may, depending on his mode of transport, enter the region through one of several entry points. No study is known to have been made to measure the flow of tourists into or out of the Manawatu across regional boundaries at points of entry and exit.

Secondly, the knowledge of the number of units of commercial accommodation occupied at any one time gives an indication of the number of tourists present in the region. This may be estimated by the monthly occupancy rate of commercial accommodation. The problem in this case, however, is that the monthly occupancy rate for motels,



motor camps and lodges remains unknown because there is no statutory regulation to make the supply of this information mandatory. Even if the monthly occupancy rate of all existing forms of commercial accommodation was known, however, it would not give an accurate count because some tourists rely on friends, family or relatives for their temporary lodging.

The Manawatu is not one of the key tourist regions of New Zealand, but two areas within the region have in recent years been attracting people from various parts of the country as well as from overseas. These areas are the city of Palmerston North and the borough of Waikanae. Palmerston North, the regional centre, is one of the six national nodes, the other five being Auckland, Hamilton, Wellington, Christchurch and Dunedin (Hope, 1957). It also enjoys the status of a convention centre. Waikanae is a recreation town on the Kapiti Coast which is bounded by Paekakariki in the south and Peka Peka in the north. This area is being promoted as a desirable holiday destination for New Zealanders and overseas visitors.

This thesis was prompted by comments made by Mr P. McKenna, the Public Relations Officer of Palmerston North, regarding a lack of accommodation in the city.<sup>1</sup> He said that the demand for accommodation at certain times of the year exceeded the supply and that five hundred participants at one convention had had to look to Wanganui for alternative accommodation. This involved a loss to Palmerston North of \$100,000. What concerned Mr McKenna was that the problem would be compounded with the opening in 1981 of two major amenities currently being built in the city: the convention hall incorporated in the Civics Complex which will cater for national and international gatherings of over one thousand people, and the Sports Complex which will be sought after for national indoor sports. The lack of accommodation may mean that in periods of excessive demand for accommodation, visitors to the city may have to look to other towns. It also means that Palmerston North may lose a share of New Zealand's multi-million dollar convention trade to other cities.

As the provision of sufficient accommodation to meet anticipated demand is a primary determinant for the growth of the tourist industry for an area, accommodation shortages in Palmerston North, if accurately predicted, will restrict its opportunities of benefitting from future expansion in the tourist industry.

#### MOTELS AND ACCOMMODATION IN THE MANAWATU

There are several types of commercial accommodation in Palmerston North. These include hotels, motor hotels, guest houses, lodges and motor camps. This research focusses on only one type of commercial accommodation - the motel. This choice was made firstly because the above comments made in relation to accommodation shortage referred specifically to motels. Secondly, the motel is now a popular form of tourist accommodation in New Zealand. This is because changes in consumer tastes favour motel accommodation and, in response to this growing demand, the general standard of facilities and services offered by motels has shown progressive improvement. The increased importance of motels in the accommodation industry may be seen by comparing the growth of motels and hotels (including motor inns) at Palmerston North for the period 1960 to 1980 (Table 1.1).

TABLE 1.1

CHANGES IN THE NUMBER OF HOTELS AND MOTELS  
AT PALMERSTON NORTH FROM 1960 TO 1980

Year	Hotels		Motels	
	No.	%	No.	%
1960	19	-26	1	1300
1970	14	-29	14	64
1980	11		28	

Sources: Tourist and Publicity Department 1960-1979;  
Automobile Association, 1980.

In the period 1960 - 1980 the number of hotels in Palmerston North declined at an average rate of 28 percent every ten years while the number of motels increased at an average rate of 682 percent. The decline in the number of hotels appears to have been related to the increase in motels in the region.

According to Lloyd (1964) the motel enjoys three main advantages over the hotel. Firstly, motels have not been subject to any of the restrictions of inspections which accompany the licensing of premises. Tariffs for motels are not subject to government control; while licensees are prohibited from raising tariff charges for scarce hotel rooms, moteliers are able to set their own tariffs. Prospective moteliers were therefore in a favoured position to take advantage of growth opportunities provided by the demand for tourist accommodation during the late 1950's and 1960's.

The second advantages lies in the construction cost per bed. These costs are considerably less for a motel than a hotel since all but a few motels are single-storeyed and they can be located at lower valued properties and flat sites on the outskirts of towns. Furthermore, motels do not have to provide restaurant and bar facilities which considerably increase the cost per hotel bed compared with costs per motel bed.

Thirdly, the self-service character of motels drastically reduces the labour costs of operation.

With these advantages which the motel enjoys over the hotel, it seemed highly probable that motels in general should grow at an accelerated rate in the 1960's and in Palmerston North that the motel should partly replace the hotel.

At the time of the study there were forty motels, thirty-two hotels, two guest houses, three lodges and eight motor camps in operation in the region.<sup>2</sup> A decision had to be made to select one or all of these types of accommodation. Bearing in mind the main aim of the study

and time and financial constraints, it was finally decided to omit all types of accommodation other than motels.

Settlements in the Manawatu vary in size from less than one hundred to over sixty thousand people. For simplicity and consistency, settlements are referred to as centres. Motels are found at nine of these centres. The centres, their population size and the number of motels, is shown in Table 1.2

TABLE 1.2  
CENTRES, POPULATION AND MOTELS

Centre	Population (1976)	Motels
Palmerston North	57,931	22
Levin	14,759	5
Feilding	10,893	2
Foxton	2,789	2
Otaki	4,202	2
Waikanae	4,184	4
Sanson	362	1
Waitarere	345	1
Himatangi	259	1

Sources: Department of Statistics, 1977b;  
Field Survey, May 1980.

#### GENERAL AIMS OF THE RESEARCH

This study has two general aims. The first is to consider the usefulness of geographical theories and concepts in relation to the supply and demand of motel accommodation in the Manawatu. The spatial concept is taken as the core of the discussion and some basic tenets of locational geographical theory are looked at in examining the questions raised.

The second aim is to provide an understanding of tourist phenomena in a region very different from regions such as Rotorua or Queenstown, more obviously associated with tourism, but where, because of its central location, it holds a rather unique position in the country. The seasonal shortage of motel accommodation in Palmerston North, the problem that initially prompted the study, became peripheral to other lines of enquiry as the study proceeded.

#### TOURISM: SOME DEFINITIONS

Tourism has been variously defined. It has been defined somewhat narrowly by Pearce (1979a) as the relationship and phenomena arising out of the journeys and temporary stays of people travelling primarily for leisure or recreational purpose. Yefremov (1975) defined tourism in a broader sense on the grounds that not only vacationers but business travellers, sports competitors and many others make similar demands on transport facilities, accommodation, and other public and private facilities. A third definition is that of the World Tourism Organization which for statistical purposes sets a four nights minimum stay for domestic tourism but only twenty-four hours for international tourism.

In this thesis, tourism assumes the broader definition proposed by Yefremov. It includes all visitors to the region irrespective of their purpose of visit. The words 'tourist' and 'visitor' are used interchangeably. The reason for this choice is firstly that tourism defined as journeys and temporary stays of people travelling primarily for leisure or recreation was thought likely to embrace only a small proportion of the total number of visitors to the Manawatu since the region is not one of the key tourist regions in the country. It was considered that the majority of visitors to the region would be those whose purpose of travel was related to business, conferences, education, sports or visits to friends or relatives. To ignore such visitors to the region with these purposes of travel would have made the existence of commercial accommodation quite unaccountable.

Moreover, multiple purposes of travel makes the separation of tourist from non-tourist visitors problematic. A businessman may visit a place for leisure and at the same time perform business transactions.

Yefremov's concept of tourism which does not take the duration of stay into account also seemed justified since a place which receives visitors continuously throughout the year (but where the duration of stay is less than four days) does not necessarily make less demand on its facilities than would another place which receives visitors for only one part of the year but with average stays of more than four days. The average duration of stay for visitors to the Manawatu was expected to be less than four days since even at key tourist areas, the duration of stay for sixty-six percent of New Zealanders does not exceed two days.<sup>3</sup>

#### SOME FEATURES OF THE MANAWATU REGION

Regions are arbitrarily defined according to the purpose of study. It was considered appropriate in this study to accept the regional definitions of the Tourist and Publicity Department (Figure 1.1). It should be noted, however, that the Manawatu region which includes the six counties of Kiwitea, Pohangina, Oroua, Manawatu, Kairanga, and Horowhenua is as much a convenient mode of expression as a structurally distinct natural entity. Physical and other features found in the region which may have a bearing on tourism and the motel industry are discussed briefly below.

#### Landscape and Quality of Scenery

Tourism is linked with the attractiveness of the landscape and spatial variation. A diversity of shape and ground cover usually produce attractive scenery. Shape which is provided by absolute relief and the amplitude of relief, and ground cover comprising natural habitats and man-made features, combine to produce spatial variation in the landscape.

The Manawatu is bordered in the west by extensive areas



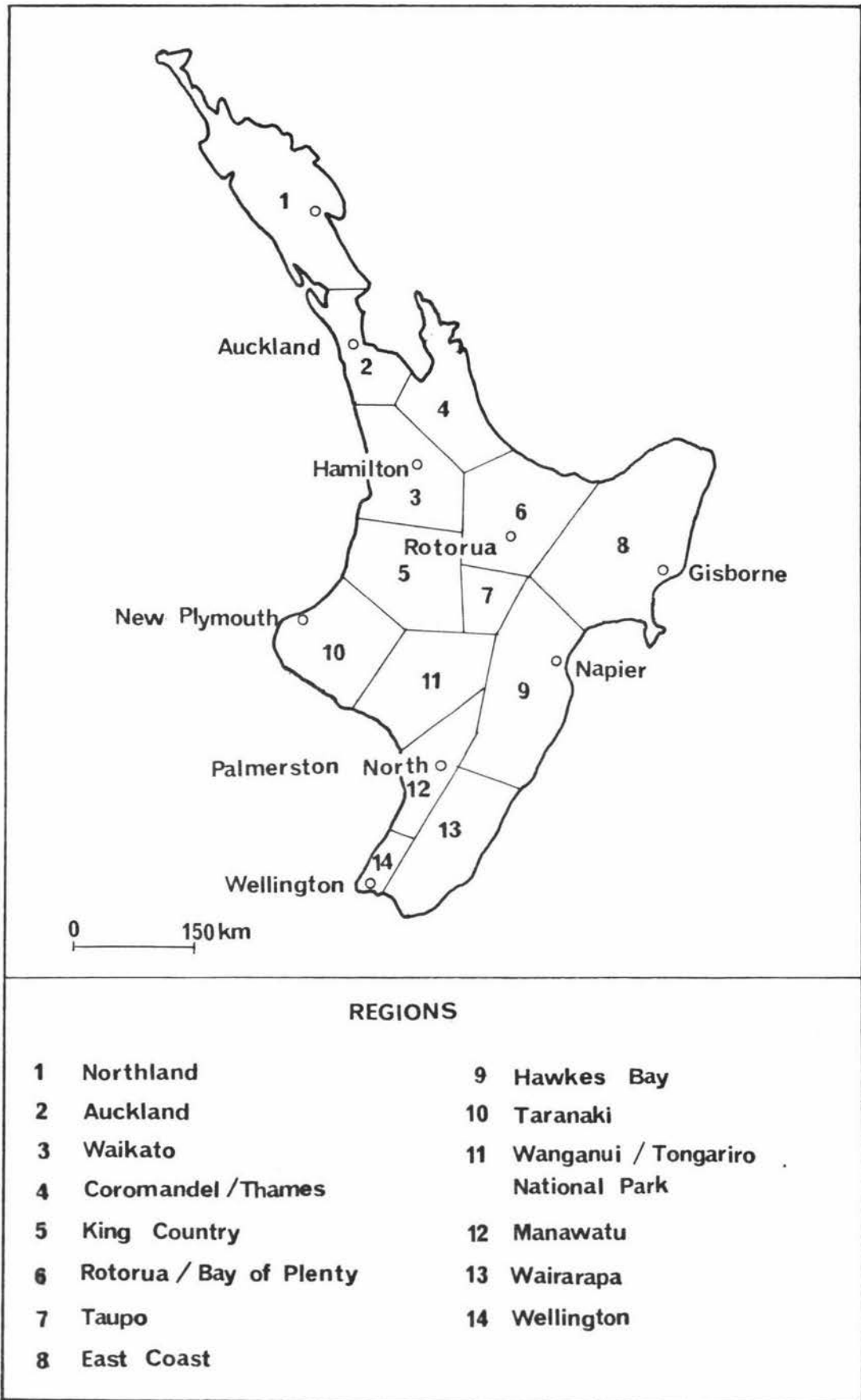


Figure 1.1: Tourist Regions of the North Island  
Source: Tourist and Publicity Department, 1979

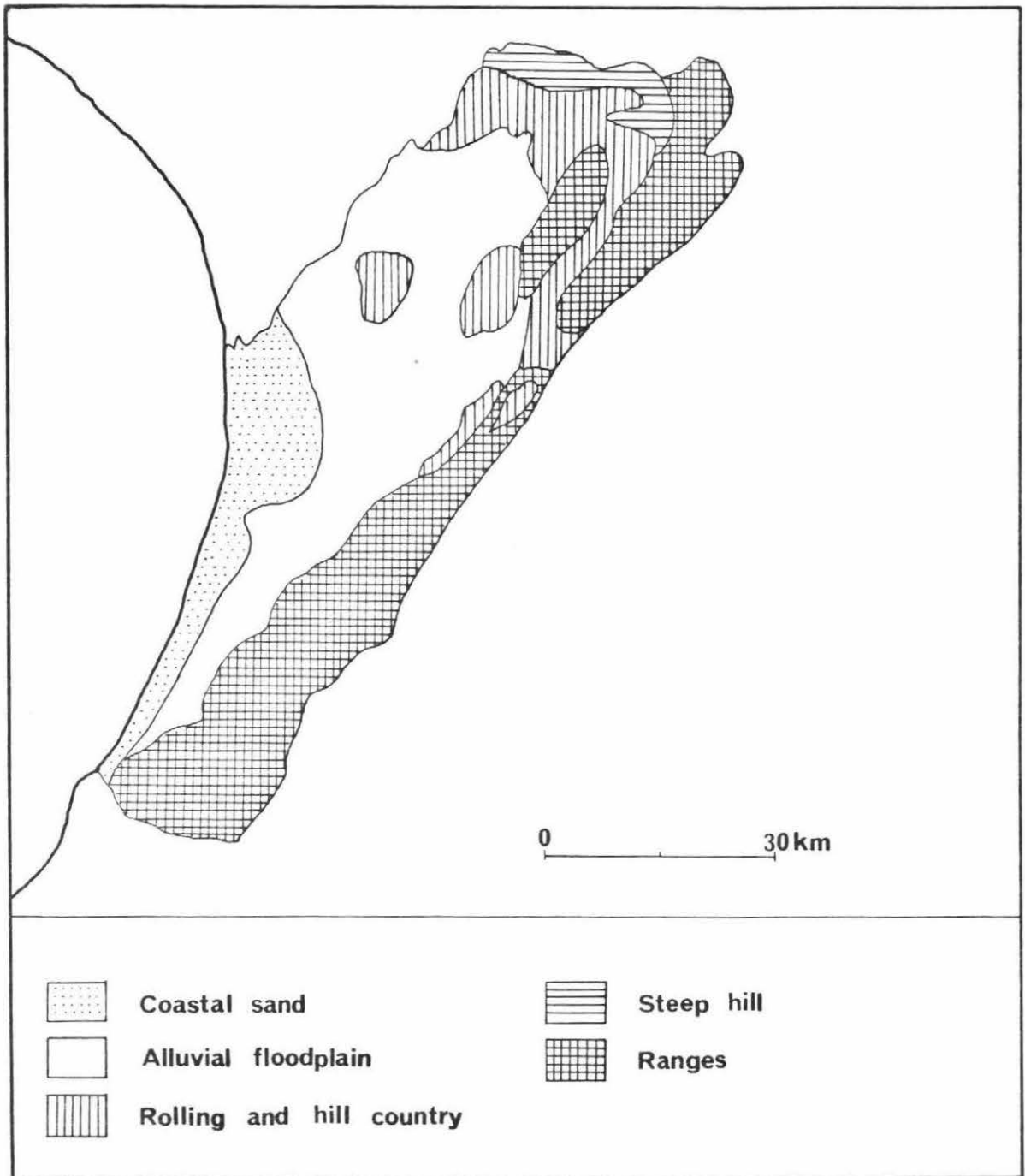


Figure 1.2: The Relief of the Manawatu  
Based on Kelman, 1964.

of sand dunes, sand plains and peaty swamps (Figure 1.2). The relief of the sand country is generally no higher than thirty metres above sea level. Eastwards from the sand dune belt lie the alluvial floodplains where relief averages less than six metres above sea level, but to the



east of the Rangitikei valley steep hill country reaches to 360 metres. To the south, rolling and hill topography and dissected river terraces lie between the flood plains the the eastern margin of the Manawatu region which is formed by the Ruahine and Tararua Ranges. Forming a back-drop to the lower lying areas, these ranges consist of deeply dissected mountains as high as 1500 metres, snow capped in winter, and low lying summit plateaus of little more than 300 metres above sea level.

Ng (1974) employed the method prescribed by Linton (1968) to evaluate the scenic quality of the Manawatu. He found that fifty-eight percent of the region, the area of lowlands and rolling hills, was of lower scenic quality. Upper grade and medium grade areas respectively comprised eleven percent and thirty-one percent of the total area of the region. The former occurs in the Ruahine and the latter in steep hill country areas. Ng's definition of the Manawatu, however, excluded the county of Horowhenua and therefore differs from that used in the present study. No attempt was made to duplicate Ng's procedures to evaluate the scenic quality of the Horowhenua but it may be confidently assumed that most of the region is of lower scenic quality according to the criteria used by Ng. It is probable, however, that the inclusion of Horowhenua would increase the percentage of the upper and medium scenic quality area as this county is more diverse relative to other counties in shape and ground cover.

### Climate and Weather

Most forms of outdoor activity are dependent upon a certain range of temperature, sunshine, wind velocity and other climatic factors. Climate is virtually a tourism factor because it works both as a motivator and dissuader of the tourist traffic and major tourist destinations are usually associated with a pleasant sunny climate.

The major characteristic of the climate in the Manawatu is the high proportion of strong winds and the relatively large diurnal temperature range. The mean

diurnal temperature range is  $8.6^{\circ}\text{C}$  and gusts of 34 knots or more occur on 48 days in an average year. Windiness affects the number of sunshine hours since overcast conditions are frequently caused by atmospheric turbulence. The region receives on average a total of 1,811 hours of sunshine a year which is 42 percent of the total possible, assuming a possible maximum of twelve hours of sunshine a day. On average, eleven days per month receive rain of one millimetre or more. The average temperature is  $12.8^{\circ}\text{C}$  with the lowest of  $7.8^{\circ}\text{C}$  occurring in July and the highest of  $12.6^{\circ}\text{C}$  in January and February.

The data in Appendix 1 pertain to weather conditions at Palmerston North. Coastal locations such as Waikanae, Foxton Beach, Himatangi and Tangimoana are likely to average a higher number of sunshine hours in the summer months. Although data are not available to ascertain the spatial variation of weather conditions in the region, inland Manawatu lacks the attraction of coastal areas which frequently experience pleasant sunny weather.

### Places of Interest

Places of interest are an important element of the tourist attractiveness of a region. They provide visitors the opportunity to recognise and enjoy the uniqueness of the region. A region with many places of interest is more likely to attract more tourists than one that has few.

The Manawatu possesses many places of interest, both natural and man-made. The former include the beaches at Foxton, Himatangi, Waitarere, Waikanae and Otaki; the Manawatu and Otaki gorges and scenic reserves in the Pohangina valley and the Hemi Matenga estate at Waikanae. Man-made places of interest are mostly found at Palmerston North. Located in or close to the city are the Art Gallery, Centennial Lagoon, Esplanade, Lido Swimming Centre, Massey University, The Square, Manawatu Museum and the Rugby Museum. The Steam Engine Museum at Tokomaru, Summerland Orchard and Nursery at Ohau and the Golf Club at Waikanae are some of the other man-made attractions of the region.

In sum, although the Manawatu has a number of places of interest, reasonable weather and pleasant scenery, it is unlikely that these factors have greatly attracted tourists from outside the region, although motels sited at coastal locations could be patronised by holidaymakers from Wellington and the lower North Island.

## FOOTNOTES

- 1 The Guardian Newspaper, Tuesday, January 15, 1980.
- 2 Manawatu Telephone Directory 1980; Town and Around 8(10) 1980, Palmerston North.
- 3 Tourism Advisory Council, 1978a, Appendix 8.

## CHAPTER 2

METHOD, SPECIFIC AIMS, PERTINENT RESEARCH  
AND ORGANISATION OF THE THESIS

This chapter describes survey procedures, justifies the method of survey by questionnaire, spells out the more specific aims of the study, reviews past research and explains the organization of subsequent chapters.

## SURVEY PROCEDURES

Once the objectives of the study were firmly established, the problem of how to acquire the relevant information began. The ideal situation would have been for the investigator to have had access to motel registers. The opinion of several moteliers were sought and on all occasions the suggestion was not favourably accepted. Had the motel registers been available, however, they would not have provided all the information sought. The costs too, in terms of time and money, and the inconvenience to moteliers in the collecting of information from motel registers also called for an alternative method.

A pilot questionnaire was circulated in April, 1980 to seven randomly selected motels in Palmerston North (Appendix 2), the object being to test the reaction of moteliers to the types of questions asked. The survey was also raised as a subject for discussion by the Treasurer of the Manawatu Motel Association at an Association meeting. Moteliers participating in the survey and those attending the Association meeting agreed to participate in the main survey provided that questions pertaining to income and occupancy rates were not asked. The questionnaire was therefore redesigned.

The main survey was carried out for a period of one week, from 11 May to 17 May, 1980. This period may have been a period of above the New Zealand annual occupancy

rate of 60.5 percent for motels due to extramural courses being held at Massey University in the May vacation period.<sup>1</sup> During the school holidays more holiday travellers might also have been accommodated in motels in the Manawatu. A Prisoner of War Reunion was held in Palmerston North and an Under-15 Golf Tournament at Feilding during the week of the survey.

All forty moteliers in the region were invited to participate in the survey. Five declined, three in Palmerston North, one at Waikanae and one at Levin. A total of thirty-five moteliers therefore completed the questionnaires which provided a response rate of eighty-eight percent.

The survey involved administering separate questionnaires to two groups of people: the moteliers and their clients. Each motelier was requested to complete the motelier's questionnaire (Appendix 3). An Instruction Sheet (Appendix 4) and one hundred copies of the client questionnaires (Appendix 5) were left with each motelier. The client questionnaire was to be completed by every client occupying a room or, in the case of multiple occupancy, by one person only.

On the whole, moteliers were very co-operative. It was found, however, that not all moteliers had been able to follow the standard set in the instruction sheet for the handing out of questionnaires to clients. Whilst some personally handed a copy to each individual who signed in the motel register, others had placed copies in each motel unit prior to occupancy. To calculate the response rate from motel clients it was found necessary to request moteliers to check their motel registers and to provide further information on the number of clients for each day of the survey.

