

# Residential Land Use: Summer in Mangawhai

A Survey by Mangawhai Matters Inc  
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# Summary

## Background

Mangawhai’s growing permanent population is matched by a growing influx of summer holidaymakers. The large numbers of visitors are accommodated in residential areas as well as commercial accommodation (mainly campgrounds). Residents and visitors alike need space for their recreational “assets” – boats, trailers and tractors, tents, caravans, and campervans. The influx of families and their beach gear in large part shapes infrastructure needs. It explains the value and appeal of large sections and generous road reservations.

How the residential areas are used was explored through an aerial (drone-based) survey of Mangawhai in January 2022 in anticipation of a court hearing into the application for consent to develop a host of small sections at Mangawhai Central, midway between the Village and the Heads.

In the event, mediation with Mangawhai Matters and others led the applicant to moderate its plans and this evidence was not required. The survey results are worth making available, however, to help inform future applications for subdivision consent.

Vehicles and other recreational assets on 1,535 residential properties surveyed were counted across five localities. The counts inevitably underestimate the true number because they could have been garaged at the time of survey, obscured by trees, in use, or parked elsewhere (the shops, beach, or boat ramp, for example). However, the numbers confirm the need for subdivision to provide adequate parking and manoeuvring space for at least two cars per section and quite possibly a boat, tent, or even a camper or caravan.

Significant use of the roadside berm was also noted, favoured by its width in most of the longer-established roads, its grass on a sand subsurface in many place, and low kerbs.

Despite the undercounting, around 30% of properties had more than one car visible. Even this low figure gives a car:occupied dwelling ratio of 1.1 cars/property, significantly higher than recorded in the 2018 Census figure (0.9/property).

## Results in Brief

The major results of the survey are set out below:

	Total	Low	High	Midpoint
Two or more cars visible	29%	Village 22%	Central 37%	29%
Share of cars on roadside	14%	North 10%	Village 18%	14%
Properties with boats	13%	North 8%	Centre-Sth 22%	15%
Properties with Other*	9%	North 7%	Village 14.0%	11%

\* Other: Jet skis, caravans, campervans, or tents

14% of cars were parked on the berm, generally off the carriageway. This shows the need for a generous corridor, especially because commitment to encouraging use of pedestrian

and bikeways requires adequate space and sight lines for safety purposes. The northern area, with larger sections, made less demands on the road corridor suggesting that more recent, smaller sections need to provide for more intensive use of the roadside. Other mobile assets were less frequent. Many of the older properties have secondary dwellings, for example, and sheds for boats which means they were not counted, or they could have been in use at the time of the survey.

All five areas have similar requirements, with earlier sections close to the coast setting the pattern for all Mangawhai. Even the most recent subdivisions respond to the distinctive demands and character of the place with relatively generous section sizes. Based on sections and houses sold over three years to September 2021, the lowest median is 750sqm (the Village) and very few properties under 600sqm appear to have been developed or sold. However, because today's sections do tend to be smaller than the traditional coastal lot bit continue to provide for a variety of recreational uses, they need to be supported by generous road corridors.

## Purpose

This report describes a survey to establish how residential properties and local roads are used in the summer in Mangawhai. It was undertaken on the grounds that the original residential provisions in Plan Change 78 to the Kaipara Operative District Plan did not reflect the character of Mangawhai and how residential land and local roads are used.

The results are produced here to help planners respond to Mangawhai's coastal character in an environment in which residents actively engage with the recreational and commercial opportunities offered by harbour and ocean. Apart from the informality associated with sporadic and diverse nature typical of coastal settlement, a key characteristic of residential areas in Mangawhai is that they cater for intensive holiday and weekend use by visitors staying with friends and relatives and for a significant number of bach users and their "holiday assets".

## The Survey

The survey aimed to estimate the number of vehicles, boats, and other recreational or holiday assets (campervans, caravans, tents, and jet-skis) on properties with dwellings and on the adjoining roadside in peak season. It was based on images of residential areas using a drone rather than embarking on a time-consuming, intrusive, and costly physical survey.<sup>1</sup> It was conducted between the hours of 8:30 and 11:15am on Monday 3<sup>rd</sup> January and midday and 2:30pm on Tuesday 4<sup>th</sup> January 2022.<sup>2</sup> It covered a range of roads selected randomly but sufficient to ensure a reasonable coverage of different parts of Mangawhai.