The response from motel clients was satisfactory. A total of 623 client questionnaires were returned complete. Nine were discarded as the answers given appeared to be facetious. The 614 responses represented approximately eighty-five percent return overall. This figure, however,

could have been affected by the methods used in administering the questionnaires. The response rate must be accepted with some caution not only because of the different methods used by moteliers to hand out the questionnaires, but also because the response rate did not account for instances where a questionnaire offered to and refused by one client was then used again.

Despite the procedural problems mentioned above, there were several reasons for this choice of method. Firstly, the success of the survey depended to a large extent on the good graces of the moteliers. It was therefore important that the survey interfered as little as possible with the normal functioning of the motel service. For the same reason the limited period of seven days was accepted as adequate although it was recognised that a longer period would have been desirable. Secondly, the success of the survey also depended on the clients' co-operation. In recognition of their privacy and freedom, a completely voluntary response was felt to be the most appropriate. Thirdly, the methods adopted were a compromise between the impracticalities of formal interviewing and the gathering of the same information from motel registers.

### The Questionnaires

The Motelier Questionnaire sought information on the characteristics of motels and moteliers. Information sought on motels included their size, capacity, quality, occupancy pattern, age, publicity and the extent to which motels depended on goods and services from the same centre at which they are located. This information was necessary to show spatial differentiation in the supply of motels. The questionnaire also sought information on salient characteristics of moteliers in the region for comparison with the average New Zealand motelier, information on the latter being available from the Tourism Advisory Council.<sup>2</sup>

The Client Questionnaire sought information on salient characteristics of the client, his purpose of visit, journey origin and final destination. This information was used to



analyse the spatial pattern of demand which is a necessary complement to the question of the supply of motels.

#### SPECIFIC AIMS OF THE RESEARCH

The study, as mentioned in the previous chapter, had two aims: to consider the usefulness of theory with regard to the supply and demand of motel accommodation, and to provide an understanding of the tourist phenomena in the Manawatu. More specific aims were to investigate the following questions:

- 1) How important is tourism in the Manawatu compared with other regions in New Zealand?
- 2) How does the region's motel accommodation compare with the New Zealand average?
- 3) What is the relationship between the location and accessibility of motels and their size, capacity, quality and occupancy patterns?
- 4) What are the salient characteristics of motel clients, their purpose of travel and the source and destination of journey?
- 5) What influences clients to select a particular motel?
- 6) What is the pattern of spread of motels in the Manawatu? Has a spatial pattern developed over time?
- 7) Are motels located at central places?

#### LITERATURE REVIEW

The two bodies of literature that offered avenues for thought in the inquiry were those pertaining to economic geography and tourism geography, although, with regard to the latter, it may be argued that tourism is virtually non-existent in the Manawatu. The justification for turning to past studies on tourism and its related aspects in this study of motel accommodation was Yefremov's definition of tourism which has been briefly discussed in Chapter 1.



While many writers defined tourism as the journey and temporary stays of people travelling primarily for leisure or recreational purposes (Murphy, 1963; Mercer, 1970; Matley, 1976; Robinson, 1976) Yefremov (1975) argued that tourism should be defined in a broader sense since not only vacationers but business travellers, sports competitors and many others make similar demands on transport facilities, accommodation and other public and private facilities. Based on this definition, the users of motel accommodation, irrespective of their purpose of travel, are tourists.

For ease of review, the relevant literature is discussed under the headings of spatial pattern of supply and spatial patterns of demand. Concept or theories derived from economic geography considered applicable to the study are incorporated under the appropriate headings.

#### Spatial Patterns of Supply

Examination of the areal occurrence of tourism at various scales - global, national, regional or local - involves delimiting spatial variation in the importance and nature of tourism in different areas. On an international scale the number of frontier arrivals or gross revenue are the usual indicators used. At the national (Boyer, 1962) and regional level (Carlson, 1938) the approach was to draw up an inventory of existing tourist facilities. The importance of tourism in any area was indicated by total bed capacity. The composition of the accommodation plant indicated the nature of tourism.

Defert (1967) popularised the tourist function index,  $T_f$ . This index measures the relative importance of tourism in an area. It is derived by comparing the number of beds available to tourists in the area with the resident population of that area. Pearce (1979b) arrived at the regional distribution of  $T_f$  values for New Zealand. He also separated the total bed capacity of each region into categories according to the type of accommodation (hotel, motel, caravan, holiday home). The spatial variation in the distribution of the types of accommodation was accounted for by the nature of tourism.

Among research which focussed on specific types of tourist facilities Cosgrove and Jackson (1972) examined the location and distribution of spas and thermal resorts; Robinson (1972) hill stations and coastal resorts in the Orient; Pryce (1967) caravan camps and Wolfe (1951), second homes. In New Zealand Bayliss (1970) examined accommodation in Palmerston North; Pearce (1977) skifield development, and Rendall (1978) man-made tourist attractions. In the above studies, the location and distribution of facilities were discussed in terms of physical factors (climate and relief), cultural attraction, market access, and the development of the transport network.

Two major approaches have been used in evaluating tourist attractiveness of an area. Firstly, the Delphi technique where a range of 'experts' are asked to rank the area in question according to a selection of variables such as climate, scenery and cultural interest. Such work has largely been undertaken by planners (Andriello, 1965; Piperoglou, 1966; Georgoulas, 1970). Linton (1968) recognised landforms, defined as absolute relief and the amplitude of relief, and landuse as the phenomena that make scenery. The combination of these two relief features produce landscapes which command scenery. Landuse component of scenery relates to the groundcover of the landscape. This includes both natural habitat and man-made features. Linton's work was closely followed by Ng (1974) who evaluated the scenic quality of the Manawatu. Ng found that a large proportion of the region is of lower scenic quality which coincides with the area of rolling hills, alluvial floodplains and the sand country.

Eliot-Hurst (1972) in categorising general economic activities into one of three subsystems (primary, secondary and tertiary) classed the motel as a service component of the tertiary subsystem, the other components being trade and finance. According to Eliot-Hurst, services tend to locate where most consumers are, that is at central places.

Preston (1971) suggested that many empirical central

place studies in published literature had not been carried out consistent with theoretical requirements laid down by Christaller. He stated that Baskin (1957) in his translation and critique of 'Central Places in Southern Germany' emphasised that the cornerstone of Christaller's approach was his concept of the central place itself, and that this concept was not the same as that ordinarily associated with expressions of settlement size. The basic element of a central place is that it is a source of goods and services for an area larger than itself. Researchers, however, frustrated in their attempts to measure centrality have resorted to the use of various indices of aggregate importance, or nodality, as substitute measures. The root of the departures of empirical central place studies from classical guidelines is the consistent lack of differentiation between nodality and centrality. The possible misuse of the concept of centrality is considered in Chapter 6.

Horton (1968), in an analysis of location factors as determinants of consumer attraction to retail firms, suggested that spatial variability in consumer attraction may be a function of the attraction differentials that a firm offers. He partitioned attraction differential into investment differentials and locational differentials. Investment differentials are the increased investment involved in the provision of various attractions endogenous to the firm. They include items such as parking facilities, custom services, aesthetics, variety of styles and prices. Chapter 5 in the present study examines the relationship between attractions at motels and the demand for motel accommodation.

The theory of hierarchical diffusion considered in Chapter 6 assumes that diffusion takes place from larger to smaller centres in the urban system (Hagerstrand, 1953). Richardson (1978) stated that hierarchical diffusion more appropriately explains the spread of entrepreneurial innovation whereas general spatial diffusion is more important in the spread of household innovation. Since the motel is an entrepreneurial innovation, the applicability of this idea is also considered in explaining the spread of motels in the Manawatu.

### Spatial Pattern of Demand

The concept of a recreational hinterland is pivotal in studies linking origin and destination of tourists. Cribier (cited by Pearce, 1979a) delimited the hinterlands of major metropolitan areas of France and identified the variations in the type of tourism practised. Non-commercial accommodation (second homes, visits to friends and relatives) was found to be relied upon for holidays close to home while the hotel tended to be used by those travelling far from home. Differences within hinterlands have also been observed in New Zealand by Johnston, Pearce and Cant (1976). In this survey of Canterbury holidaymakers, it was revealed that social visiting and sightseeing were the major objectives of those who travelled to the North Island while the destinations of those pursuing water-based activities or seeking general relaxation were generally close to home. These studies pointed to the importance of knowledge on the extent and nature of spatial variation within the particular hinterland if the nature of tourist demand in a particular region is to be understood. This is especially relevant to the present study since the problem of the supply of accommodation in Palmerston North may be directly related to seasonal demand.

### ORGANISATION OF THE THESIS

The theoretical and empirical work discussed above acted as guidelines to the present study and shaped its organisation.

Chapter One discussed the aims, scope and region of study, and Chapter Two has discussed the method of study, specific aims and pertinent research. Chapter Three discusses the position of the Manawatu relative to other tourist regions. This chapter also discusses some of the findings of the survey carried out by the Tourist and Publicity Department in 1977 and compares these findings with those of the present study.

Chapter Four considers spatial differentiation in the supply of motels in relation to motel size, types of units,

capacity, quality, and occupancy rates. This is followed by an analysis of the spatial pattern of demand in Chapter Five. Theoretical questions is the concern of Chapter Six where the relationship between the spatial growth of motels in the region and the theory of hierarchical diffusion is examined. The location of motels is then examined in relation to nodes and central places emphasising the difference between the two concepts. The final chapter is a summary of the findings and their implications for future research and tourism in the Manawatu region.

## FOOTNOTES

- 1 Tourism Advisory Council (1978a), p. 33.
- 2 *ibid.*, p. 31.

## CHAPTER 3

## TOURISM AND MOTELS IN THE MANAWATU REGION

This chapter discusses the position of the Manawatu relative to the rest of the country in the tourism context and describes the characteristics of motels in the region. These characteristics are then compared to the average New Zealand motel. The chapter concludes with comments on the problem of motel accommodation shortage in Palmerston North.

## MANAWATU IN THE TOURISM CONTEXT

It is important to recognise the position of the study region relative to the national pattern. This section therefore refers largely to Pearce's (1979b) study concerning spatial differentiation of tourism in New Zealand in order to establish the position of the Manawatu relative to the rest of the country. Pearce estimated accommodation capacity in 1976 in terms of the number of beds at motels, hotels, caravans and holiday homes for each Tourist and Publicity Department region. In terms of absolute accommodation capacity, six major regions were identified, each having in excess of twenty thousand beds (Appendix 6)<sup>1</sup>. These regions were: Northland, Auckland, Coromandel/Thames, Rotorua/Bay of Plenty, North and Mid Canterbury and Otago. They accounted for sixty percent of New Zealand's total bed capacity. The Manawatu falls within the six next important regions which together accounted for twenty-two percent of the total number of beds. The regions in this group were: South Canterbury/North Otago, Marlborough, Nelson, Wellington and Taupo. The remaining eighteen percent of the total accommodation capacity was contributed by the remaining ten regions.

Pearce accounted for spatial variation in the various forms of accommodation by the nature of the tourist industry



in a particular region. Rotorua/Bay of Plenty, for example, had the largest number of beds in motels and caravan sites in the country, many hotels but proportionately fewer holiday homes. This, according to Pearce, was because the region had the country's biggest resort, Rotorua, which is an international tourist spot, and a major domestic tourist destination at Tauranga - Mount Maunganui. By comparison, ninety percent of all bed space in Coromandel/Thames was in caravans and holiday homes because domestic tourism was most important. In the Manawatu, seventy percent of bed spaces were in holiday homes, fourteen percent in caravans, twelve percent in motels and four percent in hotels. He accounted for the high percentage of holiday homes' bed spaces in the Manawatu by suggesting that the region is part of the Wellington vacation hinterland.

Pearce also derived the tourist function of individual regions from Defert's measure. The tourist function shows which regions are more dependent on tourism relative to other regions. This is measured by comparing the number of beds available to tourists in the area with the resident population of that area according to the formula:  $Tf = N_{beds} \times 100 / Population$ . Pearce found that Fiordland was the only region with a Tf greater than 100 which meant that the number of visitors accommodated exceeded the region's population (Table 3.1). Coromandel/Thames and Taupo had the second and third highest Tf. The Manawatu fell within a group of eleven regions with Tf values of ten or less. Within this group, however, tourism was more important in the Manawatu than in Taranaki, Hawke's Bay, Wairarapa, King Country, Waikato and Wanganui.

From the above evidence it may be concluded that the Manawatu is of middle-level importance among the tourist regions of the nation and is not strongly dependent on tourism as a source of income and employment.

#### MOTELS AS COMMERCIAL ACCOMMODATION

Motels are non-licensed establishments providing accommodation in the form of self-contained units. Generally there are two types of motel units: kitchen units and



TABLE 3.1

TOURIST REGION AND TOURIST FUNCTION (TF)<sup>a</sup>

REGIONS	Tf
Fiordland	103
Coromandel/Thames	82
Taupo	48
Marlborough	28
Northland	21
Otago	20
Westland	19
Rotorua/Bay of Plenty	17
Nelson	15
South Canterbury/North Otago	13
East Coast	11
Manawatu	10
Wairarapa	9
King Country	7
Southland	7
Northland	7
Taranaki	6
Wanganui	5
Waikato	5
Hawkes Bay	5
Auckland	3
Wellington	3
North Island	8
South Island	12
New Zealand	9

Notes: a Tf = Number of beds x 100/Population

Source: Pearce, 1979b

service units. Kitchen units are those which include an equipped kitchen and dining facilities whereas service units are those where one meal, usually breakfast, is provided.

This section deals with the characteristics of moteliors and motels in the Manawatu. Variables of age, previous occupation and additional income of moteliors and motel variables of size, type of units, number of workers, quality, capacity and occupancy are examined.

The number of motels in New Zealand increased rapidly in the 1970's. There were 5,070 motel units in 1969; by 1977 the number reached 10,427, an increase of 106 percent. In the Manawatu the increase in this time period was 87 percent. The popularity of the motel among the travelling public is due to its characteristic features. Firstly, the unit layout is especially designed to provide for motor travellers, hence the provision of off-street parking adjacent to each unit. Secondly, as motels are usually located in residential or commercial zones and set back from street frontages, they provide privacy and quietness. Thirdly, the high standard observed in the provision of complete cooking facilities in kitchen units and tasteful furnishing, personal services and facilities for all units, allow a motel client to enjoy the comfort and convenience which are either already a part of his domestic lifestyle or ones to which he aspires. Finally, the provision for recreation in the form of open space and outdoor recreation equipment such as trampolines, swings, swimming pools is especially attractive to family groups.

#### Characteristics of Motels in New Zealand

A survey to assess motel accommodation needs was carried out by the Tourist and Publicity Department in November, 1977, by means of questionnaires sent to 1,204 motels. The findings of this survey were used to compare the average New Zealand motel with those in the Manawatu. The survey found:

- 1) The average number of units per motel was nine and the mode was six units.

- 2) The majority of units were of the kitchen type.
- 3) Motels were generally small businesses managed by one or two persons full-time.
- 4) There was a sharp decline in the number of motels greater than ten units in size.
- 5) The overall average occupancy rate was 60.5 percent.
- 6) The highest occupancy rate (79 percent) occurred in January with February the next highest. The quietest months were June and July.

#### Characteristics of Moteliers in the Manawatu

The characteristics of moteliers and motels in the Manawatu were derived from the Motelier questionnaire and from discussions with moteliers. It was noted that all motels were operated by husband-wife teams and that some moteliers employed additional workers.

The questionnaire was completed by the husbands at thirty motels and wives in the remaining motels. It is unlikely that the sex of respondents significantly affected the results.

##### a) Age of Moteliers

The average age of moteliers in the Manawatu was 45 years, with seventy-one percent between the ages of thirty-one and fifty years. Age appeared to be an important variable in the reason for becoming a motelier as seventy-five percent of those aged over fifty years claimed that the goal of maximum profit was not of primary importance to them. The occupation was adopted because it was perceived as relatively non-demanding with respect to time and skill, and rewarding in terms of meeting and serving people.

##### b) Previous Occupations of Moteliers

Moteliers came from a variety of occupational backgrounds. The categorisation of occupations employed by the Census of Population and Dwellings, 1971, was used

because it placed occupations into mutually exclusive categories. The highest number of moteliers (31 percent) were previously holding jobs within the Administrative and Managerial category (Table 3.2). Agriculture (17 percent) and Production (14 percent) categories came second and third respectively.

TABLE 3.2

## THE PREVIOUS OCCUPATION OF MOTELIERS

OCCUPATION	NUMBER OF MOTELIERS	PERCENTAGE
Professional/Technical	2	5.7
Administrative/Managerial	11	31.4
Clerical	2	5.7
Sales	4	11.4
Service	-	-
Agriculture	6	17.1
Production	5	14.3
Housewife	2	5.7
Not stated	3	8.6
TOTAL	35	99.9

Sources: Department of Statistics, 1974

## c) Additional Income of Moteliers

Slightly more than one-half of all moteliers claimed they had an additional source of income. These motels were hosted by women in the daytime during weekdays which suggests that it was the male motelier who held a second job.

In the survey conducted by the Tourist and Publicity Department, respondents were given the opportunity to say

what in their opinion were the major problems then facing the motel industry. Three problems were mentioned by most respondents: excessive amateurism in management, oversupply of motels and low profitability. The present study suggested that it is probable the Manawatu faces a similar problem of amateurism in management since only one motelier had previously held a job which involved accommodation catering and none had undergone training in motel management organised by the Hotel and Catering Industry Training Board. This is perhaps explained by the high proportion of moteliers holding second jobs who would lack time to attend courses when they are offered. The opinion held by some moteliers that motel operation is not demanding on time and management skills suggests the need for comparative operational statistics so that the motel industry has a yardstick by which to measure efficiency and profitability. In this way higher standards of motel management, services and facilities may be achieved.

The second problem reported by the Department, low profitability, was attributed by moteliers to the following factors:

- 1) The high cost of construction of accommodation facilities relative to the achievable tariff levels.
- 2) Rapid depreciation of furniture and interior fittings.
- 3) Difficulties in obtaining finance at reasonable interest rates.

The third problem, an oversupply of motels, is perhaps more appropriately considered a problem of seasonality in demand for motel accommodation. The Department's survey found that high demand occurred in January and low demand in June and July. The present study showed that for Palmerston North high demand occurred in March and May and low demand for the rest of the year. The absence of investment in new motels at Palmerston North during the last two years is therefore probably due to low profitability and seasonal demand for motel accommodation. The problem seems likely to persist for moteliers claimed that

the present (1979) economic situation had contributed to the decrease in the number of travellers and to increased costs.

### Characteristics of Motels in the Manawatu

The variables considered are: size, type of units, number of workers, quality, capacity and occupancy.

#### a) Size of Motels

The size of a motel is customarily measured by its total number of units. This, for motels in the Manawatu, ranged from four to twenty-six, the average size being ten units (Figure 3.1). Sixty-six percent of the motels had less than eleven units, seventeen percent had between eleven and twenty-one units and a further seventeen percent with more than twenty-one units.

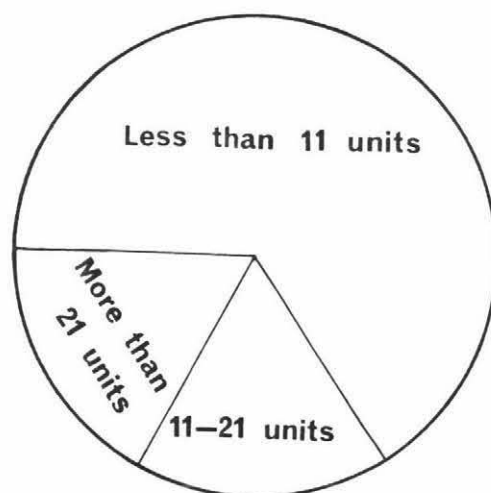


Figure 3.1: Relative Distribution of Size of Motels

#### b) Types of Units

In New Zealand there are generally two types of units (service and kitchen) and each may be further sub-categorised into single, double and family units.<sup>2</sup> Sixty-seven percent of motel units in the Manawatu were kitchen units and thirty-three percent service units (Table 3.3).

TABLE 3.3

## TYPES OF MOTEL UNITS IN THE MANAWATU

(Number, Average, and Percentage)

	SINGLE			DOUBLE <sup>a</sup>			FAMILY			TOTAL		
	N	A	%	N	A	%	N	A	%	N	A	%
Service	5	0.1	4.1	94	2.7	78.3	21	0.6	17.5	120	3.4	33.1
Kitchen	0	0	0	114	3.3	47.1	128	3.7	52.9	242	7.0	66.9
Total	5	0.1	1.4	208	5.6	57.1	149	4.3	41.1	362	10.4	100.0

Notes: a Includes twin units

Source: Field Survey, May 1980

The majority of units (fifty-six percent) were double units. Family units comprised forty-one percent of all units and single units less than one percent. The typical ten unit motel in the Manawatu comprised three service and seven kitchen-type units. All the service units were double units while of the seven kitchen-type units three were double and four were family units.

## c) Number of Workers

The term 'workers' refers to the number of persons employed by the motelier excluding members of his immediate family. The most common positions held by workers in Manawatu motels were cleaners, gardeners and cooks. These positions were held throughout the year on a full time or part-time basis. Sixty-three percent of motels employed at least one worker and the mode was two (Table 3.4). The number of workers was found to be significantly related to the size of motel ( $r = 0.32$ , 33df).

Thirty-seven percent of motels did not employ any workers. These motels were worked by husband-wife teams and adult children. Generally, these motels were hosted throughout the week by the parents, one of whom did so on a part-time basis, while adult children provided their services during the weekends. Some motels which hired workers also used family labour. In all, sixty-six percent of the motels used family labour with or without the extra assistance of hired labour.

Table 3.4

NUMBER OF WORKERS EMPLOYED AT MOTELS  
IN THE MANAWATU

WORKERS	MOTELS	PERCENTAGE MOTELS
0	13	37.0
1	5	14.3
2	7	20.0
3	4	11.4
4	1	2.9
5	2	5.7
9	1	2.9
15	1	2.9
28	1	2.9
97	35	100.0

Source: Field Survey, May 1980

The large range in the number of workers employed (0 to 28,  $\bar{x} = 2.87$ ,  $\sigma = 5.3$ ) suggests a very different approach to the motel business by moteliors employing a large number of workers than the family-based motel which employed fewer workers.

d) Quality of Motels

The Automobile Association grades motels according to



their standard of construction and appearance and the facilities they provide into five categories from Three Star to Five Star. Sixty-three percent of motels in the Manawatu were four star, thirty-one percent three star-plus, three percent three star, and a further three percent four star-plus (Table 3.5).

TABLE 3.5

## GRADES OF MOTELS IN THE MANAWATU

GRADE	NUMBER OF MOTELS	PERCENTAGE
Three Star	1	2.9
Three Star-plus	11	31.4
Four Star	22	62.9
Four Star-plus	1	2.9
Five Star	-	-
Total	35	100.1

Source: Automobile Association 1980.

## e) Capacity of Motels

The capacity of a motel refers to the maximum number of clients it may accommodate as indicated by the number of beds. The capacity of motels in the Manawatu ranged from twelve to eighty-five beds. The average capacity was thirty-three beds.