## Method

Vehicle and recreational asset counts were taken from the images based on identifiable residential properties, excluding vacant sections.<sup>3</sup> Counts also covered roadsides adjoining the properties. Properties were then assigned to one of six categories for analysis: those with no cars visible, those with one, two, three, four, or five or more. Boats and other recreational assets (campervans, caravans, tents, and jet skis) were also recorded.

The count was limited to visible items. Oblique images meant that trees and buildings often obscured items. In addition, most properties have garages, many double. This means that the absence of a visible vehicle meant that there could be one or two on the property that were not recorded.

Vehicles could also be elsewhere: in transit, or parked at shops, harbourside, boat ramp, or surf beach car park. With overflow parking provisions, the latter, for example, has capacity for close to 200 vehicles and is continuously full between 9.00am and 5.00pm on fine holiday or weekend days.

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<sup>1</sup> The drone survey was conducted on behalf of Mangawhai Matters by Shane Whitmore of Wiskis Appliance Services.

<sup>2</sup> Due to limited initial coverage, it was complemented by an additional flight in the western area (defined below) on the afternoon of Tuesday 11 January.

<sup>3</sup> In a few instances vacant sections were clearly used for car parking by neighbouring properties.

These limitations mean the count covers only visible vehicles parked in residential areas at the time of survey. For these reasons, the results presented here are conservative: they underestimate the intensity of use of Mangawhai's residential areas and can be considered indicative only. However, they do provide parameters and patterns that can inform design so that future subdivisions are "fit for purpose", the purpose being to accommodate occupants' activities. If nothing else, the numbers provide minima for development plans.

## Analysis

The totals in each category (cars, boats, other) were grouped into six areas defined below by principal streets:

- **Mangawhai Heads North:** Wintle St, Taranui Place, Kanuka Place
- **Mangawhai Heads West:** Sailrock Drive, Mangawhai Heads Rd, Marram Place
- **Mangawhai Heads Central – North:** Alamar Cres, Dey St, Holiday Cres, Margaret St, Jessie St, Robert St, North Ave, Pinewood Place
- **Mangawhai Heads Central – South:** Findlay St, Eveline St, Awatea St
- **Mangawhai Heads South:** Moir Point Rd, Cheviot St, Seabreeze Drive, Quail Way, Estuary Drive, Grove Rd, Norfolk Dive Sandpiper Lane
- **Mangawhai Village:** Pearson St, Moir St, Leslie St, Longview, Weka, Dune View Drive, Takahe Place.

Not all streets and not all properties in a street were covered; only those clearly visible. Fully visible properties in adjoining streets were included. Cars and boat on berms or vacant sections were assigned to the nearest occupied property. Jet skis, caravans, tents, and campervans (recreational assets) were assigned to an "Other" vehicle category. Canoes, paddle boards and the like were not counted.

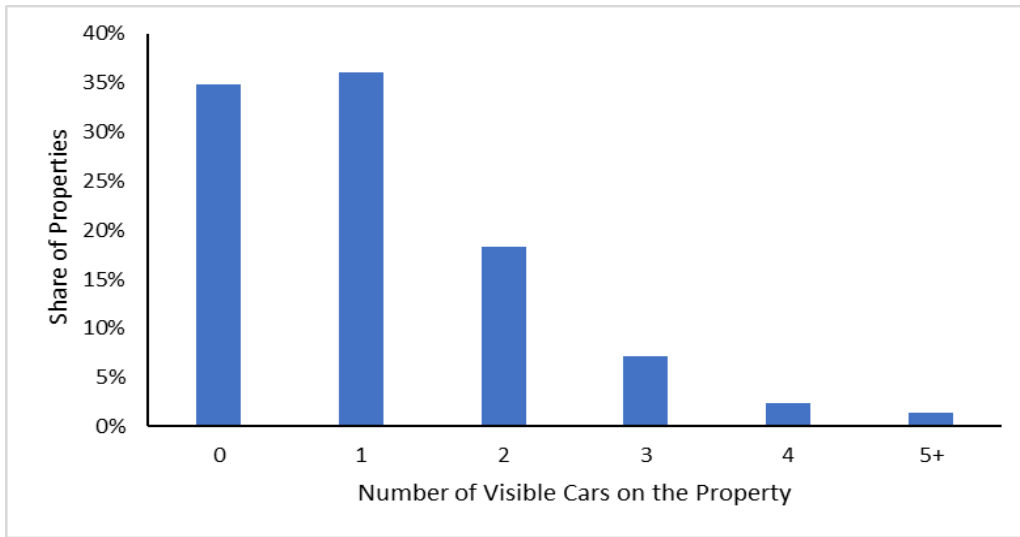
The high-resolution images were analysed onscreen, enabling close-in views to determine the presence and number of vehicles.