## f) Motel Occupancy Rates

The exact monthly occupancy rate in percentage was not asked because moteliers had earlier expressed reluctance to divulge this information on the grounds of the difficulty of its estimation due to the seasonal variability of occupancy rates. It was also considered that average unit occupancy rates at most times had no direct relation to motel earnings because unit occupancy gives no indication of the number of people occupying a unit and hence of the

income derived from it. Maximum unit occupancy therefore does not necessarily mean that the motel is operating at maximum capacity. For these reasons the general pattern of occupancy rates (constant or variable) rather than precise monthly occupancy rates was sought in order to obtain some indication of seasonality in demand for motel accommodation.

Thirty-four percent of motels experienced constant occupancy throughout the year while the remaining sixty-six percent experienced variable occupancy. January was the month most frequently cited as that providing high occupancy rates with July and August as those providing low occupancy (Table 3.6).

The above characteristics of Manawatu motels were similar to those of the average New Zealand motel except that the mean size of motels in the study region (ten) was slightly larger than the national average (nine). Similarities were seen in the nature of the business (family-operated), the predominance of kitchen type units and a sharp decline in the number of motels exceeding ten units. The seasonal patterns of demand were also similar with peak demand in January in the Manawatu and New Zealand generally and lowest demand in June and July for New Zealand and in July and August for the Manawatu. Motels in Palmerston North, the regional centre, however, had peak occupancy in March and May.

#### SUMMARY

This chapter has considered the Manawatu in relation to other tourist regions in the country. It has described the characteristics of Manawatu moteliers and commented on the likelihood of amateurism in motel management, and the problem of motel accommodation shortage at Palmerston North. It was seen that in terms of total accommodation available, the region was of middle importance. Tourism was an important source of income and employment as indicated by the tourist function (Tf). Characteristics of motels in the region were broadly similar to those of the New Zealand average in terms of size, types of units, the nature of the business and the general pattern of occupancy rates.

TABLE 3.6  
 FREQUENCY OF MONTHS CITED AS PROVIDING  
 HIGH AND LOW OCCUPANCY

MONTH	OCCUPANCY	
	HIGH	LOW
January	14	2
February	11	0
March	11	0
April	4	0
May	9	0
June	0	7
July	0	16
August	1	16
September	0	3
October	0	2
November	2	4
December	6	4

Source: Field Survey, May 1980

## FOOTNOTES

1 Errors were found in the last three columns of the original tables and have subsequently been corrected.

2 This subtype motel unit includes the twin unit.

3 The three star motel is the lowest of the five categories. It is generally described as adequate. It is of a good standard of construction and appearance, with self-contained kitchen, refrigerator, cooking facilities and utensils. Its furnishing is comfortable and includes television, heating and carpeting.

The three star plus motel is described as good. It provides the high standard of three star amenities, plus sound proof walls between units, and where the units accommodate more than two people, the only access to the bathroom/toilet is not through a bedroom.

The four star motel in addition to the amenities of the three star plus motel provides tasteful furnishing, easy chairs, telephone, piped music and reading lights above all beds. This motel is described as very good.

The four star-plus motel is graded excellent. It incorporates all four star amenities with extra attention given to detail and equipment. Besides having a full size range and full size beds, this motel may, when the need arises, make provision for sleeping in the lounge on fully made up divan beds, but only if this lounge is completely separated from the kitchen and access to the bathroom/toilet is not through a bedroom.

The five star motel has individual bedrooms with no provision whatsoever for sleeping in the lounge and provides off-street under cover vehicle parking. This motel is considered to be of luxury standard and features spaciousness, attention to detail in furnishing and a superior standard of service and management.

## CHAPTER 4

SPATIAL DIFFERENTIATION IN THE SUPPLY  
OF MOTELS IN THE MANAWATU

This chapter attempts to account for the local variations in motel characteristics described in the previous chapter.

Centres in the Manawatu were categorised on the basis of size determined by their total dollar volume of retail and service sales. This information, derived from the Census of Distribution 1972-1973, was used to assess the importance of motels in relation to the economic importance of centres.<sup>1</sup>

The first category comprised centres where total retail and service sales<sup>2</sup> exceeded \$100 million, the second between \$100 million and \$10 million and the final category less than \$1 million. These categories coincided with the types of centres identified in the Manawatu which may be broadly classified as: regional, subregional, market towns and recreation centres (Table 4.1).

An apparent anomaly is evident in the classification of Sanson and Waikanae. On the criterion of total sales Sanson is a market centre. It does not, however, have the locational attributes (beach environment) of Himatangi and Waitarere and to have placed it in the same category would have been inappropriate. Waikanae, on the other hand, is known for its recreational environment and is identified with the current promotion of the Kapiti Coast as a tourist area. Waikanae was therefore classified as a recreation centre and Sanson as a market centre.

Having classified the centres into regional, subregional, market and recreation centres, the spatial variations in size, types of units, capacity, quality and occupancy pattern were examined.

TABLE 4.1

CLASSIFICATION OF TOWNS ACCORDING TO  
TOTAL RETAIL AND SERVICE SALES

TYPES OF CENTRE	CENTRES	TOTAL RETAIL AND SERVICE SALES <sup>a</sup> (in \$1,000)
Regional	Palmerston North	1,118,116
Subregional	Levin	300,828
	Feilding	212,976
Market	Otaki	49,580
	Foxton	44,683
	Sanson	8,738
Recreation	Waikanae	32,508
	Waitarere	2,293
	Himatangi	1,629

Notes: a Data on service sales for market and recreation centres were obtained from the Department of Statistics, Auckland.

Source: Department of Statistics, 1977a.

#### SIZE AND TYPES OF UNITS

The provision of goods or services at a location is usually a response to demand. If this is also true in the case of motel service, the size of motels and the types of units existing at different locations may be taken to reflect clientele demand. No significant differences were found between client characteristics at the different centres. This suggested that there would also be no significant difference between locations with regard to size of motel, and types of units (service and kitchen).

To test these assumptions motels at the regional centre, Palmerston North, were compared with motels in all other centres, more detailed comparison by each type of centre being considered inappropriate due to the small number of motels in some centres.

Table 4.2 shows the number and percentage of the two types of units found at the two areas.

TABLE 4.2

UNIT TYPES AT DIFFERENT AREAS  
(Number and Percentage)

AREA	UNIT TYPES					
	SERVICE N	%	KITCHEN N	%	TOTAL N	%
Regional Centre	103	41.8	143	58.1	246	99.9
Other Centres	17	14.6	99	85.3	116	99.9
Manawatu	120	33.1	242	66.8	362	99.9

Source: Field Survey, May, 1980

For the Manawatu as a whole, thirty-three percent of the total motel units were the service type and sixty-seven percent kitchen type. The proportions for the regional centre were forty-two and fifty-eight percent respectively and for all other centres fifteen and eighty-five percent. A one tail z-test for the significance of difference between percentages showed that the proportion of service type units at the regional centre was significantly larger than at other centres ( $z = 5.24$ ) and kitchen type units were significantly more important in other centres compared with the regional centre ( $z = -5.32$ ).

Table 4.3 provides a breakdown of the units types into subtypes for the regional and other centres.

The average motel at the regional centre comprised twelve units of which four were service double, one service family, three kitchen double and four kitchen family. The average motel at the other centres comprised six units of which one was service double, three kitchen double and two

TABLE 4.3  
DISTRIBUTION OF UNIT TYPES AND SUBTYPES  
AT DIFFERENT CENTRES

AREA	UNIT TYPE						TOTAL NUMBER OF UNITS
	SERVICE			KITCHEN			
	S	D	F	S	D	F	
Regional Centre	-	82	21	-	60	83	246
Mean	-	4.3	1.1	-	3.2	4.4	13.0
Other Centres	5	12	-	-	54	45	116
Mean	0.3	0.8	-	-	2.8	2.3	6.2
Manawatu	5	94	21	-	114	128	362
Mean	0.1	2.7	0.6	-	3.3	3.7	10.4

S single

D double or twin

F family

Source: Field Survey, May 1980

kitchen family. A hypothesis of no significant difference in the average size of motels between the area was formulated. Using a one-tail t-test, it was found that the average size of motels at the regional centre was significantly larger than motels at other centres ( $t = 1.18$ , 33df).

Significant difference in means of the various subtypes was not expected between the regional and other centres. However, t-tests revealed that service double ( $t = 1.81$ , 33df) and kitchen family ( $t = 0.73$ , 33df) type units were more evident at the regional centre. Furthermore service family units were present only at the regional centre and service single units at other centres. These findings were clearly significant. However, no significant difference was evident for kitchen double units and there were no kitchen single units in the region.



These findings, indicating significant areal difference between motels was unexpected because significant areal differences in the distribution of client characteristics (group size in particular which may be related to demand) was not evident. The present findings, however, provide evidence that the type and subtype units found at motels is not a response to demand but rather that demand is a response to the available supply of motels. The following evidence supports this assertion.

Firstly, it is surprising that while business tourists represented the highest proportion (thirty-two percent) of tourists in the region, fifty percent of them travelling alone, that single service units should comprise only one percent of the total number of motel units in the Manawatu.

Secondly, Local Authorities amended their By Laws in 1970 to allow more flexibility in design, yet of all the new units built since this date only three were single service units. Even prior to 1970, when planning requirements imposed design limitation on motels in New Zealand which resulted in the building of mainly single and double units, the Manawatu had only two single service units. This suggests that the rare occurrence of single service units may be due to the low profitability of this subtype due to the narrow margin between operating costs and tariff charged. This view, however, is speculative since data on operating costs of unit subtypes were not collected in the survey.

The significantly larger size of the average motel at the regional centre compared with other centres, previously mentioned, may be due to the larger number of relatively new motels at the regional centre. The Tourism Advisory Council (1978a) reported that the average size of motels in New Zealand had increased from six units in 1969 to nine units in 1977 which suggested that motels built prior to 1969 generally comprised a smaller number of units relative to those built after 1969. Since 1969, twelve motels with an average number of thirteen units were built in the regional centre, and seven motel units with an average number of ten units in other centres. It may therefore be concluded that there is a significant difference in the size

of the average motel between the regional and other centres and this difference is due in part to the building of more motels at the regional centre than other centres after 1969.

It may also be concluded that the types of units provided by motels is determined by the moteliers' expectation of profits. It is more profitable to provide double units which may be used by several people even if they are not always fully occupied than single units which accommodate restricted numbers. The type of units provided therefore is a response to moteliers' notions of supply rather than clients' demand.

#### CAPACITY OF MOTELS

The capacity of motels in the Manawatu ranged from twelve to eighty-five units. The mean motel capacity for the region as a whole was thirty-four, for the regional centre, thirty-nine, and for other centres, twenty-nine units.

Since the capacity and size of a motel is related and a significant relationship was found between size and location in the preceeding analysis, a difference in the average capacity of motels was expected between the regional centre and other centres. A significant difference was in fact found ( $t = 3.49$ , 33df). Tests also revealed an inverse relationship ( $r = -0.12$ , 33df) between capacity and age of motel and lent further support to the explanation of the relationship between motel size and age previously discussed.

#### QUALITY OF MOTELS

The New Zealand standard of motel facilities and services, according to the Tourism Advisory Council report, improved in the period 1969-1977. This improvement presumably was due to the demand for better services and facilities and competition among moteliers to meet the demand to win a larger share of the market. The areal distribution of motels of various grades, which is indicative of quality, is shown in Table 4.4.

TABLE 4.4  
MOTEL AND GRADES IN THE MANAWATU

CENTRES	GRADES (STARS)					TOTAL
	3	3+	4	4+	5	
Palmerston North		4	14	1		19
Levin		2	2			4
Feilding		1	1			2
Otaki		2				2
Foxton		1	1			2
Waikanae			3			3
Sanson			1			1
Waitarere		1				1
Himatangi	1					1
Total	3	11	22			35
Percentage	2.9	31.4	62.9	2.9		100.1

Source: Automobile Association, 1980

Sixty-two percent of motels in the Manawatu were of the Four Star grade and of these sixty-four percent were located at Palmerston North, fourteen percent at Waikanae, nine percent at Levin, and five percent each at Feilding, Foxton and Sanson. There was only one motel of Three Star and Four Star Plus grades in the region. The percentage of motels of Three Star Plus and below, and Four Star and above, was not significantly different between the regional centre and other centres.

The areal distribution in motel grades was thought to be related to the intensity of competition as a consequence of the nature of the motel accommodation market. The assumptions of perfect competition, valid for some industries, do not appear to apply to the motel industry. The assumptions of perfect competition<sup>3</sup> are:

1) Producers aim to maximise their profits and consumers their utility.

2) There are a large number of potential buyers and sellers.

3) All actual and potential buyers and sellers have perfect knowledge of all existing opportunities to buy and sell.

4) Buyers are indifferent to all units of commodity offered for sale, that is, they view all units of the product as homogeneous.

5) Factors of production are perfectly mobile.

The first assumption, when considered in relation to the region's motel industry, implied that profit maximization is the economic motive of all moteliers. As previously mentioned, some moteliers claimed that profit maximization was not their aim but that motelling was adopted because it requires only basic managerial skills and provided a pleasant way of meeting people. Profit maximization therefore seemed to be the aim of only some moteliers. No comment may be made on the motive of utility maximization on the part of motel clients since the questionnaire was not designed for this purpose.

The second assumption implies that the number of actual (or potential) motels and clients are so large that the individual motelier or client does not affect tariffs. Furthermore, the possibility of collusive agreements among moteliers or motel clients to exert an influence on prices are precluded. While the first implication may hold even though the number of motels in the region is small, the implication of a large market does not. This presumably is a factor causing several motels in the region to offer lower 'tourist rates' for clients travelling as conducted tour groups.

The third assumption, that all actual and potential clients and moteliers have a perfect knowledge of all existing opportunities to buy and sell motel services, is

obviously unrealistic. Motel accommodation seekers are frequently unaware of the prices charged by other motels. In the case of moteliers, knowledge of tariffs charged by other moteliers can only influence tariffs at the end of a fixed period of time, usually three months, and increased tariffs are usually more a result of increased costs than of competition with other motels.

The fourth assumption, that consumers view all units of the product as homogeneous, cannot be upheld because taste and needs differ from one group of motel users to another. A businessman, for example, may select a motel close to the city centre while a family group may prefer one that is outside the city with provision for open space and outdoor recreation facilities.

Finally, the assumption of perfect mobility in factors of production is untenable because of mobility constraints on the production factors: land, capital and entrepreneurship. Zoning, Ordinance and Building Codes impose restrictions on what may be built and interest rates and market conditions influence the types of venture into which capital is put. It is also evident that a host of factors may influence an entrepreneur to move from one location or type of business to another.

It is clear, therefore, that neither perfect competition nor absolute monopoly is operative in the market for motel accommodation. The market may be described as imperfect. Accommodation as a product may be differentiated by appearance and style, services and prices. Each motel is to some extent a oligopolist because no other motel provides identical services and motels compete with one another to win a larger share of the demand for motel accommodation.

Theoretically competition encourages firms to improve the quality of their product. This suggests that better quality motels are more generally found at locations where there are many motels. A hypothesis of a positive relationship between the number and quality of motels at centres was formulated. Centres were ranked according to their number of motels, and motels according to their grades. A positive

and significant relationship was found between grades and number of motels ( $r_s = 0.57$ , 7df).<sup>4</sup> The hypothesis was therefore accepted.

It was suspected, however, that grades were inversely related to the age of motels and that this would have reduced the relationship between the number and quality of motels. Analysis of these variables, however, did not show any significant relationship ( $r_s = 0.08$ , 33df). The age of motels and their grades were not related. It may be concluded, therefore, that the quality of motels was positively related to the intensity of competition measured by the number of motels at a location.

#### OCCUPANCY RATES

A characteristic of tourism in New Zealand is seasonality. This section considers local variations in seasonality, defined as the general occupancy pattern, of motels in the Manawatu and the factors that may be the cause of these variations.

Moteliors were asked to indicate whether their monthly occupancy rate was constant or variable, and if variable the months of highest and lowest occupancy. Palmerston North, the regional centre, was expected to show a larger number of motels with constant rather than variable occupancy because of the city's importance as a business centre to a tributary region which embraces the Manawatu, Southern Hawke's Bay and Northern Wairarapa. The city is also a node for important transport routes from cities as widely separated as Auckland, New Plymouth, Gisborne and Wellington. These attributes suggested a likely constant flow of visitors to the city and, by implication, a constant rate of demand for motel accommodation. Other centres were expected to show a higher number of motels with variable rather than constant occupancy because the more limited economic importance of these centres probably lessens their capacity to draw a constant number of visitors.

Two hypotheses were proposed to test these assumptions:

Hypothesis 1: The proportion of motels with constant and



variable occupancy rates was significantly different between the regional and other centres.

Hypothesis 2: The proportion of motels with a constant occupancy rate was significantly higher at the regional centre than at other centres.

Sixty-six percent of moteliers claimed a variable occupancy rate (Table 4.5). The number of motels with constant occupancy rates was nearly equal to those with variable occupancy rates. On the other hand, eighty-eight percent of motels at other centres experienced variable occupancy.

TABLE 4.5

## OCCUPANCY RATES FOR MOTELS IN THE MANAWATU

CENTRES	OCCUPANCY RATES					
	Constant	%	Variable	%	Total	%
Regional Centre	10	52.6	9	47.4	19	100
Other Centres	2	12.5	14	87.5	16	100
Total	12	34.3	23	65.7	35	100

Source: Field Survey, May 1980.

Hypothesis 1 was tested by a chi-square test which incorporated the Yates Correction. The proportion of motels with variable and constant occupancy was found to be significantly different between the regional centre and other centres ( $\chi^2 = 4.36$ , 1df). The hypothesis was therefore accepted. Hypothesis 2 was tested using a t-test for testing the significance of difference between two proportions ( $t = 2.131$ , 33df). The hypothesis was accepted. The proportion of motels with constant occupancy was therefore significantly different and larger at the regional centre

than at other centres.

The twenty-three motels which experienced variable occupancy rates were further examined to see if the months cited as those providing highest occupancy were related to the location of motels. In most cases, however, more than one month was cited as providing highest and lowest occupancy. The terms 'highest' and 'lowest' were therefore replaced by the terms 'high' and 'low' occupancy. The implication of this modification on the interpretation of the findings will be discussed later in this section.

Figure 4.1 shows the frequency with which each month was cited as providing 'high' occupancy.

Generally, motels at recreation and market centres experienced high occupancy in the month of January. The months of March and May were ones of high occupancy at the regional centre while high occupancy at subregional centres occurred in January, March and May. The probable explanation for these local variations lies in the attributes of the centres themselves. Motels at recreation centres received a clientele of mostly holidaymakers (forty-six percent). These motels are sited near the beach and weather is an important element that influences the annual occupancy pattern. The school holiday month of January, with high sunshine hours, brings a large number of visitors to these locations relative to other months.

Motels at market centres also experienced high occupancy in January. The survey showed that seventy-four percent of the clientele for these motels were transient tourists. The location of these centres favoured the occupancy pattern of their motels, the pattern itself being influenced by the general seasonality of domestic travel for the nation as a whole which peaks in January (Figure 4.2). The main highway location of Foxton, Otaki and Sanson make them convenient night stops for south-bound travellers heading for the ferry terminal at Wellington the next morning. It is also probable that Sanson is the town which northbound travellers try to reach after disembarking at the ferry terminal in the evening and proceeding northwards



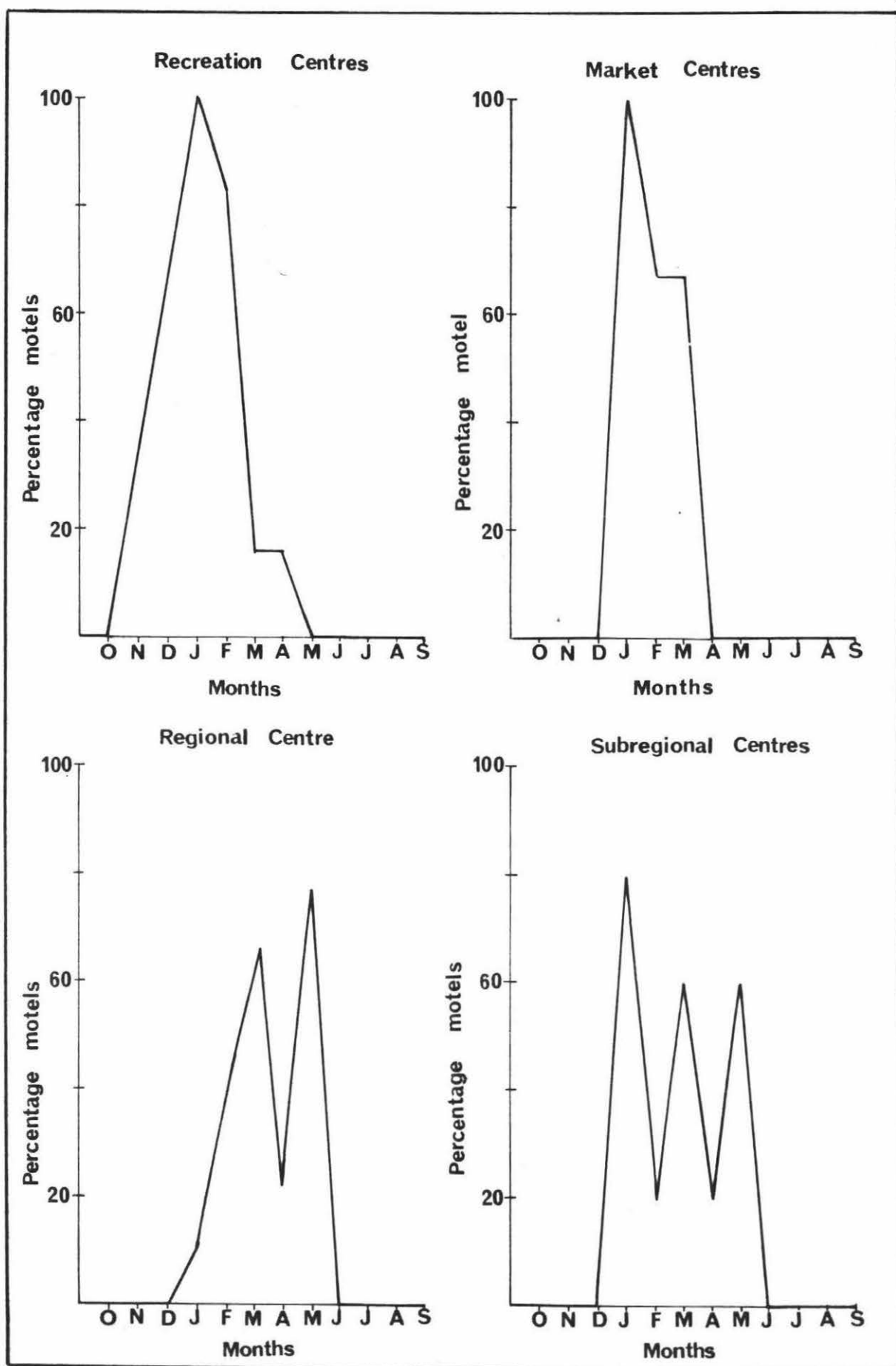


Figure 4.1: Percentage of Motels at Various Centres with High Occupancy at Different Times of the Year.