Multiple buildings are common where former septic tank dependence required large sections in older parts of Mangawhai. Additional buildings could include boat storage and garages, utility sheds, sleep-outs, and baches. Such structures were not counted, although they clearly affect the intensity of property use and the traffic generated.

## The Big Picture

Over the whole area 1,535 properties were surveyed on which there were 1,690 cars visible. The real figure for cars will be significantly higher as most properties have garages or carports. As it turned out, 35% of the properties surveyed had no vehicle visible, and another 36% just one vehicle, leaving 29% in which two or more were visible (Figure 1).

**Figure 1: Cars on Properties**



Despite the undercount, this is 1.1 cars per property compares with the 2018 Census which indicated 0.9 cars/occupied permanent dwelling in Mangawhai and Mangawhai Heads Statistical Areas.<sup>4</sup> Clearly, the intensity of summer property and road use is higher than for a commuter or retirement settlement.

The likelihood is that the ratio is significantly higher than 1.1. If 75% of the properties with no cars visible had a vehicle obscured, garaged, or off site, it would increase to 1.4 cars per permanent dwelling. Even with a lower 50% not visible or on-site at the time of survey, the ratio still sits at 1.3.

## The Detail

The full results are presented Attachment 1. The key parameters are set out in Table 1.

	Total	Low	High	Midpoint
Two or more cars visible	29%	Village 22%	Central 37%	29%
Share of cars on roadside	14%	North 10%	Village 18%	14%
Properties with boats	13%	North 8%	Centre-Sth 22%	15%
Properties with Other*	9%	North 7%	Village 14.0%	11%

\* Other: Jet skis, caravans, campervans, or tents

A substantial share of properties (at least 30% and probably closer to 50%) are occupied by multiple vehicles in the summer, while many more use roadside parking. A significant share also accommodates boats. The numbers indicate that residential development plans need to recognise that at least 15% of properties will do so, probably more.

The following sections briefly set out the parameters derived for the individual areas.

<sup>4</sup> The ratio would be significantly lower if based on all residential properties.

## Mangawhai Heads North

(182 properties surveyed)



Comprising Wintle St, Mangawhai Heads Rd, and adjoining roads, this area extends west to the Cullen St ridge. It grew as a holiday destination from the 1960s, developing along the beach and harbour access roads. Over the last two decades housing has expanded through the valleys and along the ridge lines striking to the north.

Sections tend to be large. Permanent dwellings are replacing older baches. Properties typically have garaging, boat storage, and sleep out structures. On Wintle St this results in few visible vehicles, boats, or other recreational assets. However, multiple secondary dwelling structures on many sections clearly accommodate summer residents.

Roadside parking is limited by topography and constrained corridors, with bush extending down the ridges obscuring many sites. Nevertheless, a quarter of properties were identified as having two or more cars on them, reducing the need to use the berm.

Properties with two or more cars visible:	24%
Visible cars/residential property	0.96
Cars on berm in area surveyed	10%
Properties with boats	8%
Properties with other recreational assets	7%

## Mangawhai Heads West

(55 properties surveyed)





The area bounded by Butler Lane, Molesworth Drive, Mangawhai Heads Road, and Jack Boyd Drive has developed extensively over the past twenty years. Recent subdivision with modest section sizes is serviced by relatively narrow roads defined by kerb and channel. The berms are more modest than in the older parts of Mangawhai but still accommodate extensive parking within the road corridor.