Source: Field Survey, May 1980.

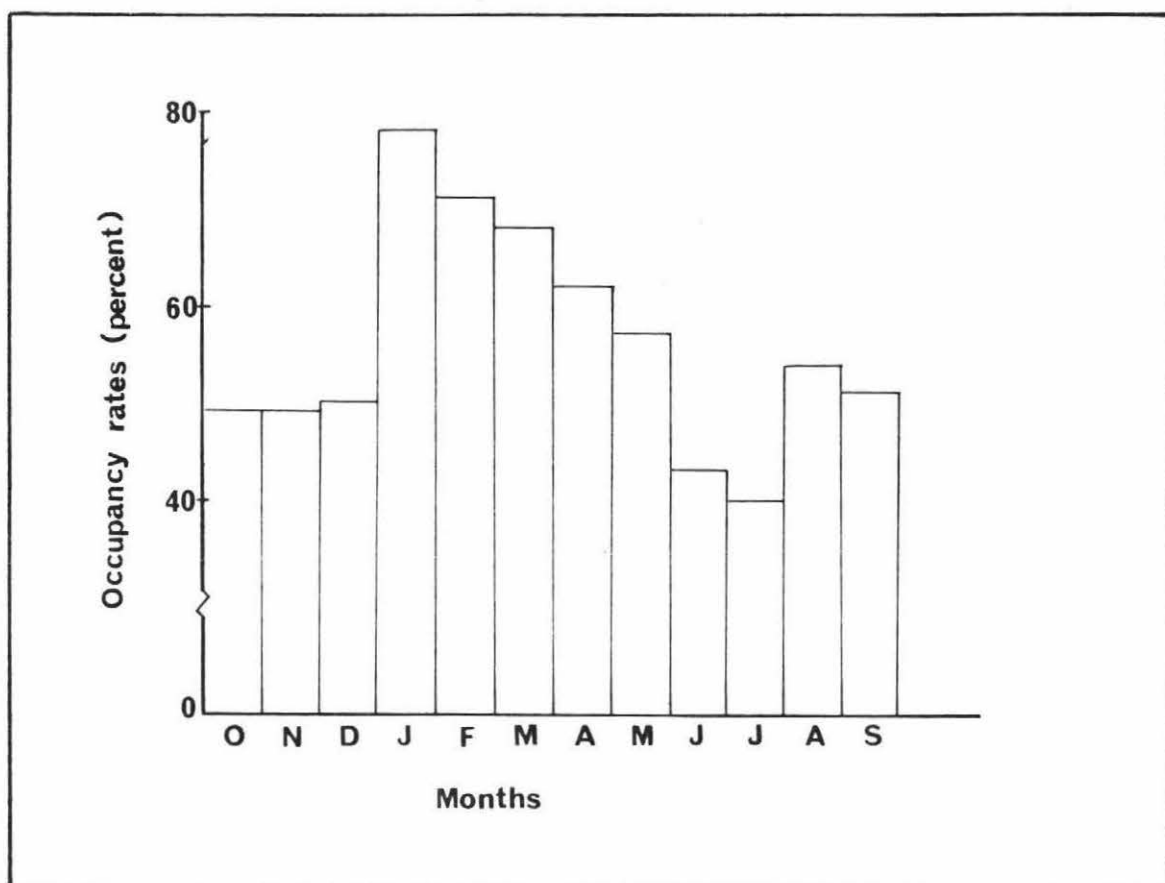


Figure 4.2: The National Average Monthly Occupancy Rate for Motels in New Zealand

Source: Tourism Advisory Council, 1978a, p.33.

as far as possible before nightfall.

The incidence of high occupancy in March and May at the regional centre may be due to the importance of the city as a business, education and conference centre. Vacation courses held in May for extramural students at Massey University result in a temporary high demand for motel accommodation. More conferences are also held in the city and the university in this month than in any other month of the year.<sup>5</sup> The May school holiday provides an additional boost to the demand for accommodation by holiday-makers. The reason for the high occupancy in March is not clear.

High occupancy for motels at the subregional centres occurred in January, March and May. The school holiday

periods may be the factor that accounted for the high occupancy in January and May. The reason for high occupancy in March is again not clear.

Two limitations are obvious in the preceeding analysis. The first is a lack of definition of 'high' and 'low' occupancy. The original intention was to analyse areal variation in the month cited as providing 'highest' and 'lowest' occupancy respectively. Multiple answers provided by moteliers necessitated the use of the imprecise terms 'high' and 'low' which made quantification difficult. The second limitation is that factors suggested as responsible for local variations could not be adequately tested because of the limited time period in which the survey was conducted.

In summary, bearing these limitations in mind, the analysis confirms the existence of local variations in monthly occupancy rates. It suggests that high occupancy is experienced by market and recreation centres in the month of January, the regional centre in March and May and the subregional centres in January, March and May. The monthly fluctuation in occupancy rates at market centres is thought to be due to the location of these centres in relation to the highway that leads to the ferry terminal at Wellington. Variations at recreation centres is almost certainly related to climatic seasons and at the regional centre to the importance of the city as an education and conference centre. Variations at subregional centres seem to be accounted for by the school holidays.

#### ACCESSIBILITY AND OCCUPANCY RATES

Accessibility is a concept that is usually employed in a relative sense. A site that has good accessibility is one that can be easily reached by its customers. Easily reached implies less friction<sup>6</sup> and accessibility is a strong influence on the chances of success.

The aim of this section is to determine whether accessibility in terms of visibility of site had any bearing on the occupancy rates of motels. This has implications for potential investors since profit is generally related to patronage.

Evaluating accessibility does not always lend itself to measurement techniques as it comprises various elements some of which are difficult to quantify (Cohen and Applebaum, 1960). While elements such as road surface conditions and time-distance is quantifiable, it is more difficult to measure such elements of accessibility as traffic flow and visibility.

Accommodation is a site-sensitive business (Bayliss, 1970) because clients are often visitors who are not familiar with the roads of the local area. Assuming all sites to be equally endowed with other elements of accessibility, for a motorist, a motel sited on an arterial road is more visible than on a circuitous or distant route. The first motels seen by the motoring traveller are usually those located along highways or arterial roads leading to the heart of the centre. This assumption led to the formulation of two hypotheses:

Hypothesis 1: The proportion of motels at arterial road sites was significantly higher than the proportion of motels at non-arterial road sites.

Hypothesis 2: The proportion of motels sited at arterial roads with constant occupancy rates was significantly different from the proportion of motels sited at non-arterial roads with constant occupancy rates.

Motels in the regions are located on arterial roads, sub-arterial roads, minor streets and close to beaches (Table 4.6). Arterial roads are extensions of the highway to the heart of a centre. Sub-arterial roads are main branchings of arterial roads while minor streets are relatively shorter roads which extend from sub-arterial roads.

In order to test the hypotheses, sub-arterial roads, minor streets and beaches were grouped into one category to represent non-arterial road sites (Table 4.7).

Inspection of data showed that hypothesis 1 could not be upheld. A chi square analysis showed that although the proportion of motels sited on non-arterial roads was larger

TABLE 4.6

## MOTELS AND TYPES OF SITES

SITE	MOTELS	PERCENTAGE
Arterial roads	15	42.9
Sub-arterial roads	11	31.4
Minor Streets	5	14.3
Beaches	4	11.4
Total	35	100.0

TABLE 4.7

A 2X2 CONTINGENCY TABLE FOR SITE  
AND OCCUPANCY RATES OF MOTELS

SITE	OCCUPANCY RATES	
	Constant	Variable
Arterial roads	6	9
Non-arterial roads	6	14

than the proportion sited on arterial roads, the difference was not significant ( $\chi^2 = 0.71$ , 1df). Hypothesis 2 was also rejected ( $\chi^2 = 0.38$ , 1df). Accessibility in terms of visibility, therefore, was not found to influence the occupancy pattern of motels. The findings suggest that visibility is not an important element of accessibility in the motel business. It was considered possible, however, that the smallness of most centres could have influenced the result but tests for the significance of site on

occupancy rates for motels at the regional centre also failed to support this assumption. The implication of these findings for potential investors in the motel business in the Manawatu, assuming other factors remain unchanged, is that site visibility does not influence profits.

#### SUMMARY

This chapter has, by examining several variables, attempted a spatial differentiation of the supply of motel accommodation in the region. Findings suggested that motels at the regional centre were distinct from and larger than motels at other centres in terms of size, capacity, service type units and all subtypes except for kitchen double units.

It was argued that imperfect rather than perfect competition operated in the motel industry and local variation in the quality of motels was attributed to the degree of competition afforded by the existence of other motels. The larger the number of motels at a centre, the higher the number of higher grade motels.

Local variations were also evident in occupancy rates. These variations were accounted for by the attributes of the centres themselves. Visibility as a component of accessibility was found not to be related to occupancy rates which implied that site visibility has no significant influence on the chances of success for a new motel, assuming other factors remain unchanged.

## FOOTNOTES

- 1 At the time of the study a more recent Census of Distribution Report was not available.
- 2 Data for Retail Sales were obtained from the Census of Distribution 1972-1973 whereas those for service sales were obtained from the Department of Statistics, Auckland.
- 3 In economic theory, the types of markets for industries range from perfect competition to pure monopoly. Perfect competition refers to a market situation where there are many buyers and sellers; oligopoly many buyers, several sellers; duopoly, many buyers, two sellers; monopoly, many buyers, one seller.
- 4 In this and the following calculation of Spearman rank correlation, the correction factor T was included.
- 5 This information was obtained from the Accommodation Officer at Massey University and the Public Relations Office at Palmerston North.
- 6 Friction here refers generally to hindrance which may be in the form of extra travel costs and time or less personal or vehicle safety in getting to the site.

## CHAPTER 5

THE SPATIAL PATTERN OF DEMAND FOR MOTELS  
IN THE MANAWATU

The previous chapter provided a brief analysis of the of the spatial pattern of supply of motel accommodation in the Manawatu. The present chapter complements this analysis by considering the nature, causes and spatial variations of demand within the region.

Coppock and Duffield (1975) in their study of the economic impact of tourism on Greater Tayside identified five types of communities: nodal towns, highland centres, seaside towns, rural areas and special activity centres. They found that the economic impact of tourism on income and employment differed in these five types of communities because the impact was affected by the size, character and degree of economic self-sufficiency of each community. Each type of community also attracted different types of tourists in varying proportions and as a consequence, the resulting impact of their combined expenditure differed between communities.

While the present study differs from that of Coppock and Duffield in that it is not primarily concerned with the impact of tourism on the regional economy, their findings suggested that a similar disaggregation of community types would be useful.<sup>1</sup> In the previous chapter four centre types - regional, subregional, market and recreation were used to consider spatial patterns in the supply of motel accommodation. This chapter employs the same classification of centres to explore the relationship between centre type and client characteristics which include age, sex, group size, type of tourist, purpose of journey, source and destination. The chapter concludes by considering whether the attractions offered by some motels is a sufficiently powerful factor to influence demand.



## AGE, SEX AND GROUP SIZE

It was anticipated that differences in age, sex and group size variables would show a significant relationship to whether clients were transient or destination visitors, to their purpose of travel and especially to their destinations within the region. Chi square tests and Pearson Product Moment Correlation analysis, however, failed to reveal any such relationship. Tables 5.1 to 5.3 record the information collected on these variables. The majority of clients were in the thirty-one to forty age group; most were travelling as families (thirty-eight percent), with one companion (thirty-seven percent), or alone (twenty-five percent, Table 5.2); the modal group size was two, with few groups exceeding four persons (Table 5.3). Sixty-eight percent of clients were male.

TABLE 5.1

## MOTEL CLIENTS: BROAD AGE GROUPS

AGE	NUMBER	PERCENTAGE
20 and Under	42	6.8
21 - 30	131	21.3
31 - 40	170	27.7
41 - 50	131	21.3
51 - 60	83	13.5
Over 60	57	9.5
Total	614	99.9

Source: Field Survey, May 1980

TABLE 5.2

MOTEL CLIENTS: TRAVELLING ALONE  
AND WITH COMPANIONS

TRAVELLING WITH	NUMBER	PERCENTAGE
Alone	153	24.9
One Companion	227	37.0
More than one companion	3	0.5
Family	231	37.6
Total	614	100.0

Source: Field Survey, May 1980

TABLE 5.3

MOTEL CLIENTS: GROUP SIZE

NUMBER OF PERSONS	NUMBER	PERCENTAGE
1	153	24.9
2	227	37.0
3	76	12.4
4	85	13.8
5	39	6.4
6	12	1.9
7	3	0.5
8	2	0.3
Unknown	17	2.8
Total	614	100.0

Source: Field Survey, May, 1980

# TYPES OF TOURISTS: TRANSIENT AND DESTINATION

Transient tourists refers to visitors whose purpose of travel was to be, or had been, fulfilled at another centre at the time of the survey.<sup>2</sup> Destination tourists were visitors whose purpose of travel was fulfilled at the centre at which the motel was located.

The spatial distribution of these two types of clients was expected to vary with the type of centre. A significantly higher proportion of destination visitors relative to transient visitors was expected at the regional and recreation centres than at subregional and market centres due to the diverse economic and social function of the regional centre and the specific vocational attributes of recreation centres. Overall, sixty-four percent of motel clients were destination and thirty-six percent transient visitors (Table 5.4) and their spatial distribution showed three discernible groups of centres (Figure 5.1).

TABLE 5.4

## DISTRIBUTION OF DESTINATION AND TRANSIENT TOURISTS IN THE MANAWATU<sup>a</sup>

CENTRES	DESTINATION	%	TRANSIENT	%	TOTAL	%
Palmerston North	274	79.4	71	20.5	345	99.9
Levin	48	46.1	56	53.8	104	99.9
Feilding	9	45.0	11	55.0	20	99.9
Otaki	8	36.3	14	63.6	22	99.9
Foxton	10	22.2	35	77.7	45	99.9
Waikanae	33	73.3	12	26.6	45	99.9
Sanson	4	21.0	15	78.9	19	99.9
Waitarere	2	66.6	1	33.3	3	99.9
Himatangi	8	72.7	3	27.2	11	99.9
Total	396	64.5	218	35.5	614	99.9

Notes: a For definitions of the terms 'destination' and 'transient', see text above.

Source: Field Survey, May 1980

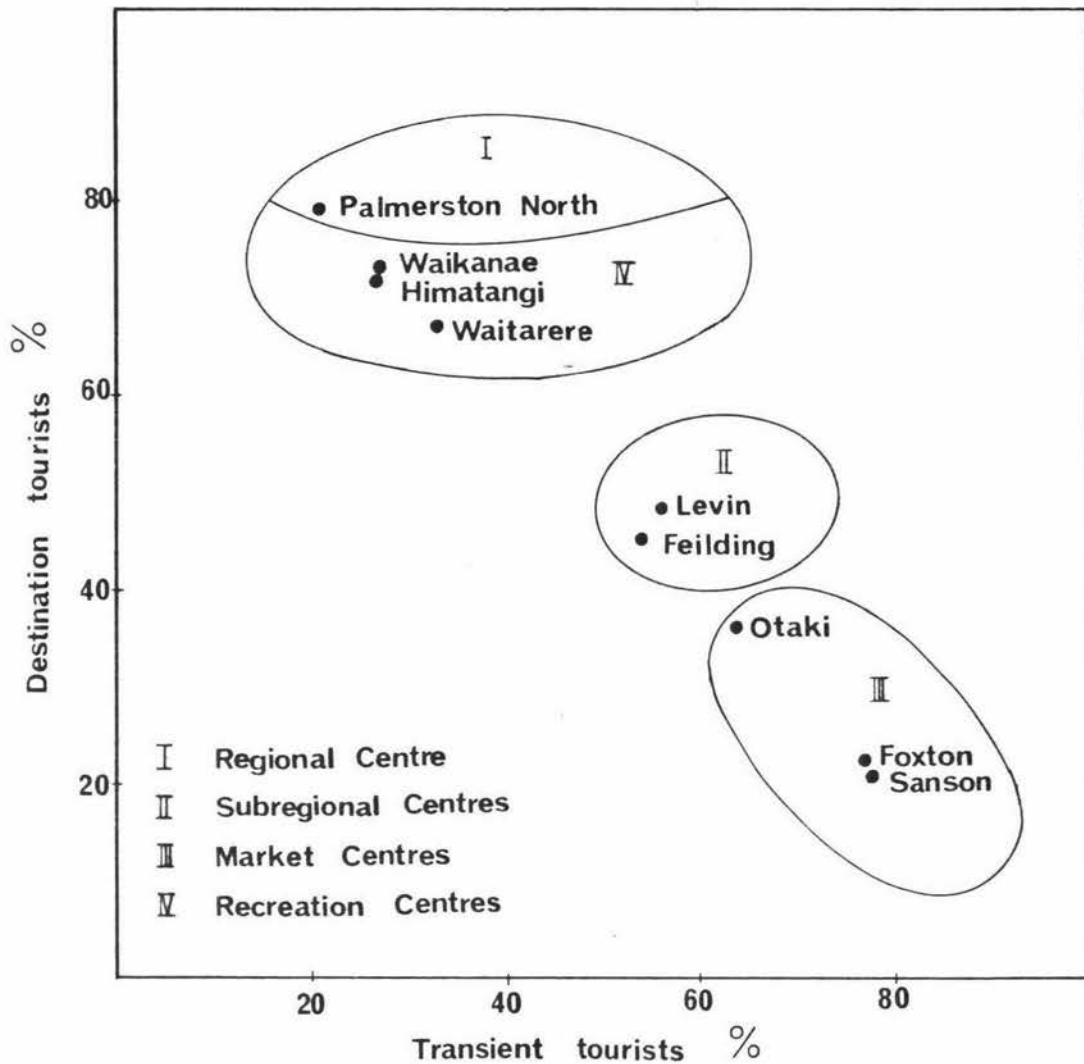


Figure 5.1: Types of Tourist and Centres

Source: Field Survey, May 1980

Destination tourists were predominant at the regional centre, Palmerston North (Group I) and the recreation centres of Himatangi, Waitarere and Waikanae (Group IV). Subregional centres, Levin and Feilding (Group II), received approximately equal numbers of transient and destination tourists whereas tourists at Otaki, Foxton and Sanson (Group III) were predominantly of the transient type. A chi-square test confirmed that the distribution of transient

and destination visitors was significantly different between the three groups of centres ( $\chi^2 = 98.9$ , 2df).

Explanation of this spatial variation is thought to be related to the previously mentioned location of the individual centres relative to highway routes and to their economic function. The high proportion (80 percent) of destination visitors to Palmerston North may be accounted for by the vigour of its commercial sector and its business relations with other regional centres in the country. Its importance as a conference and education centre at Massey University also contributes to the high percentage of destination visitors. Business (35 percent), education (22 percent) and visiting (23 percent) were the purposes most frequently claimed by destination visitors to Palmerston North. The predominance of destination tourists at Himatangi Waitarere and Waikanae is clearly due to their being recreation centres. Holidaying was mentioned as the purpose of travel for forty-four percent of all visitors and sixty percent of destination visitors to these centres. The importance of transient tourists at Sanson, Foxton and Otaki, as previously noted, was probably due to their being convenient night stops for north and south-bound travellers to and from Wellington and the South Island.

#### PURPOSE OF JOURNEY

The purpose of journey (which includes purpose of travel of transient tourists and purpose of visit of destination tourists) was divided into six categories: business, visiting, holiday, sports, education and migration. Visiting included reunions, social visits, weddings, visiting at hospital and bereavements. Holiday referred to recreational and relaxation activities. Education referred to conferences and extramural vacation courses. Sports included both spectators and participants. Migrants referred to visitors who were using the motel as a temporary home until alternative and more permanent residence was found. The relative importance of the types of visitors to the Manawatu is shown in Table 5.5 and Figure 5.2 which shows that business, visiting and holiday are the three major groups of visitors in the region.

TABLE 5.5  
PURPOSE OF JOURNEY OF DESTINATION AND TRANSIENT TOURISTS

PURPOSE OF JOURNEY	DESTINATION TOURISTS	PERCENTAGE	TRANSIENT TOURISTS	PERCENTAGE	TOTAL TOURISTS	PERCENTAGE
Business	140	35.4	59	27.1	199	32.4
Visiting	92	23.2	37	17.0	129	21.0
Holiday	69	17.4	46	21.0	115	18.7
Education	60	15.1	-	-	60	9.8
Sports	23	5.8	10	4.6	33	5.4
Migration	12	3.0	-	-	12	2.0
Unknown	-	-	66	30.3	66	10.7
Total	396	99.9	218	100.0	614	100.0

Source: Field Survey, May 1980

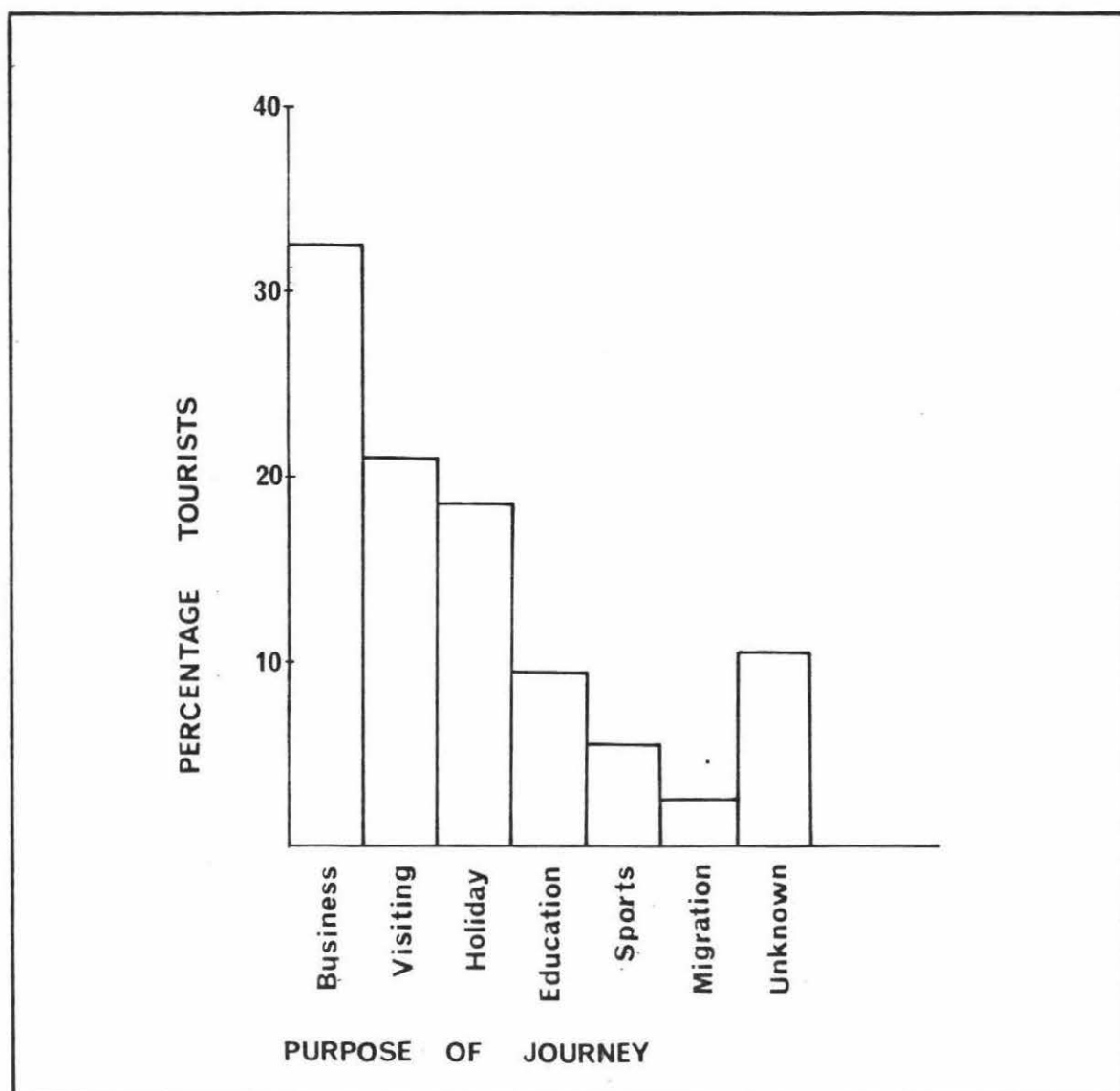


Figure 5.2: Purpose of Journey (Percentage)

Source: Field Survey, May 1980

A comparison between the Manawatu and other 'non-key tourist areas' in New Zealand with respect to purpose of travel by motel clients is attempted in Table 5.6. It should be noted, however, that the Tourist and Publicity Department data were obtained from estimates supplied by moteliors whereas the Manawatu survey sampled the clients themselves. It is also possible that there may be dissimilarities in category definitions. The Manawatu category 'holiday', for example, includes visitors and sports whereas the Department's definition may have placed sports in 'other', a category used in the Manawatu data for education and those seeking permanent accommodation.

TABLE 5.6

MOTEL CLIENTS' PURPOSE OF TRAVEL: THE MANAWATU AND  
THE AVERAGE NON-KEY TOURIST REGION IN NEW ZEALAND

PURPOSE OF TRAVEL	MANAWATU	NEW ZEALAND
Holiday	45.1	59.1
Business	32.3	27.0
Other	11.8	11.2
Unknown	10.8	2.7
Total	100.0	100.0

Sources: Tourism Advisory Council, 1978a, Appendix 8.  
Field Survey, May 1980

These reservations (and the larger proportion of unknown in the Manawatu survey) apart, it appears that the Manawatu was not a popular holiday destination even when compared with other non-key tourist areas in the country. Motel clients in the region mainly comprised those travelling on business or for education, temporary non-holiday visitors (such as those seeking permanent accommodation), and those in transit to other areas. Appendix 7 shows purpose of journey for individual centres in the Manawatu.

#### SPATIAL VARIATIONS AMONG DESTINATION TOURISTS

Destination tourists have been defined as those fulfilling their purpose of visit at the particular town which they were at at the time of the survey. It seems logical therefore to expect the characteristics of centre type to be reflected by the purpose of visit of destination tourists. The aim of this section is to find what particular purpose of visit was associated with each type of centre and to discuss factors which may account for variations.



Figure 5.3 and Table 5.7 show the distribution of destination tourists according to their purpose of visit by the four types of centre.

Chi-square tests showed that business tourists were observed to be more than expected at subregional and recreation centres ( $\chi^2 = 15.56$ , 3df), holidaymakers at recreation centres ( $\chi^2 = 62.74$ , 3df) and sports at market and subregional centres ( $\chi^2 = 19.31$ , 2df). No significant difference was evident in the distribution of visiting tourists ( $\chi^2 = 0.19$ , 3df).

The reason for the predominance of holidaymakers at recreation centres is fairly obvious. Proximity to the sea and related physical features make these towns ideal places for beach recreation and relaxation. The somewhat greater importance of sports visitors at subregional and market centres may be due to the Race Meeting at Foxton and the Under-15 Golf Tournament at Feilding during the week of the survey. The number of business tourists at recreation centres was due largely to those at Waikanae. This is not surprising considering the recent increase in the pace of industrial development on the Kapiti Coast. The thriving business sector accounted for the predominance of business tourists at subregional centres. Although no single purpose of visit dominated at the regional centre, it was the only centre which received education tourists, due to the location of Massey University.

The number of respondents using motels while seeking permanent accommodation was not large (12 out of 614), they comprised six percent of destination visitors and were most evident (10 out of 12) at the regional centre. If it is recalled that only one person in a group responded to the questionnaire (these groups were likely to comprise married couples and families) and that this category of tourist is likely to stay at a motel for a longer period of time than most other clients, the importance of those seeking permanent accommodation to the motel industry, especially in the larger centres which may attract more workers on transfer and promotion, will be readily appreciated. Figure 5.3 may

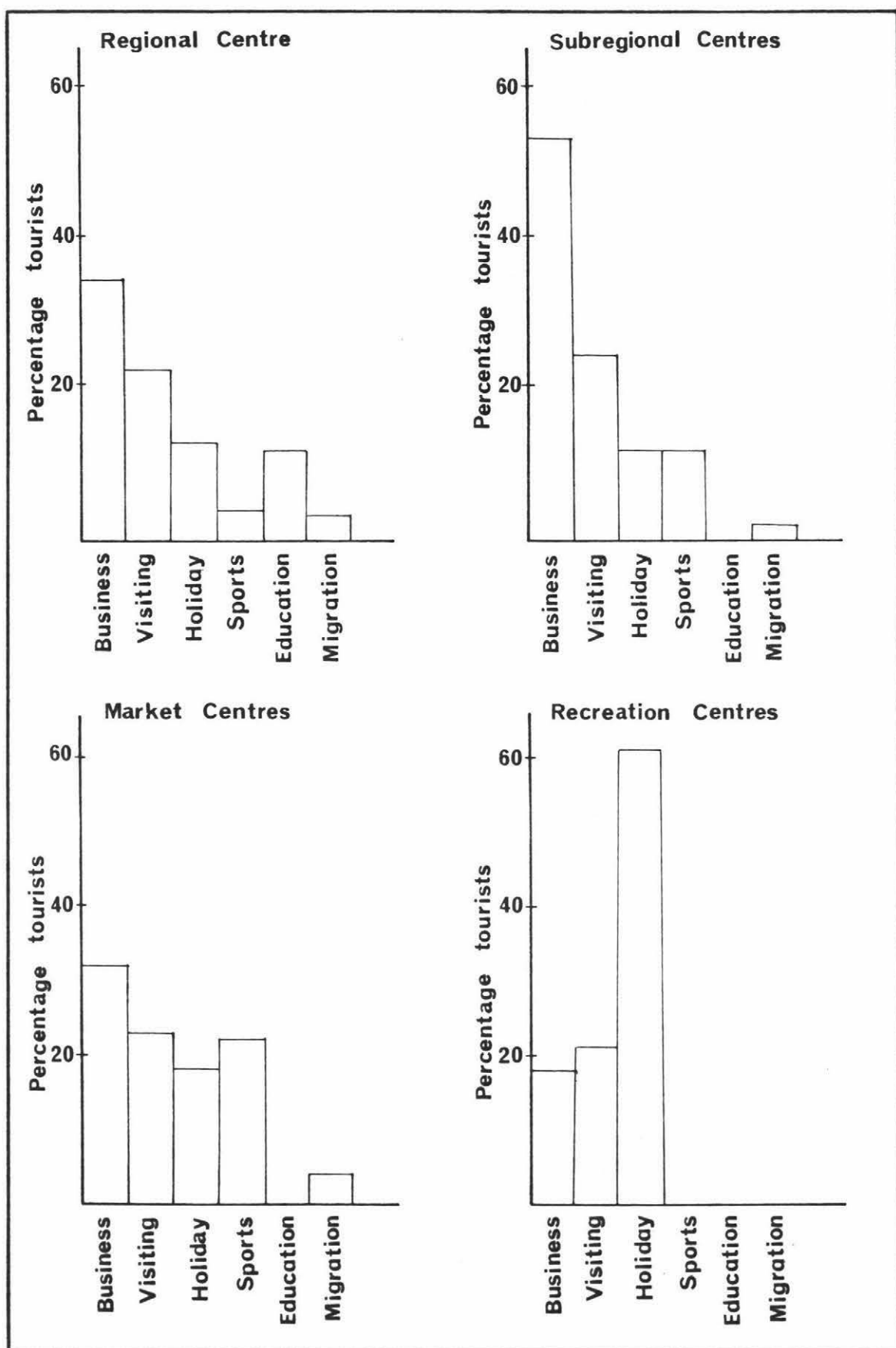


Figure 5.3 Distribution of Destination Tourists by Purpose of Visit at Types of Centres (Percentage)

Source: Field Survey, May 1980

TABLE 5.7  
DESTINATION TOURISTS BY PURPOSE OF VISIT AT TYPES OF CENTRES  
(NUMBERS AND PERCENTAGES)

TYPE OF CENTRE	PURPOSE OF VISIT													
	Business		Visiting		Holiday		Sports		Education		Migration		Total	
		%		%		%		%		%		%		%
Regional <sup>a</sup>	95	34.7	64	22.3	33	12.0	12	4.4	60	21.9	10	3.6	274	98.9
Subregional <sup>b</sup>	30	52.6	14	24.6	6	10.5	6	10.5	-	-	1	1.8	57	100.0
Market <sup>c</sup>	7	31.8	5	22.7	4	18.1	5	22.7	-	-	1	4.5	22	99.8
Recreation <sup>d</sup>	8	18.6	9	20.9	26	60.5	-	-	-	-	-	-	43	100.0
Total	140	35.4	92	23.2	69	17.4	23	5.8	60	15.2	12	3.0	396	100.0

Notes: a Palmerston North  
b Levin and Feilding  
c Foxton, Otaki, Sanson  
d Himatangi, Waitarere and Waikanae

Source: Field Survey, May 1980

not give the attention to this category of clients that they desire.

In summary, the following patterns were evident:

- 1) Business was the largest category in all but recreation centres.
- 2) Visiting shared equal importance in all four types of centres.
- 3) Sports was somewhat more important than holiday visitors at market centres, and it was also important at subregional centres.
- 4) Education visitors were only found at the regional centre.
- 5) No single purpose of visit category dominated at the regional centre or at market centres but 'business' was given as the purpose of visit for over one half (52.6 percent) of clients at subregional centres and 'holiday' for nearly two thirds (60.4 percent) at recreational centres.

#### THE SOURCES AND DESTINATIONS OF TOURISTS

The concept of a vacational hinterland is pivotal in studies of spatial patterns of tourism demand. Past research on this field (Wolfe, 1951; Deasy and Griess, 1966; Goldsmith, 1973; Rajotte, 1975) employed a narrow definition of tourism. A tourist was a holidaymaker or vacationer. Rajotte, for example mentioned that the primary interest of the tourist is invariably sightseeing and travelling.

Several studies on vacational hinterlands have been carried out in New Zealand (Goldsmith, 1973; Johnston et.al., 1976; Northland Regional Planning and Northland Travel Promotion, 1976). Pearce (1979b) used data obtained from the National Travel Survey (Tourist and Publicity Department, 1971) to define the vacation hinterland of the four metropolitan cities and showed that they were reasonably well defined. The vacational hinterland of Aucklanders, was Northland, Coromandel/Thames, Rotorua/Bay of Plenty and Wellington; for Wellington vacationers Marlborough, Manawatu and Auckland; for Christchurch vacationers, Marlborough,

North and Mid-Canterbury, South Canterbury/North Otago, and Otago, and for Dunedin vacationers South Canterbury/North Otago, Otago and Southland.

When a broad definition of tourism is used as in the present study, the vacational hinterland is one of the several hinterlands associated with tourism phenomena, the number and types of hinterland depending on the number of purposes of travel revealed by visitors as a whole. Knowledge of the tourist hinterland of the Manawatu should provide some indication of the relative importance of numbers, types of tourists (transient and destination) and purpose of travel from each region. In the present study, the permanent address was recorded as the source region (Figures 5.4, 5.5 and 5.6).

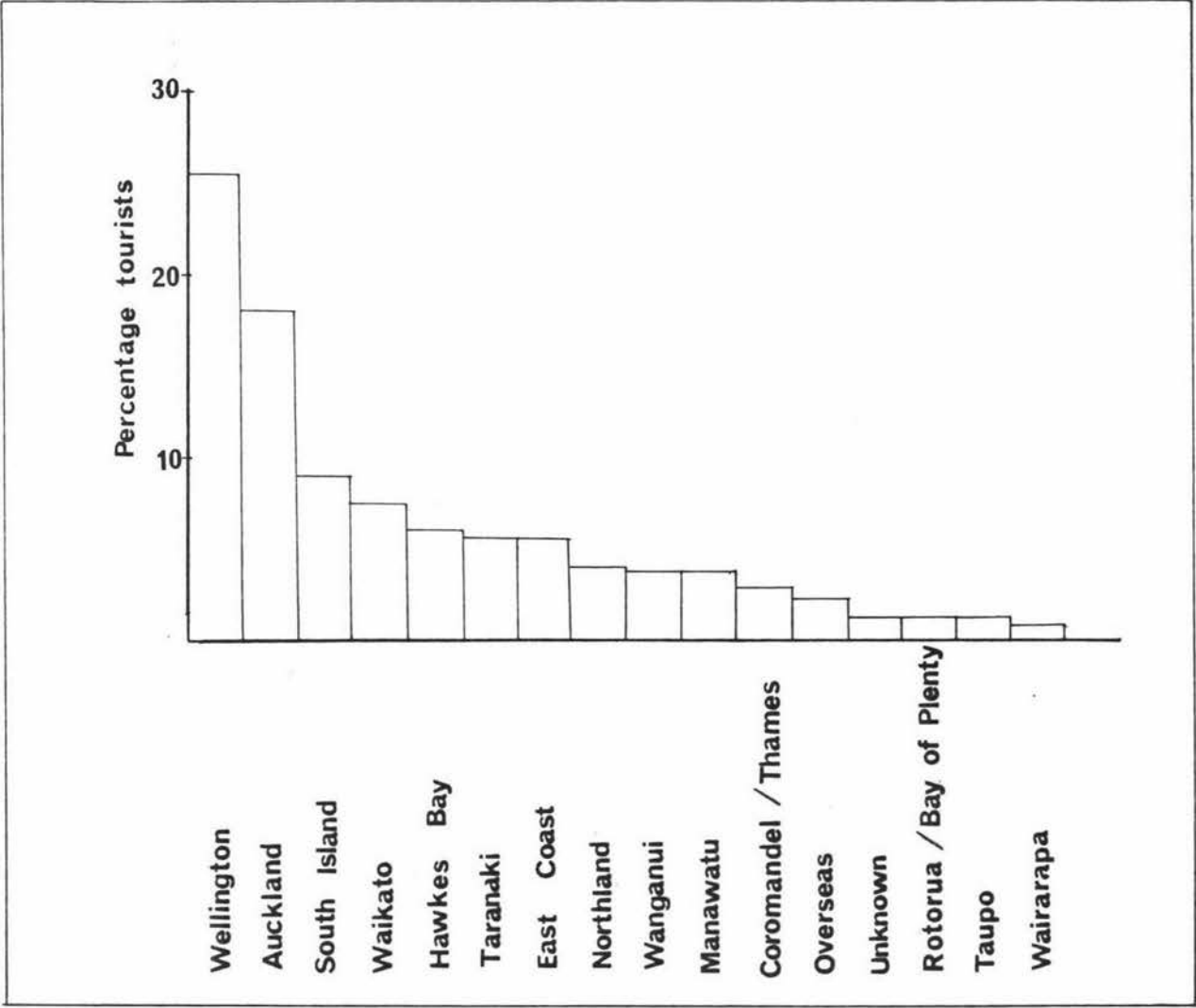


Figure 5.4: The Percentage of Tourists from Various Regions  
Source: Field Survey, May 1980

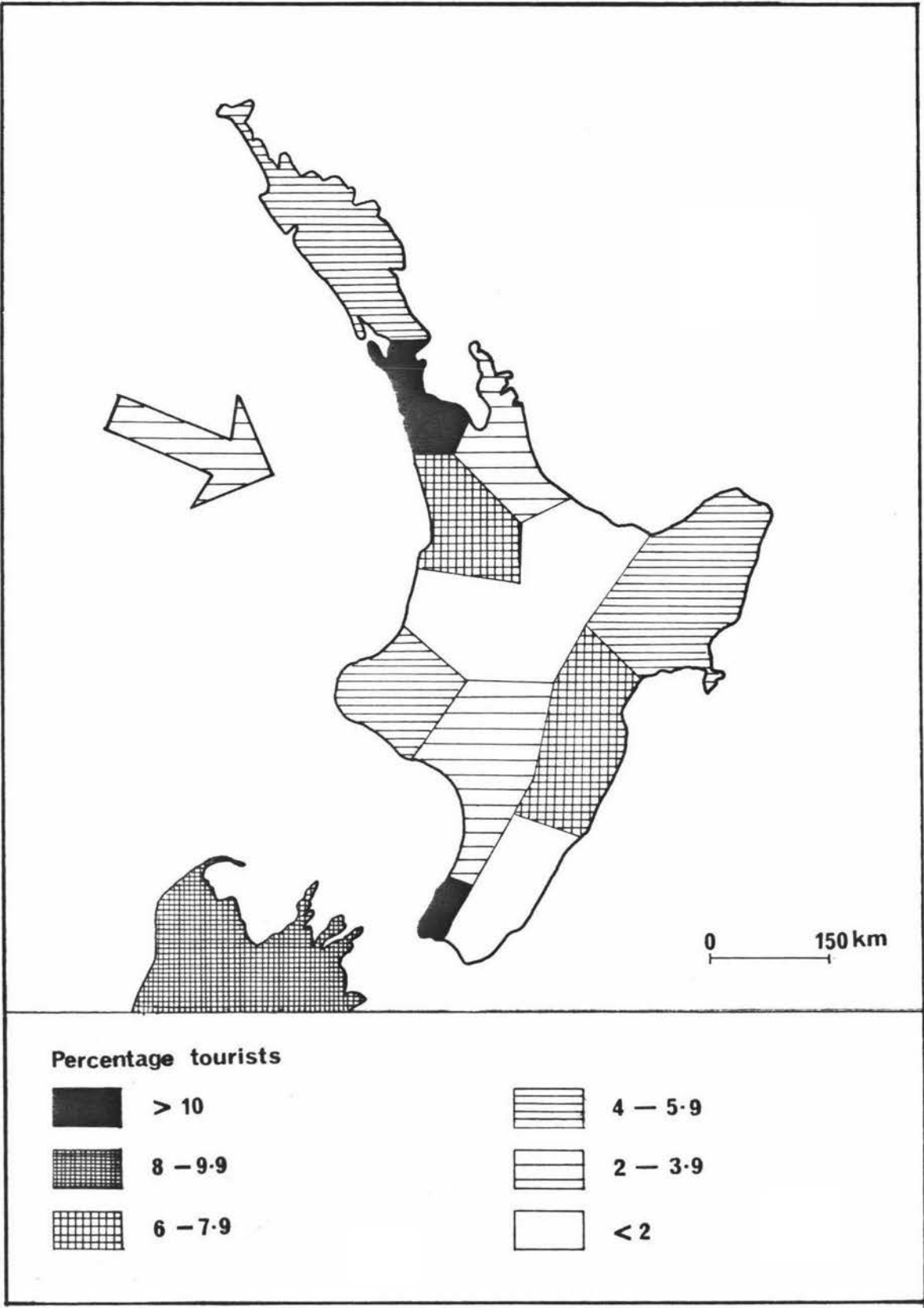


Figure 5.5: The Regional Source of Tourists in the Manawatu  
Source: Field Survey, May 1980

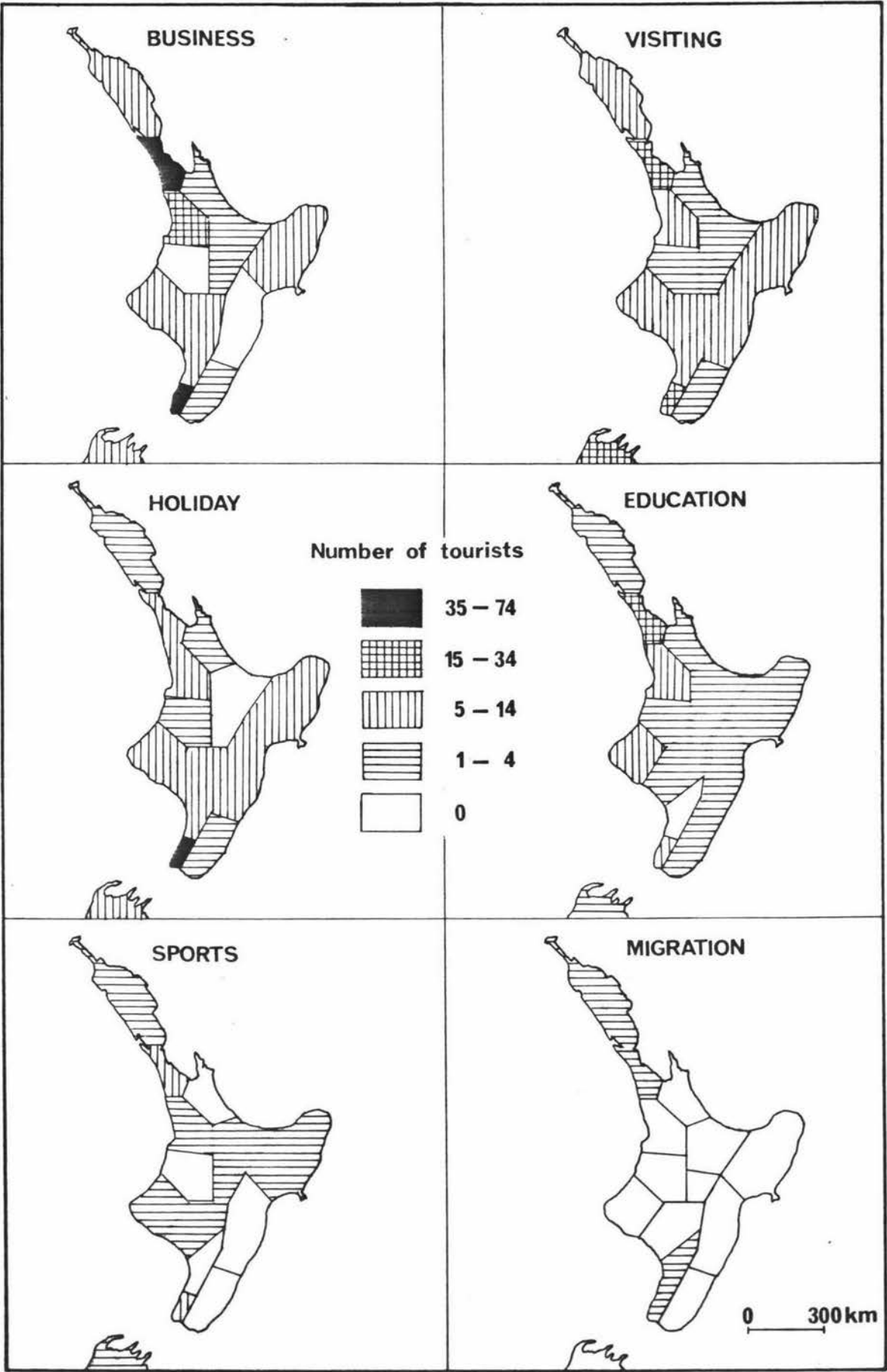


Figure 5.6: The Tourist Hinterland of the Manawatu  
According to the Various Puposes of Travel

Source: Field Survey, May 1980

It is evident that tourists in the Manawatu came from all regions of the North Island, South Island (classed as one region) and overseas. Wellington was the chief source of visitors, Auckland the second and the South Island the third. The remaining regions contributed varying proportions, none exceeding eight percent of the total. Waikato and Hawke's Bay were the source of 6 to 7.9 percent respectively, Taranaki, East Coast and Northland 4 to 5.9 percent; Wanganui, Manawatu, Coromandel/Thames and overseas 2 to 3.9 percent; and Rotorua, Taupo, Wairarapa and King Country less than two percent. This pattern suggested a positive relationship between the population size of the source region and the number of visitors from the region.

To test this proposition, the South Island and Overseas was excluded from the analysis since the specific regional sources of these tourists were not known (Table 5.8). For the remaining regions, a significant correlation ( $r = 0.75$ , 12df) was obtained. There was therefore a positive correlation between the size of population of a region and its importance as a contributor to tourists traffic in the Manawatu region.

It is probable, however, that population size is not the only factor that influences the tourist hinterland and the fact that thirty-six percent of the tourists were transient visitors seemed to merit further inquiry. Table 5.9 and Figure 5.7 show the hinterland for transient tourists.

The observation that Auckland, Wellington and the South Island were the three main sources suggested that relative distance plays a part in the role of the Manawatu as a transit region. To test this proposition, the hinterland (with the exclusion of the Manawatu itself and Overseas) were aggregated into five larger regions:

- 1) North comprising Northland, Auckland, Waikato and Coromandel/Thames.
- 2) South comprising Wellington and South Island.
- 3) East comprising East Coast, Hawkes Bay and Wairarapa.



TABLE 5.8

## POPULATION OF SOURCE REGIONS

SOURCE	NUMBER OF TOURISTS	POPULATION(1976 )
Wellington	158	344,338
Auckland	112	796,506
Waikato	47	175,009
Hawkes Bay	37	135,853
Taranaki	34	105,360
East Coast	34	63,639
Northland	25	106,741
Wanganui	24	69,666
Manawatu	24	125,893
Coromandel/Thames	17	33,619
Rotorua/Bay of Plenty	8	160,359
Taupo	8	26,821
Wairarapa	5	46,726
King Country	4	74,802

Sources: Pearce, 1979b; Field Survey, May 1980

TABLE 5.9

## TYPE OF TOURISTS AND THEIR REGIONAL SOURCES

SOURCE	TYPE OF TOURISTS		TOTAL
	TRANSIENT	DESTINATION	
Wellington	32	126	158
Auckland	44	68	112
South Island	27	28	55
Waikato	19	28	47
Hawke's Bay	19	18	37
Taranaki	9	25	34
East Coast	14	20	34
Northland	10	15	25
Wanganui	7	17	24
Manawatu	5	19	24
Coromandel/ Thames	8	9	17
Rotorua/ Bay of Plenty	3	5	8
Taupo	7	1	8
Wairarapa	1	4	5
King Country	2	2	4
Overseas	11	3	14
Unknown	-	8	8
Total	218	396	614

Source: Field Survey, May 1980

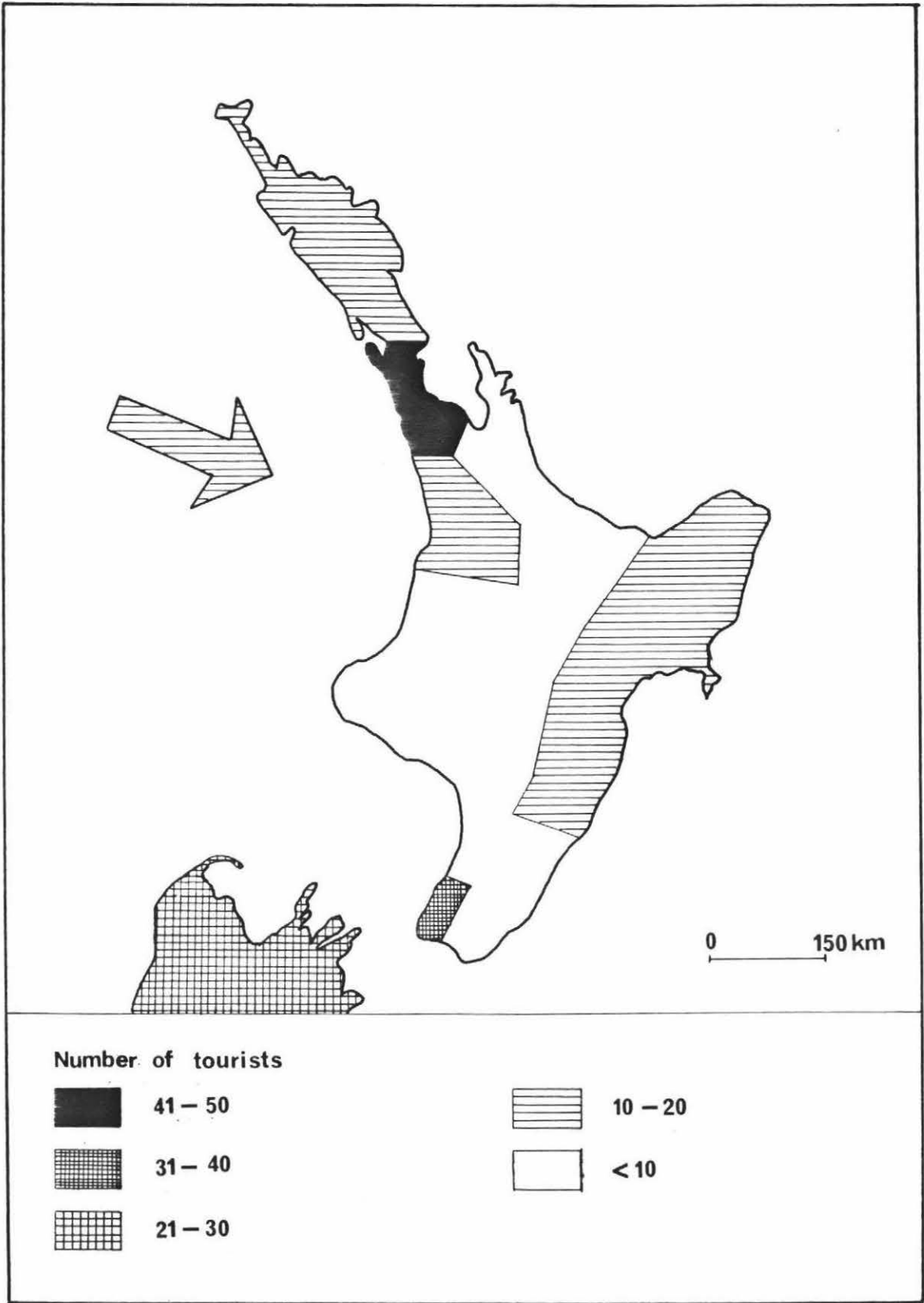


Figure 5.7: The Regional Source of Transient Tourists  
Source: Field Survey, May 1980

4) West comprising Wanganui and Taranaki.

5) Central comprising King Country, Taupo and Rotorua/Bay of Plenty.

The following terms are used to describe transient tourists. North and South transients refer to those whose permanent address was North or South as defined above. Outgoing North (or South) transients refers to North (or South) transients heading to a region at which the purpose of their journey was to be fulfilled. Return North (or South) transients whose purpose of journey had already been fulfilled and who are returning home. The term 'destination' refers to the region at which the purpose of journey was (or was to be) fulfilled.

Examination of the intended movements of transients after their arrival in the Manawatu (Table 5.10) revealed:

1) The Manawatu was used as a transit region by transients from all regions (Figure 5.8) either to proceed to their destination or to return home (Figure 5.9).

2) The North and the South together provided more than half (69 percent) of the total number of transients in the region.

Point 1 highlights the unique location of the Manawatu relative to the highway network of the North Island. The physical relief of the North Island imposes a constraint on the pattern of its highway network and the Manawatu is said to possess a unique location because it is a narrow expanse of land in the southeast of the North Island between the coast and the mountain ranges through which southbound highway traffic from the north, central, east and west converge before proceeding to Wellington and the South Island. Similarly, north bound traffic from the south passes through the Manawatu, although eastbound traffic from the south may take an alternative route through the Wairarapa. There are reasons to believe, however, that the Manawatu is preferred. A journey from Wellington to Woodville, for example, is shorter in terms of distance (Figure 5.10), it offers an estimated saving of thirty

TABLE 5.10

## THE SOURCES AND DESTINATIONS OF TRANSIENT TOURISTS IN THE MANAWATU

SOURCES	DESTINATIONS													
	NORTH		SOUTH		EAST		WEST		CENTRAL		UNKNOWN		TOTAL	
		PERCENTAGE		PERCENTAGE		PERCENTAGE		PERCENTAGE		PERCENTAGE		PERCENTAGE		PERCENTAGE
NORTH <sup>a</sup>	21	26.0	39	48.0	7	8.6	7	8.6	3	3.7	4	4.9	81	40.0
SOUTH <sup>b</sup>	8	13.5	28	47.4	0	0	6	10.1	7	11.8	10	16.9	59	29.2
EAST <sup>c</sup>	2	5.8	10	29.4	8	23.5	4	11.7	2	5.8	8	23.5	34	16.9
WEST <sup>d</sup>	-	-	8	5.0	3	18.7	3	18.7	-	-	2	12.5	16	7.9
CENTRAL <sup>e</sup>	-	-	3	25.0	1	8.3	2	16.6	3	25.0	3	25.0	12	6.0
TOTAL	31	15.3	88	43.6	19	9.4	22	10.9	15	7.4	27	13.4	202	100.0

a Northland, Auckland, Waikato and Coromandel/Thames

b Wellington and South Island

c East Coast, Hawkes Bay and Wairarapa

d Taranaki and Wanganui

e King Country, Taupo and Rotorua/Bay of Plenty

Source: Field Survey, May 1980

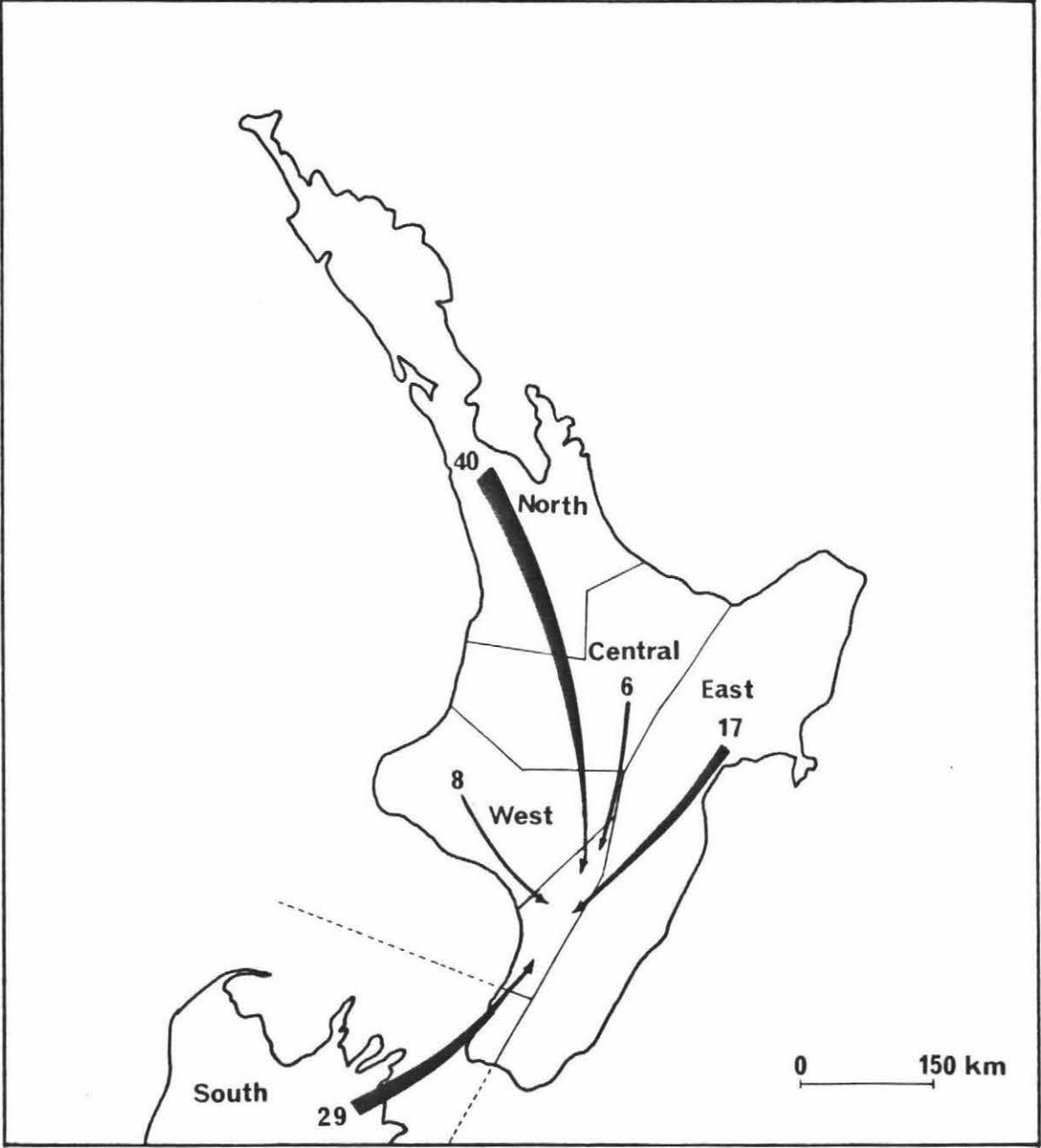


Figure 5.8: Percentage of Transient Tourists from Five Regions

Source: Field Survey, May 1980

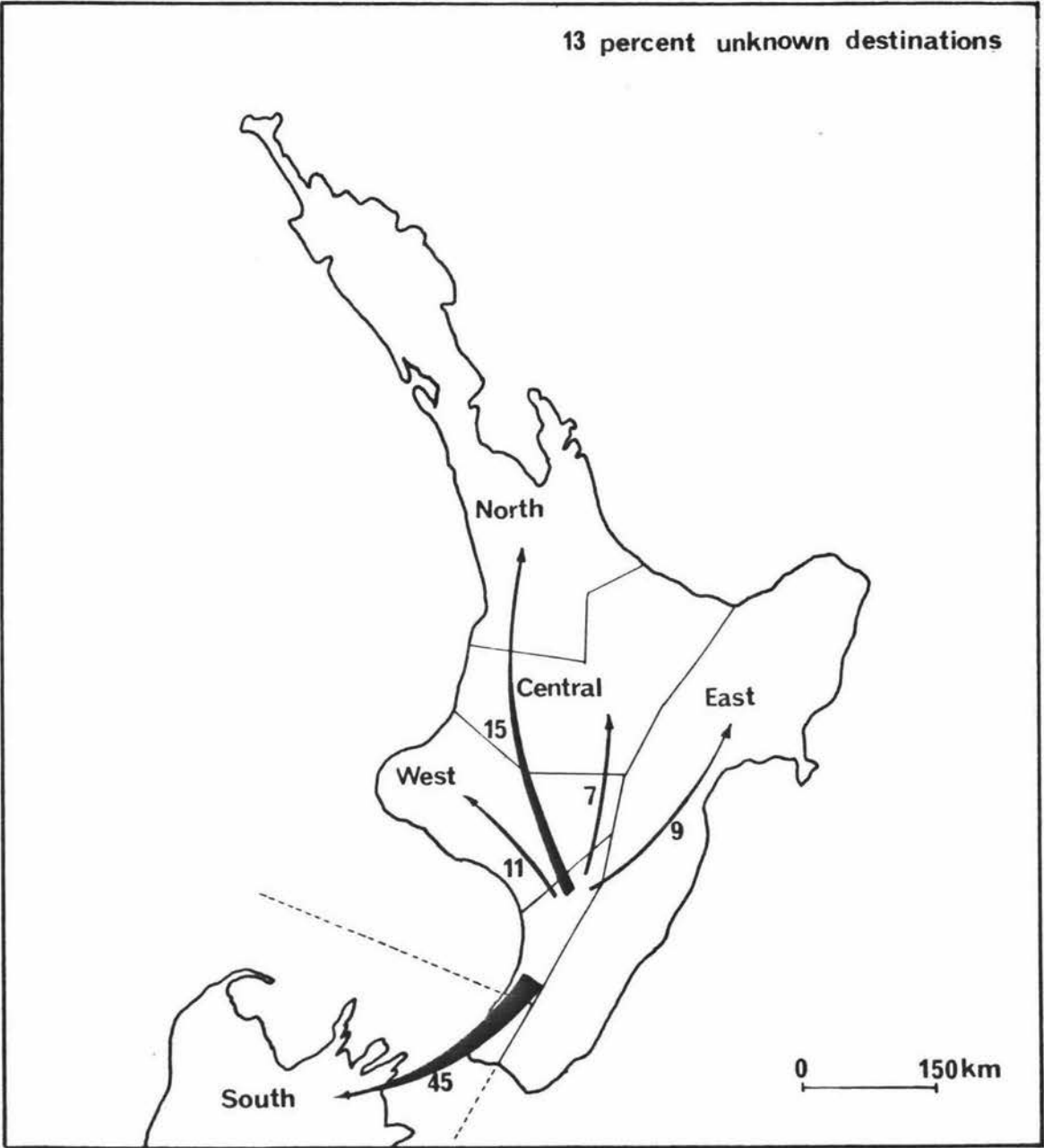


Figure 5.9: Percentage of Transient Tourists Heading for their Destination or Home

Source: Field Survey, May 1980

minutes driving time compared to the Wairarapa route. The low relief over which the highway is built also provides easy driving compared to the alternative route over the Rimutaka Range. In addition, urban settlements in the Wairarapa are fewer than in the Manawatu and these settlements are important to motorists as refreshment, refuelling and servicing stops. These factors also apply to southbound traffic from the east. The thoroughfare attribute of the Manawatu therefore is not confined to north and south bound traffic but also to traffic moving east and west.

Point 2, that the North and South together provided more than half of the total number of transients in the region, suggests that distance played a part in the number of transients received from the different regions. It was suspected that the relatively small number of transients en route to other regions from the East, West and Central regions was related to the relatively short distance of the Manawatu from these regions. Conversely, North and South were the main sources of transients because of the relatively longer distance from the South to the North and the proximity of the Manawatu to Wellington.

Assuming that a visitor would end his journey for the day at the destination itself or as close to it as possible, it is reasonable to expect that in the case of North transients, there would be more outgoing transients heading south than returning transients. By the same argument, more return transients than outgoing transients heading north were expected of South transients. To test this assumption, three hypotheses were formulated:

1) There was significant difference in the proportion of outgoing and returning North and South transient tourists in the Manawatu.

2) The proportion of outgoing North transients was significantly higher than the proportion of outgoing South transients.

3) The proportion of returning South transients was significantly smaller than the proportion of returning North transients (Table 5.11).



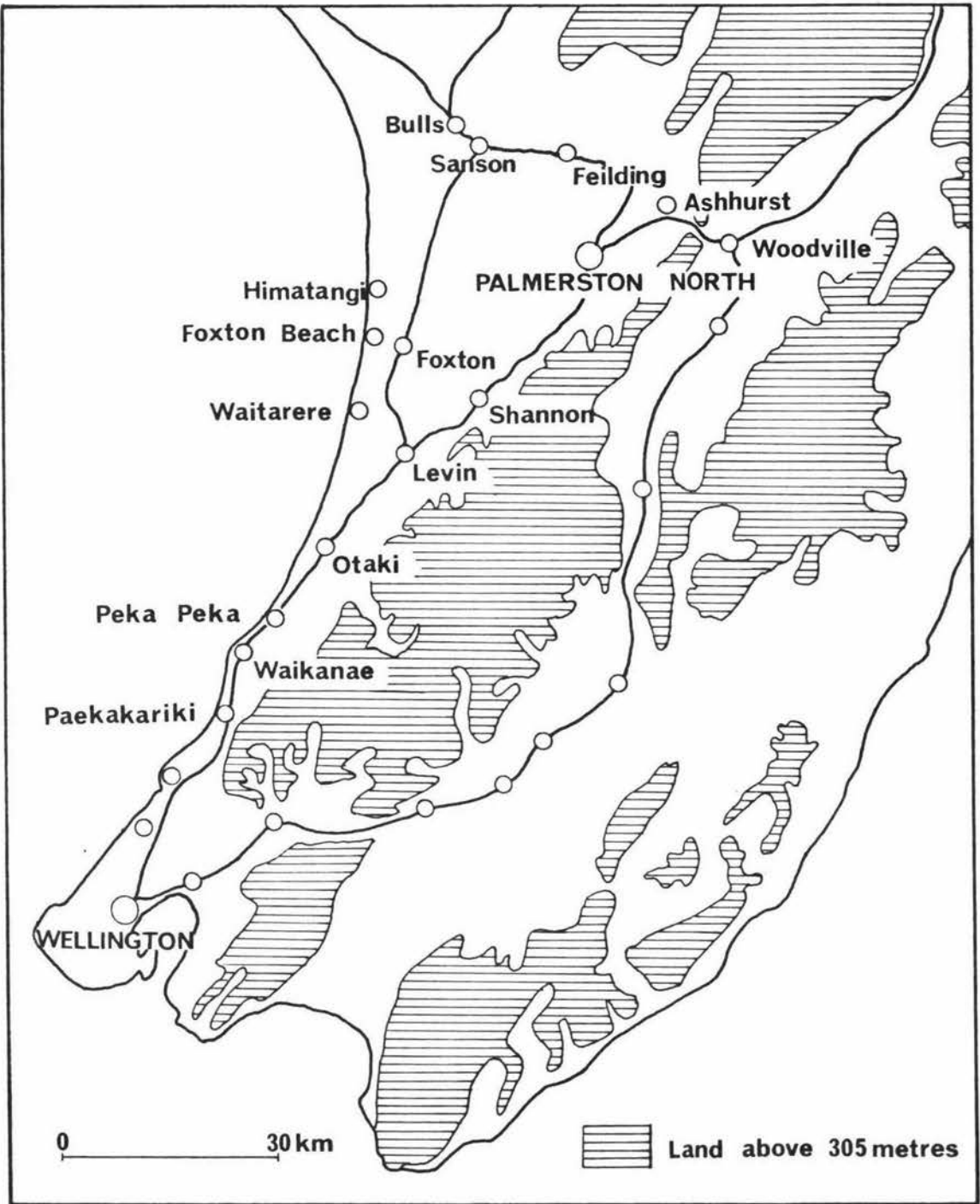


Figure 5.10: The Manawatu: Location of Centres and Highway Routes

Notes: Only centres mentioned in text are named.

Source: Based on Saunders and Anderson, 1964

TABLE 5.11

A 2X2 CONTINGENCY TABLE FOR  
SOURCES AND DIRECTIONS

SOURCE	DIRECTION	
	OUTGOING	RETURNING
NORTH	39	21
SOUTH	8	28

Source: Field, Survey, May 1980

Hypothesis 1 was tested by chi-square analysis and accepted ( $\chi^2 = 16.40, 1df$ ). Visual inspection of data clearly showed that hypothesis 3 could not be upheld. It was nevertheless tested to see if the difference was significant. Both hypotheses 2 and 3 were tested using t-test. Hypothesis 2 was accepted ( $t = 4.08, 94df$ ) and hypothesis 3 was rejected ( $t = -3.99, 94df$ ).

There was therefore a significant difference in the proportion of outgoing and returning transient tourists from the North and the South and the proportion of outgoing North transients was significantly higher than the proportion of outgoing South transients. There was also a significant difference between the proportion of returning North and returning South transients although the pattern was the opposite of that anticipated.

This implied that the explanation to the regional pattern of the source of transient tourists in terms of distance was not totally valid. On the other hand, recognising that fifty percent of returning South transients comprised tourists whose permanent address was the South Island, the data do not disprove the explanation offered; instead they suggested further evidence in support of it because of the distance between the North region and the South Island. The exact sources of South Island tourists

were not known and tests to verify this assumption were not possible.

#### INVESTMENT DIFFERENTIAL AND THE DISTRIBUTION OF DEMAND

In this section an attempt is made to see if the different levels of attraction offered by motels influences the number of clients. The inquiry is considered worthwhile because the mobility afforded by motorised transport permits users of motels a wide choice, constrained only by the occupancy of the motel at a given time and the price the potential client is prepared to pay for the accommodation.

Horton (1967) in his analysis of location factors as determinants of consumer attraction to retail firms suggested that the spatial variability in consumer attraction may be positively related to the attractions that a firm offers. He divided attraction differentials into investment and locational differentials. Investment differentials are the increased investment involved in the provision of various attractions endogenous to the firm. They include such items as parking facilities, customer services, aesthetics, variety of commodities and prices. It was decided to see if Horton's suggestion of a positive relationship between the variability of demand and the provision of attractions was verifiable in the context of demand for motel accommodation.

Investments in the form of motel attractions installed in different years are not comparable due to the rapid rate of inflation in the past decade. Investment, therefore, was dichotomised into 'higher' and 'lower' investment and no attempt was made to ascertain actual dollar costs. Of the thirty-five motels studied, seventeen had at least one of the following attractions: TV Dinners, games room, trampoline, a hired car, shop, mini golf course, swimming pool, and spa pool. Such motels were classed as having a higher investment level than motels which lacked any of these attractions.

Motel clients were asked how they came to choose the particular motel and two categories of responses were established: those who had some foreknowledge of the motel and those who did not. Thirty-seven percent of motel clients

had some foreknowledge of the particular motel at which they stayed while sixty-three percent did not.<sup>4</sup> A chi-square test on the distribution of these two groups and motels with and without investment differential (Table 5.12) showed significant difference between proportions ( $\chi^2 = 44.30$ , 1df). Variation in demand was therefore related to attraction investment at motels in the region.

TABLE 5.12

A 2X2 CONTINGENCY TABLE FOR INVESTMENT LEVELS  
AND CLIENTS' FOREKNOWLEDGE OF MOTELS

FOREKNOWLEDGE OF MOTELS	INVESTMENT LEVELS	
	HIGHER	LOWER
Yes	100	129
No	273	112

Source: Field Survey, May 1980

These findings, of course, only relate to clients at the time of the survey. A further tests was therefore carried out to see if occupancy rates were related to investment in motel attractions. If the effect of investment was operational, it was reasonable to expect significantly more motels with constant occupancy to be within the category of motels with a 'higher' level of investment.

A chi-square test failed to confirm this expectation ( $\chi^2 = 0.01$ , 1df). These contradictory findings suggested that the survey data was insufficient to allow a conclusive statement with regard to the influence of attraction on the variability of demand at individual motels. This question appears to warrant further research.

## SUMMARY

The enquiry has found that client variables (age, sex and group size) had no significant relationship with the type of tourist, purpose of travel and destination region.

Analysis of types of tourists showed a predominance of transient tourists at market centres, destination tourists at regional and recreation centres, and an almost equal proportion of both types at subregional centres. Location in relation to highways and the economic function of centres were offered as possible explanations to the local variation in the distribution of types of tourists.

Comparison of tourists' purpose of travel for the Manawatu with other 'non-key tourist areas' of New Zealand confirmed that the Manawatu is not a popular holiday destination region. Tourists in the region comprised mainly those with non-holiday purposes of travel.

Analysis of spatial variations in the purposes of travel among destination visitors showed a predominance of holidaymakers and business tourists at recreation centres, business tourists at subregional centres, sports tourists at subregional and market centres, and a fairly even distribution among the various purpose of travel at the regional centre.

The tourist hinterland of the Manawatu extends to the whole of the North Island and the South Island (taken as one region) but the main contributors to the tourist traffic were Auckland and Wellington. A significant positive relationship was found between the population of a region and the number of tourists. The unique location of the Manawatu was verified by the role it plays as a transit region for travellers from the South (South Island and Wellington) heading North (Auckland, Northland, Coromandel/Thames and Waikato) and vice-versa. It is possible that the Waikato plays a similar role because of its relative proximity to Auckland and distance from Wellington and the South Island.

Finally, an attempt was made to see if the spatial distribution of demand was influenced by the levels of

attraction offered by motels. Tests of relationship between levels of attraction and demand produced contradictory results. The number of clients who claimed foreknowledge of their motel was significantly related to motels with higher levels of attraction investment. On the other hand, occupancy rates were not found to be related to investment levels. The question of whether attractions offered by some motels is a sufficiently powerful factor to influence demand remained unanswered.

## FOOTNOTES

1 Coppock and Duffield did not explain the basis on which communities in their study region were classed into five different types. The present study employs the dollar volume of retail and service sales as the criterion for classification.

2 There were five respondents whose purpose of journey was to be fulfilled at another centre but within the Manawatu. These respondents were categorised as transient tourists.

3 This category was created when it was found that 'others' in Question 4 turned out to comprise only one particular purpose, that is seeking permanent residence.

4 These two categories were derived by grouping questionnaire responses to question 7(b), (c) and (d) and clients who claimed that their choice was made because of special features of the motel, into the category of clients 'with foreknowledge' of the motel. Responses (a) and (e) together with clients whose accommodation was arranged by the Public Relations Office, booking agency or employer were grouped and placed under the category of 'no foreknowledge'.



## CHAPTER 6

## THE LOCATION OF MOTELS

This chapter, comprising two sections, examines the diffusion of motels over time in the Manawatu and attempts to explain the pattern in terms of hierarchical diffusion. It also considers motels in relation to the concept of centrality.

## THE DIFFUSION OF MOTELS IN THE MANAWATU

The motel is a relatively new innovation in New Zealand, first appearing at Auckland in 1950 and a few years later in the Nelson-Picton and Christchurch areas. It was not until 1957 that motel innovation became widely adopted. The first motel in the Manawatu was built in 1956.

The researcher anticipated that this new innovation would have been adopted early at some centres in the region and later at other centres in line with diffusion theory. Innovations diffuse over space and through time. There are two major diffusion patterns: general spatial diffusion and hierarchical diffusion (Hagerstrand, 1953).

General spatial diffusion exemplified by wave models conceptualise an innovation originating at a particular place spreading outwards, reaching in turn progressively more and more distant places. The course and progress of an innovation may be altered by a variety of factors including the rejection of the innovation by some individuals and by the presence of physical or social barriers to communication. The friction of distance on social communication, however, ensures that an innovation does not spread in a haphazard fashion.<sup>1</sup>

The theory of hierarchical diffusion proposes that diffusion takes place from larger to smaller centres in the urban system. The point of introduction in the region is



its largest centre and if centres adopt the innovation according to their size, then a map of adoption time would show the innovation leap-frogging from one place to another in a haphazard fashion since there is no theoretical reason to suppose centres in a particular size range will be spatially concentrated.

The spread of motels in the Manawatu was expected to show evidence of hierarchical diffusion for the following reasons. Firstly, the motel is an entrepreneurial and not a household, innovation. Hierarchical diffusion more appropriately explains the spread of entrepreneurial innovation whereas spatial diffusion is more important in the spread of household innovation (Richardson, 1978). Secondly, to the extent that the region is small (4,666 square kilometres) and has well developed and utilised transport routes, distance decay is likely to be reduced, thus reducing the credibility of spatial diffusion.<sup>2</sup> Thirdly, the preconditions for the 'adoption' of a motel include its technical feasibility, expectation of profit relative to risks and the presence of a potential entrepreneur at a given centre. If it is assumed that the spatial distribution of mobile capital, demand for accommodation and entrepreneurial talent is primarily hierarchical, it is logical to expect the spread of motels to show a hierarchical pattern.

To observe the pattern of diffusion of motels in the Manawatu, moteliers were asked the year in which their respective motel was built. Many moteliers were uncertain of the construction year and the Valuation Department at Palmerston North was consulted to confirm the answers provided.

Table 6.1 shows the years in which motels were built at different centres in the Manawatu. The towns are arranged in a hierarchy according to their total retail and service sales in 1972-1973. The first motels in the region were located at Palmerston North, Waikanae and Waitarere. Motels were thereafter 'adopted' for the first time at centres in this order: Levin, Otaki, Foxton,

TABLE 6.1

## LOCATION AND YEAR OF CONSTRUCTION OF MOTELS IN THE MANAWATU

CENTRES	YEARS																								
	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Palmerston North <sup>a</sup>																									
Levin																									
Feilding																									
Otaki																									
Foxton																									
Waikanae <sup>b</sup>																									
Sanson																									
Waitarere																									
Himatangi																									

— motel built  
 .... motel closed

- Notes: a A motel built in 1971 was converted to flats in 1976.  
 b Three motels were known to have existed at Waikanae in 1960. Attempts to trace the years in which they were built proved unsuccessful, however, two were converted to flats in 1978, the other, some years earlier, but the exact data was unknown.

Source: Valuation Department, Palmerston North

Feilding, Himatangi and Sanson. To test if the diffusion of motels followed a hierarchical pattern, the ranking of centres on the basis of the year of first adoption was compared with the hierarchy obtained according to total retail and service sales. A Spearman Rank Correlation analysis did not produce a significant relationship ( $r_s = 0.48$ , 7df).

Two possible factors may have caused the failure to find a hierarchical pattern of diffusion. Firstly, the study region and the number of centres within it is too limited to show a discernible hierarchical pattern. Secondly the reasoning behind the expectation of hierarchical diffusion in the present context was perhaps unsound. Thirdly, it is probable that one particular precondition of adoption overrides all others and this precondition was not hierarchically distributed at the time of the introduction of motels to the region. The first factor relating to size of study region is obvious and requires no elaboration. The second and third factor merit discussion.

Evidence seem to suggest that the availability of local capital or entrepreneurial initiative was not a necessary condition for the 'adoption' of motels at the various centres. The average age of motels in the region is eleven years, but forty-three percent of moteliers had been residents of their respective centres for less than five years and sixty-six percent of all motels had experienced one or more change of ownership. Although it is difficult to trace the source of capital and the original owner of individual motels, it is likely that they were non-local to the centres.

The spatial pattern of adoption suggested that expectation of profit relative to risks was the more important precondition for motel construction at particular centres. Demand is the primary determinant of profits and it is likely that the motel was first 'adopted' at the first (Palmerston North), sixth (Waikanae), and eighth (Waitarere) centres in the hierarchy because of the anticipated greater demand for motel accommodation at these centres. The

regional centre naturally draws visitors from other regions, the most common reason being for business; Waikanae and Waitarere are recreation centres within the recreation hinterland of Wellington. The absence of motels at Ashhurst, Foxton Beach and Shannon, and the building of more than one motel at all centres except Himatangi, Sanson and Waitarere offered further evidence of the requirement of a threshold market before 'adoption' took place.

The diffusion over time of motels in the Manawatu was therefore not hierarchical but random. The probable explanation lies in the small size of the study region, the questionable assumption of an hierarchical distribution of entrepreneurial talent, capital and profit relative to risks and the importance of a threshold market to justify 'adoption'. The present spatial distribution of motels, twenty-five years after their introduction to the region, however, did show a positive relationship between the size of centres and the number of motels ( $r_s = 0.78$ , 7df). This relationship will be examined in the following section.

#### NODALITY, CENTRALITY AND THE LOCATION OF MOTELS

An economic system may be seen as comprising three subsystems - primary, secondary and tertiary (Eliot-Hurst, 1972). Unlike the primary and secondary subsystem, in which commercial entities are linked to one another by their inputs and outputs, those in the tertiary subsystem are linked to one another by the behaviour of their customers. Tertiary activities therefore are located at centres where there is already a demand and supply of other tertiary activities (Horton, 1967; Eliot-Hurst, 1972). Eliot-Hurst stated that because commercial entities in the tertiary subsystem are linked to one another by the behaviour of their customers, they are located at central places. This statement is evidence of the ambiguity of the meaning of 'central place' in contemporary geographical parlance.

The application of Central Place Theory has received considerable attention from geographers because of its potential as a partial explanation of the structure of space

economies. Preston (1971) asserted that empirical central place studies have not been carried out consistent with the theoretical requirements laid down by Christaller. Baskin (1957) was cited as having emphasised that the cornerstone of Christaller's approach was his concept of central place itself which was not the same as that ordinarily associated with settlement size. Central place was not perceived as the number of shops, total population or retail and service sales. The basic element of a central place was that it is a source of goods and services for an area larger than itself. The root of the departure of contemporary central place studies from the theoretical requirements laid down by Christaller is the lack of differentiation between nodality and centrality.

Centrality may be defined as the surplus importance of a place, or the ability of a place to provide goods and services in excess of the needs of its own residents. Nodality, on the other hand, measures the aggregate importance of a place which is usually measured by a specific dimension, such as population size, total retail and service sales, total number of retail and service establishments or number of retail employees. Population is a broad indicator of settlement importance while the other three measures refer specifically to the role of settlements as trade centres (Preston, 1975). A location where a petrol station, general store and butcher shop are situated is a node, not a central place unless the location is shown to provide goods and services to population residing within the complementary region or beyond it.

The method offered by Preston (1971) for measuring centrality is based on the following assumptions:

- 1) Families living at a centre<sup>3</sup> purchase their goods and services there to the extent that they are available (Local Consumption).

- 2) Each centre has a complementary region from which families come to purchase goods and services (Complementary Consumption).

3) Each centre provides some goods and services to persons living in neither the centre nor its complementary region (Irregular Consumption).

Following these assumptions, the motel is a service for irregular consumption since motel clients are usually residents of areas beyond a centre's complementary region. It may therefore be inferred that centres at which motels are located are central places. This inference was tested using Preston's model of Christaller's specific definition of centrality:

$$C = N - L$$

where      C = the surplus importance or centrality  
               N = the importance of a centre, or nodality  
               L = the importance of a centre as a unit  
                       consuming goods and services or local  
                       consumption

In application, this model becomes:

$$C = R + S - aMF$$

where      C = centrality  
               R = total sales in retail establishments  
               S = total sales in service establishments  
               a = average percentage of mean family  
                       income spent on retail items and selected  
                       services by families in a centre  
               M = mean family income at the centre  
               F = total number of households

In this model,  $R + S$  provides an estimate of nodality and  $aMF$  an estimate of local consumption. The difference is the value of centrality.

To produce centrality values for specific centres, the total income and average household weekly incomes at each centre was derived from the Census of Population and Dwellings 1971. The Household Sample Survey 1973-1974 provided the average expenditure on various items as a proportion of the total weekly income of households.<sup>4</sup>



This was then multiplied by the total income for each centre. The result was an estimate of local consumption. Total retail and service sales for the various centres were obtained from the Census of Distribution 1972-1973 and represented nodality values.<sup>5</sup> When local consumption was subtracted from nodality an estimate of non-local consumption or centrality was derived. A resultant negative value indicated that the centre was not a central place. The results of the application of the model showed that of the nine centres in the region where motels are located, seven were central places and two were not (Table 6.2).

TABLE 6.2

CENTRALITY, NODALITY VALUES AND NUMBER  
OF MOTELS AT CENTRES

CENTRES	NODALITY <sup>a</sup> (in \$1000)	CENTRALITY <sup>b</sup> (in \$1000)	MOTELS
Palmerston North	105,995	40,362	22
Levin	30,085	28,736	5
Feilding	21,298	9,008	2
Foxton	4,468	1,870	2
Otaki	4,958	817	2
Waikanae	3,521	579	4
Sanson	864	515	1
Waitarere	238	- 94	1
Himatangi	56	- 72	1

Notes: a Total Retail and Service Sales

b Nodality minus Local Consumption

Source: Department of Statistics 1974; 75a; 75b; 77a.

While strong correlations among the variables of motel numbers, centrality and nodality were expected and found, it was noted that two centres (Himatangi and Waitarere) which possessed motels were found to be non-central places. It is probable that the centrality values consequent to motel service at these two centres were cancelled out by the local residents' purchase of goods and services from other centres. It appears that there is a threshold value of nodality below which the volume of sales of goods and services to non-local residents are negated.

The findings of this exercise suggested that the identification of central places using Preston's (1971) model is biased against centres with smaller nodality values because it excessively depresses their centrality values, hence the enormous range of centrality values obtained in the present application.

#### SUMMARY

This chapter has examined the diffusion of motels in the region and found the pattern, in relation to time, to have been random rather than hierarchical. Three factors contributed to the failure to find a hierarchical pattern of diffusion: the study region was too small and the number of centres limited; local capital and entrepreneurial talent were probably not the necessary preconditions for adoption; demand was the overriding determinant of adoption and this was not hierarchically distributed.

The motel was examined as a business entity contributing to the centrality of its location. The difference in the meaning of the concepts of central place and node was emphasised. Seven out of nine centres analysed were found to be central places which then raised the question of a possible bias of Preston's model against smaller centres by excessively depressing their centrality values.



## FOOTNOTES

1 Distance is a friction effect representing the influence of spatial variations in travel time, cost, information and opportunities.

2 With improvement in transport technology spatial variations in travel time, cost, information and opportunities is reduced.

3 The word 'central place' used by Preston in his model was replaced here by 'centre'. The former implied a priori assumption that a centre is a central place and was therefore inconsistent with the *raison d'être* of the model.

4 The non-correspondence in time periods for different sets of official data was unavoidable, however, efforts were made to employ data sets which were as closely comparable in time as possible.

## CHAPTER 7

## CONCLUSION

The present study provides information on the motel industry in the Manawatu. The region was found to be of middle importance in tourism relative to other tourist regions of the nation in terms of the total bed spaces available. The tourist function (Tf) indicated that the region is not strongly dependent on tourism as a source of income and employment.

Motel accommodation, the focus of the study was found to be similar in characteristics to those of the New Zealand average in terms of size, types of units, the nature of the business and general pattern of occupancy rates.

Local variations in the characteristics of motels showed that those at Palmerston North were significantly larger than those at other centres in size, capacity, percentage of service type unit and in the number of four star grades. Evidence seemed to suggest that the composition of units at a motel is determined by the original motelier's expectation of profit and loss in the operation of the respective subtype units rather than a response to demand for a particular type of motel unit. The quality of motel was found to be positively related to the intensity of competition measured by the number of motels at a centre. The seasonality of occupancy patterns being experienced by market centres and recreation centres in the month of January, regional centre in March and May and the subregional centres in January, March and May. Visibility as a factor of accessibility appeared to have no significant relationship with occupancy patterns.

Types of tourists differed with the types of centres. Transient tourists were predominant at market centres and destination tourists at recreation centres. Subregional

centres received approximately equal proportions of both types of tourists. The relative distance of the North and the South and the proximity of the Manawatu to Wellington was thought to be responsible for the considerable percentage (36 percent) of transient tourists in the region although tests did not totally support this idea. Most (71 percent) of the tourists in the region were those whose purpose of travel was non-holiday.

The tourist hinterland of the Manawatu was found to encompass the whole of the North Island and at least part of the South Island. Auckland and Wellington were the main contributors of the tourist traffic and a significant positive relationship was found between population and the number of tourists from the region.

The problem of accommodation shortage at Palmerston North which prompted our initial interest was found to be a compound of seasonal oversupply of motels and the problem of low levels of profitability. Low levels of profitability is due to the high costs of construction relative to achievable tariff levels, the high rate of depreciation in furniture and fixtures and difficulty of obtaining finance at reasonable interest rates. The seasonal shortage of motel accommodation is unlikely to result in the building of more motels because present economic conditions, according to moteliers, have reduced the number of holiday-makers and increased the costs of motel operation.

The findings also indicated that a high proportion of untrained people were attracted to the industry. This suggests a need for inter-firm comparisons to provide operational statistics to measure efficiency and profitability. In this way a high standard of motel management, service and facilities may be maintained.

#### LIMITATIONS OF STUDY

The validity of findings in the present study was limited by three factors:

- 1) The decision to exclude other forms of accommodation.  
Motels provide only twelve percent of the total number

of tourist beds available in the region, the remainder being provided at hotels, motor camps and holiday homes. The number of tourists in the region during the time of the survey was therefore probably underestimated although not excessively since the occupation of holiday homes and caravans is mostly in summer.

## 2) Time Specificity

The survey was carried out during a specific and limited time period and most findings therefore apply only to a specific period of the year. This factor limits the value of generalised statements especially with regards to the annual spatial pattern of demand.

## 3) Problem of Definition

The absence of a quantifiable definition for 'high' and 'low' occupancy prevented comparison of local variations in the pattern of occupancy rates. Factors thought to account for local variations therefore could not be tested.

# USEFULNESS OF THEORIES AND CONCEPTS EMPLOYED

Several geographical concepts were used in the study: relative distance, central places, nodes, accessibility and diffusion. The findings showed that competition explains the spatial variations in the quality of motels; relative distance explains the role of the Manawatu as a transit region and nodes and central places explain the location of motels. Although the diffusion of motels within the Manawatu region did not conform to the pattern postulated by the theory of hierarchical diffusion, it is suspected that a larger region of study would have shown a discernible hierarchical pattern of diffusion.

# SUGGESTIONS FOR FURTHER RESEARCH

The Manawatu is a special kind of tourist region in that it serves almost as much as a transit as a destination region. It is probable that there are other regions in New Zealand which play similar roles. Most previous research on tourism in New Zealand, however, has assumed synonymity between the tourist and the holidaymaker. It is suggested

that there is a need to recognise non-holiday visitors as tourists for they too impose demands on the tourist industry.

The importance of transit tourism in the Manawatu may be equally important in other regions of New Zealand and research into this aspect of tourism may add to our understanding of tourism in non-key tourist regions. The role of relative distance in transit tourism merits further attention. Waikato may be one of the appropriate regions for study.

The relationship between central places and motel location also deserves further investigation especially with regard to the effect of nodality on centrality. Evidence of hierarchical diffusion was not found in the Manawatu possibly because the region of study was too small. A nation-wide analysis seems worthwhile.

The brief time period covered in the present study has imposed major limitations on general statements on tourism in the Manawatu region. Future surveys should aim to cover a much longer time period and perhaps include other forms of accommodation.

## APPENDIX 1

### WEATHER CONDITIONS IN THE MANAWATU

APPENDIX 1  
WEATHER CONDITIONS IN THE MANAWATU

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	YEAR
Average number of days with rain 1mm or more	9	8	8	10	12	13	12	12	11	12	12	11	127
Normal Temperature °C	17.1	17.4	16.1	13.7	10.7	8.4	7.8	8.9	10.6	12.4	14.2	16.0	12.8
Mean diurnal range	9.2	9.6	9.4	8.7	8.2	7.9	8.0	8.2	8.3	8.5	8.8	9.1	8.6
Average sunshine hours	210	185	171	138	116	94	105	126	139	158	175	194	1811
Percentage of Possible	47	49	45	42	38	34	36	39	40	39	41	42	42
Average number of days with winds 34 knots or more	4.4	3.6	2.8	3.9	3.2	3.2	2.1	3.2	4.3	6.2	6.3	4.8	48.0

Source: DSIR, Palmerston North

## APPENDIX 2

## MOTEL PILOT SURVEY



## MOTEL PILOT SURVEY

1. Would you mind telling me how many lodging units you have in this establishment? \_\_\_\_\_

Of these, how many are units for        single \_\_\_\_\_

   double \_\_\_\_\_

   family \_\_\_\_\_
2. In the peak period, what is the maximum number of visitors your establishment can accommodate? \_\_\_\_\_
3. What is your rate schedule? Please give details.
4. Were any members of your family, or relatives employed in your business in 1979? \_\_\_\_\_

If so, how many of them? \_\_\_\_\_

Would you please provide the following information about the family member/s or relatives who worked in your establishment in 1979?

Relationship to Proprietor	Sex	Age	Period worked in your establishment (from when to when)
a)			
b)			
c)			
d)			

5. How many people (not including family members or relatives) do you employ?

Full-time \_\_\_\_\_

Part-time \_\_\_\_\_

6. How many of your employees are women? \_\_\_\_\_
7. Could you please give me some idea of your approximate room occupancy rates in the following months during 1979?

Jan	_____ %	July	_____ %
Feb	_____ %	Aug	_____ %
March	_____ %	Sept	_____ %
April	_____ %	Oct	_____ %
May	_____ %	Nov	_____ %
June	_____ %	Dec	_____ %

8. Approximately what percentage of your 1979 guests came for

Business purposes \_\_\_\_\_ %

Conventions/Seminars \_\_\_\_\_ %

Tours (including group conducted tours,  
private tours and those just passing  
through) \_\_\_\_\_ %

Thank you very much

APPENDIX 3

MOTELIER QUESTIONNAIRE

## MOTELIER QUESTIONNAIRE

Part A. Please answer these question about yourself.

1. Your age                      31 - 40  
                                      41 - 50  
                                      51 - 60  
                                      over 60
2. Previous occupation \_\_\_\_\_
3. How long have you been a resident of this town?  
                                  less than 5 years  
                                  6 - 10  
                                  11 - 15  
                                  over 15
4. Where were you living prior to becoming a resident  
    of this town? \_\_\_\_\_
5. Do you have other sources of income?  
                                  Yes  
                                  No

Part B. Please answer these questions about your motel.

1. In which year was it built? \_\_\_\_\_
2. Please indicate in the spaces below, the number of  
    service and kitchen units you have, and whether they  
    are single, twin, double or family units.

	SERVICE	KITCHEN
Single unit		
Twin unit		
Double unit		
Family unit		



7. How many people do you employ (not including family members and relatives)?

Full-time (6 hours daily) \_\_\_\_\_

Part-time (less than 6 hours daily) \_\_\_\_\_

8. Would you please provide the following information about family members or relatives who work in your motel.

Relationship to owner                      Sex                      Period working\*\*


\*\* Use one of the following letters to indicate period working

- A Seasonal full-time
- B Seasonal part-time
- C Throughout the year part-time
- D Throughout the year full-time

9. What is the maximum number of clients your motel can accommodate? \_\_\_\_\_

10. Is your occupancy rate reasonable constant throughout the year, or does it show marked monthly (or seasonal) variation?

Constant ☐                      Variation ☐

If variation, in which month do you have the highest \_\_\_\_\_, and lowest \_\_\_\_\_ occupancy rates.

11. Please indicate your current rate schedule

	Single	Double	Family
below 15 dollars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16 - 20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21 - 25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26 - 30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31 - 35	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional adult _____			
Child _____			

12. Where do you purchase most of the following items?

Item	Immediate Neighbourhood	This town	Other town (specify)
food			
towels, linen			
drapes & furnishings			
crockery			
electrical appliances			

Where are the following maintenance services obtained from?

Item	Self	Immediate Neighbourhood	This Town	Other town (specify)
laundry				
electrical				

13. In which media do you advertise you motel?

newspaper

magazines

N.Z. Motel Directory

A.A. Accommodation Directory

R.A.C. pamphlet

Others (specify) \_\_\_\_\_


14 Would you please estimate the percentage of your guests whose purpose of travel is

business

visiting family/friends

just passing through

competition, competitive sports, races etc.

convention/reunion

holiday

purpose undisclosed


Thank you

APPENDIX 4

INSTRUCTION SHEET



## INSTRUCTION SHEET

8th May 1980

Dear Sir/Madam,

I do hope you will help me with my survey. I have listed below its organisation detail. I would be very grateful if you would follow the instructions and help make this survey a success.

1. The survey covers a period of one week - from the 11th to the 17th May.
2. There are two sets of questionnaires. The white coloured questionnaire is to be completed by the motel owner; the pink questionnaires, by motel guests.
3. Where the motel owner is not available to complete the white questionnaire, it is acceptable for his/her spouse or someone else who is able to provide accurately the sought after information to do so on the owner's behalf.
4. Please commence handing out the pink questionnaires on the 11th May and continue for the next six days.
5. During this period, please hand a questionnaire to every guest who signs on your motel register, and urge them to complete the questionnaires at their convenience.
6. Please ask your guests to return the completed questionnaires to you, or if they are leaving early, to make some other arrangement for their return. The number of questionnaires returned should correspond with the number of motel receipts that you issue to your guests for that period.
7. Place all returned questionnaires (answered, partially answered, and unanswered) in the bag provided.
8. I will call at your motel on the 21st May to collect them.

Thank you

## APPENDIX 5

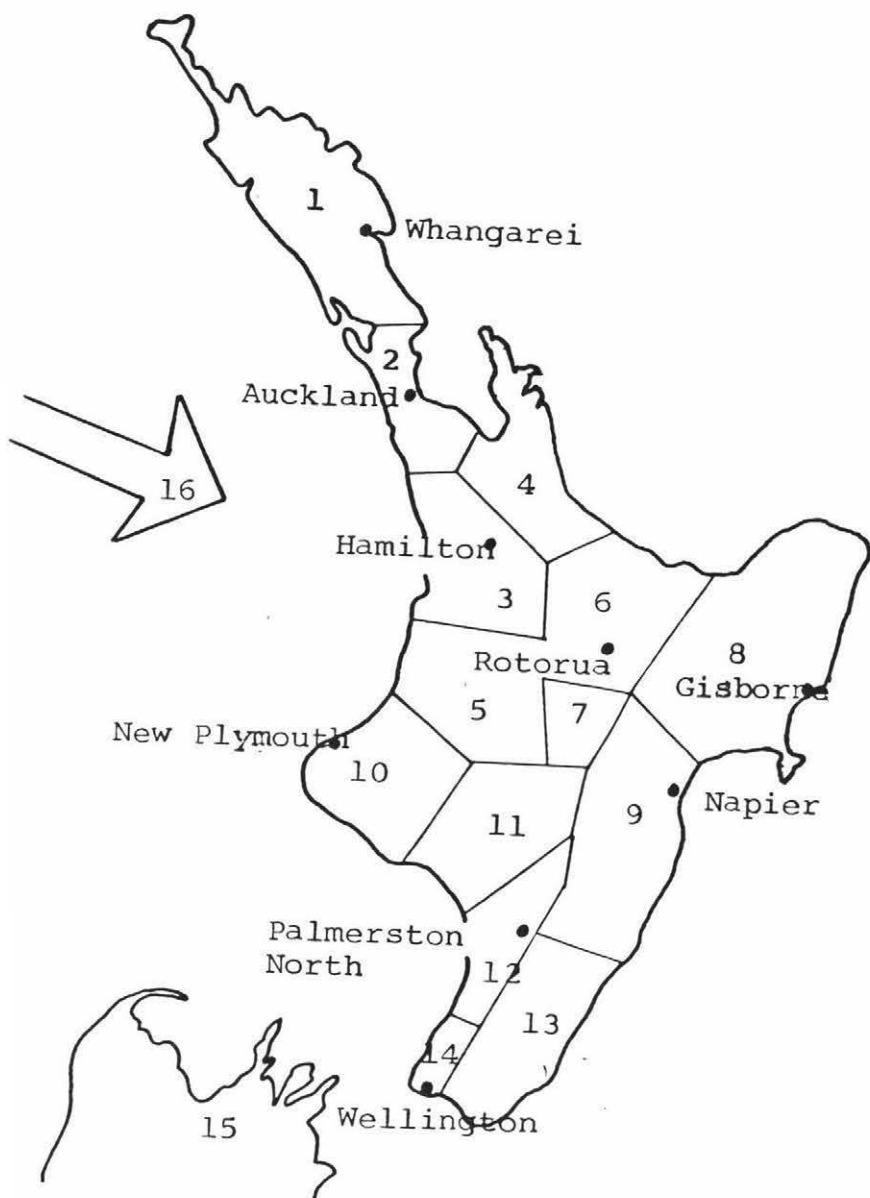
## CLIENT QUESTIONNAIRE

## CLIENT QUESTIONNAIRE

These questions are to be answered by one person only.

Please place a tick in the box beside the most appropriate answer.

- |    |   |                   |                          |
|----|---|-------------------|--------------------------|
| 1. | Your age                                      | 20 years or under | <input type="checkbox"/> |
|    |   | 21 - 30           | <input type="checkbox"/> |
|    |   | 31 - 40           | <input type="checkbox"/> |
|    |   | 41 - 50           | <input type="checkbox"/> |
|    |   | 51 - 60           | <input type="checkbox"/> |
|    |   | over 60           | <input type="checkbox"/> |
| 2. | Sex   | Male              | <input type="checkbox"/> |
|    |   | Female            | <input type="checkbox"/> |
| 3. | With whom are you travelling?                 |                   |                          |
|    | alone   |                   | <input type="checkbox"/> |
|    | with family (how many including yourself)     |                   | <input type="checkbox"/> |
|    | with companions (how many including yourself) |                   | <input type="checkbox"/> |
| 4. | The purpose of this trip is                   |                   | <input type="checkbox"/> |
|    | business                                      |                   | <input type="checkbox"/> |
|    | visiting family/friends                       |                   | <input type="checkbox"/> |
|    | competitions, competitive sports, races       |                   | <input type="checkbox"/> |
|    | convention/reunion                            |                   | <input type="checkbox"/> |
|    | holiday                                       |                   | <input type="checkbox"/> |
|    | others (specify) _____                        |                   | <input type="checkbox"/> |
| 5. | Your purpose                                  |                   | <input type="checkbox"/> |
|    | is to be fulfilled at another town            |                   | <input type="checkbox"/> |
|    | has been fulfilled at another town            |                   | <input type="checkbox"/> |
|    | is fulfilled at this town                     |                   | <input type="checkbox"/> |



- 1 Northland
- 2 Auckland
- 3 Waikato
- 4 Coromandel/Thames
- 5 King Country
- 6 Rotorua
- 7 Taupo
- 8 East Coast
- 9 Hawkes Bay
- 10 Taranaki
- 11 Wanganui, Tongariro, National Park
- 12 Manawatu
- 13 Wairarapa
- 14 Wellington
- 15 South Island
- 16 Overseas

6. Use the numbers on the map to locate  
 your permanent address  
 where you have arrived from  
 where you are heading to


- 7 How did you come to choose this particular motel?
- a. Was referred to this motel by another motel
  - b. Referred to motel/directory/other advertisements
  - c. Friend's recommendation
  - d. Regular client of this motel
  - e. No deliberate choice - just needed a motel
- Other (specify) \_\_\_\_\_



8. At which places have you spent (or will be spending) some money while at this town?

take-away shop

restaurant

dairy

chemist

petrol station

laundry

beauty parlour/hairdresser

post office

garage

entertainment (specify) \_\_\_\_\_

others (specify) \_\_\_\_\_


-----oOo-----

Thank you

## APPENDIX 6

DISTRIBUTION OF ACCOMMODATION IN NEW ZEALAND 1976

DISTRIBUTION OF ACCOMMODATION IN NEW ZEALAND 1976

REGION	TOTAL BEDS		HOTEL BEDS		MOTEL BEDS		CARAVANS		HOLIDAY HOME BEDS		POPULATION	Tf
	N	%	N	%	N	%	N	%	N	%	N	
Auckland	43253	100	3830	8.9	5424	12.5	5574	12.9	28425	65.7	796506	5
Otago	30336	100	3007	9.9	2634	8.9	5085	16.8	19560	64.4	155937	20
Coromandel/Thames	27583	100	318	1.2	1196	4.3	5544	20.1	20525	74.4	33619	82
Rotorua/Bay of Plenty	26509	100	2414	9.1	5712	21.5	7308	27.6	11075	41.8	160357	17
North and Mid Canterbury	24706	100	3146	12.7	3280	13.3	3000	12.1	15280	61.9	365762	7
Northland	22505	100	1263	5.6	3652	16.2	5445	24.2	12145	54.0	106741	21
Taupo	12975	100	607	4.7	1968	15.2	2280	17.6	8120	62.6	26821	48
Manawatu	12435	100	571	4.6	1452	11.7	1707	13.7	8705	70.0	125893	10
South Canterbury/Nth Otago	10986	100	335	12.1	1344	12.2	2412	22.0	5895	53.7	84603	13
Marlborough	9934	100	587	5.9	1496	15.1	1671	16.8	6180	62.2	35220	28
Wellington	9791	100	2413	24.7	1308	13.4	1248	12.8	4800	49.1	344338	3
Nelson	9491	100	691	7.3	1340	14.1	3450	36.4	4010	42.2	64352	15
Waikato	8361	100	721	8.7	1744	21.0	1596	19.2	4255	51.1	175009	5
Southland	7854	100	679	8.7	888	11.3	1002	12.7	5285	67.3	116635	7
Hawkes Bay	7251	100	889	12.3	2148	29.6	2229	30.7	1985	27.4	135853	5
East Coast	7162	100	578	8.0	1128	15.8	2451	34.2	3005	42.0	63639	11
Westland	6464	100	1456	22.5	1556	24.1	897	13.9	2555	39.5	34818	19
Taranaki	5846	100	621	10.6	1372	23.4	2043	35.0	1810	31.0	105360	6
King Country	4845	100	307	6.3	240	5.0	618	12.7	3680	76.0	74802	7
Wairarapa	4225	100	234	5.5	392	9.3	879	20.8	2720	64.4	46726	9
Wanganui	3240	100	664	20.5	1016	31.4	525	16.2	1035	31.9	69666	5
Fiordland	2544	100	896	35.2	368	14.5	270	10.6	1010	39.7	2462	103
North Island	195904	100	15420	7.9	28752	14.7	38447	20.1	112285	57.3	2440341	8
South Island	102315	100	11797	11.5	12956	12.7	17787	17.4	59775	58.4	859789	12
New Zealand	298219	100	27217	9.1	41708	14.0	57234	19.2	172060	57.7	3300130	9

## APPENDIX 7

DISTRIBUTION OF TYPES OF TOURISTS AND PURPOSE  
OF TRAVEL AT DIFFERENT CENTRES



# DISTRIBUTION OF TYPES OF TOURISTS AND PURPOSE OF TRAVEL AT DIFFERENT CENTRES

	BUSINESS			VISITING			HOLIDAY			SPORTS			EDUCATION			MIGRATION			UNKNOWN			TOTAL		
	D	T	B	D	T	B	D	T	B	D	T	B	D	T	B	D	T	B	D	T	B	D	T	B
Palmerston North	95	27	122	64	13	77	33	9	42	12		12	60		60	10		10	22	22		247	71	345
Waikanae	6	1	7	7	1	8	20		20		1	1							9	9		33	12	45
Himatangi	1	1	2	2		2	5		5										2	2		8	3	11
Waitarere	1		1				1	1	2													2	1	3
GROUP I	103	29	132	73	14	87	57	10	69	12	1	13	60		60	10		10	33	33		317	87	404
Levin	27	10	37	14	9	23	5	10	15	1	8	9				1		1	19	19		48	56	104
Feilding	3	3	6		6	6	1	2	3	5		5										9	11	20
GROUP II	30	13	43	14	15	29	6	12	18	6	8	14				1		1	19	19		57	67	124
Otaki	2	3	5	2	3	5	4	5	9		1	1							2	2		8	14	22
Foxton	3	11	14	2	5	7		9	9	4		4				1		1	10	10		10	34	45
Sanson	2	3	5	1		1		10	10	1		1							2	2		4	15	19
GROUP III	7	17	24	5	8	13	4	24	28	5	1	6				1		1	14	14		22	64	86
TOTAL	140	59	199	92	37	129	69	46	115	23	10	33	60	-	60	12	-	12	66	66		396	218	614

Notes: D = Destination Tourists

T = Transient Tourist

B = Both Destination and Transient Tourists

Source: Field Survey, May 1980

APPENDIX 8

TOURISTS: SOURCE AND PURPOSE OF JOURNEY  
(Number and Percentages)

TOURISTS: SOURCE AND PURPOSE OF JOURNEY  
(Number and Percentages)

REGIONS	BUSINESS	VISITING	HOLIDAY	SPORTS	EDUCATION	MIGRATION	UNKNOWN	TOTAL	PERCENT- AGE
Wellington	72	15	39	7	10	1	14	158	25.7
Auckland	43	21	13	6	18	2	9	112	18.2
South Island	14	21	6	2	2	-	10	55	9.0
Waikato	15	10	7	1	6	-	8	47	7.7
Hawkes Bay	11	12	6	-	2	-	6	37	6.0
Taranaki	5	9	6	3	8	-	3	34	5.5
East Coast	10	6	5	4	4	-	4	34	5.5
Northland	5	9	3	1	2	2	3	25	4.0
Wanganui	7	10	6	1	-	-	-	24	3.9
Manawatu	8	5	6	-	-	3	2	24	3.9
Coromandel/Thames	3	3	4	-	4	-	3	17	2.8
Rotorua/Bay of Plenty	2	1	-	4	1	-	-	8	1.3
Taupo	1	1	-	3	2	-	1	8	1.3
Wairarapa	-	1	4	-	-	-	-	5	0.8
King Country	-	1	2	-	1	-	-	4	0.6
Overseas	1	2	8	1	-	2	1	14	2.3
Unknown	2	2	-	-	-	2	2	8	1.3
TOTAL	199	129	115	33	60	12	66	614	99.8
PERCENTAGE	32.4	21.0	5.4	18.7	2.0	9.8	10.7	100.0	

Source: Field Survey, May 1980

## APPENDIX 9

HOUSEHOLD INCOME AND EXPENDITURE FOR INDIVIDUAL  
CENTRES IN THE MANAWATU

## HOUSEHOLD INCOME AND EXPENDITURE FOR INDIVIDUAL CENTRES IN THE MANAWATU

CENTRES	ANNUAL INCOME IN THOUSAND DOLLARS						TOTAL <sup>a</sup>	NUMBER OF HOUSEHOLDS <sup>b</sup>	INCOME PER HOUSEHOLD <sup>c</sup>	WEEKLY <sup>d</sup> INCOME PER HOUSEHOLD	WEEKLY <sup>e</sup> EXPENDITURE
	1	2	3	4	5	10					
Palmerston North								15316	5101	98.04	83.08
No. income earners	6956	7128	4953	4327	2787	1082	27233				
Income	6956	14256	14859	17308	13935	10820	78134				
Levin								4069	4087	78.59	64.03
No. income earners	1787	1606	1275	878	517	171	6234				
Income	1787	3212	3825	3512	2585	1710	16631				
Feilding								2854	4630	89.03	83.08
No. income earners	1261	1081	858	872	472	137	4681				
Income	1261	2162	2574	3488	2360	1370	13215				
Texten								786	3935	75.67	64.03
No. income earners	324	365	289	158	62	23	1221				
Income	324	730	867	632	310	230	3093				
Takapu								1207	3572	66.66	64.03
No. income earners	507	442	313	233	116	47	1658				
Income	507	884	939	932	580	470	4312				
Waikanae								886	3952	76.00	64.03
No. income earners	363	288	166	170	123	77	1187				
Income	363	576	498	680	615	770	3502				
Wanganui								105	4000	76.92	64.03
No. income earners	46	49	44	21	6	3	169				
Income	46	98	132	84	30	30	420				
Timatangi								56	2125	40.86	44.50
No. income earners	23	22	8	7	-	-	60				
Income	23	44	24	28	-	-	119				
Waitarere								100	3910	75.19	64.03
No. income earners	37	33	47	13	13	3	146				
Income	37	66	641	52	65	30	391				

## Notes:

- a Total income was estimated from data on income by location provided by the Census of Population 1971, pp 26-27. Official data provided number of income earners within each income category but the interval size was inconsistent. Upper limits were used to obtain income within each category except for the category 'over \$6,000' which was here taken as \$10,000. The summation of income in each category provided the total income for each centre.
- b Number of households was obtained from the Census of Population and Dwellings 1971, Vol. 9, p. 27.
- c Income per household was derived by dividing total income by the number of households.
- d Weekly income is income per household divided by 52.
- e Weekly expenditure referred to expenditure on selected retail and service items according to weekly income. This was provided by the Household Sample Survey 1973-1974, p. 17. Three items were omitted: 'rent', 'fuel, light, power', and 'overseas'.

## APPENDIX 10

CALCULATION OF CENTRALITY VALUES FOR INDIVIDUAL  
CENTRES IN THE MANAWATU

# CALCULATION OF CENTRALITY VALUES FOR INDIVIDUAL CENTRES IN THE MANAWATU

CENTRE	a	R + S (dollars)	MF (dollars)	aMF (dollars)	(=R+S - aMF) (dollars)
Palmerston North	84	105,994,936	78,134,000	65,632,560	40,362,376
Levin	81	30,082,839	1,663,100	1,347,111	28,735,728
Feilding	93	21,297,646	13,215,000	12,289,950	9,007,696
Foxton	84	4,468,314	3,093,000	2,598,120	1,870,194
Otaki	96	4,958,030	4,312,000	4,139,520	818,510
Waikanae	84	3,520,827	3,502,000	2,941,680	579,147
Sanson	83	863,542	420,000	348,600	514,942
Waitarere	85	238,256	391,000	332,350	-94,094
Himatangi	108	56,125	119,000	128,520	-72,395

a Average percentage of mean family income spent on retail items and selected services by families.

R+S Total retail and service sales

MF Mean family income multiplied by total number of households

aMF Local Consumption

Sources: Department of Statistics 1974, 1975a, 1975b, 1977a

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