Although more distant from the beach and harbour, this area still has a mix of permanent and holiday homes. Even recent developments exhibit the diversity of dwelling styles associated with the informal and incremental development typical of Mangawhai.

The area stands out for clusters of areas with cars parked on properties and on the berm. Many recent arrivals appear from the survey to be attracted as much by the coastal amenity as those in the older areas closer to the beach. This is evident in the number of properties surveyed with boats.<sup>5</sup> The number of visible cars indicates that summer visitation more than matches larger properties closer to the estuary and ocean.

Properties with two or more cars visible:	29%
Visible cars/residential property	1.3
Cars on berm in area surveyed	18%
Properties with boats	10%
Properties with other recreational assets	7%

## Mangawhai Heads Central-North

(228 properties surveyed)



This area has been transitioning from predominantly baches to permanent homes or substantial holiday homes. Developing as a holiday destination since the 1950s, it is characterised by large sections and established vegetation. Carriageways are edged by a generous, grassed berm. Without kerb and channel, run-off is generally absorbed into the sand surface over a relatively short period of time.

Properties with two or more cars visible:	37%
Visible cars/residential property	1.3
Cars on berm in area surveyed	14%
Properties with boats	15%
Properties with other recreational assets	9%

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<sup>5</sup> The figures were higher in the earlier rather than supplementary survey, which was conducted in the afternoon rather than morning, in areas with larger, perhaps family homes with double garaging and little sign of activity.



Central Mangawhai – Early 1950s

### Mangawhai Heads Central - South

(91 properties surveyed)



A continuation of Central-North, from Wood St commercial area as far as the light industrial area on Molesworth Drive, development was initiated around Wood St in the 1950s. This area, too, is well down the path of transitioning from baches to permanent homes. It has shorter streets than Central-North, the majority being cul de sacs leading to the bush-clad cliff edge and a series of walkways down to the harbourside.

Again, the area is an intensively utilised summer holiday zone, confirmed by the large number of boats visible at the time of survey.

Properties with two or more cars visible:	36%
Visible cars/residential property	1.3
Cars on berm in area surveyed	14%
Properties with boats	22%
Properties with other recreational assets	8%

## Mangawhai Heads South

(495 properties surveyed)



This area includes the post-1960s coastal edge properties on elevated Cheviot St and Lincoln St adjacent to the Harbour. It is occupied mainly by holiday and permanent homes built over the last twenty to thirty years, with a few original baches among them. To the south and west is the much more recent development of Moir Point Rd (on-going) and Seabreeze and Estuary drives (virtually complete), and associated cul de sacs.

Again, the presence of cars and boats denotes a busy summer environment despite a relatively large area of semi-suburban, permanent dwellings. Scrubby bush patches add to coastal the character, along with a variety of dwelling styles and sufficient on-site capacity, generally, to park multiple vehicles, although the berm remains a back-up.

Properties with two or more cars visible:	30%
Visible cars/residential property	1.15
Cars on berm in area surveyed	15%
Properties with boats	15%
Properties with other	8%

## Mangawhai Village

(252 properties surveyed)

The harbour was the point of entry into Mangawhai in the mid-19<sup>th</sup> century. The Village today still reflects Mangawhai's long-term marine heritage by way of the waterside tavern and adjoining wharf remnants and a few surviving colonial villas. Growth has taken off over the last twenty years, through a variety of subdivisions and some integrated developments. The coastal character has been retained through sections large enough to house a car or two and a boat in most cases, although that may mean spilling onto the berm.

There was a less obvious multi-car presence on sections at the time of survey. However, recent developments have continued to provide for roadside parking alongside modest sections, albeit often more formally on roads defined by kerb, channel, and formed footpaths. Boats and recreational assets nevertheless remain a feature.



Properties with two or more cars visible:	22%
Visible cars/residential property	0.9
Cars on berm in area surveyed	18%
Properties with boats	13%
Properties with other	14%

## Overview

The survey indicates that car numbers in Mangawhai’s residential areas over the summer are substantially above the census estimate. The survey confirms the intensive use that residential sections cater for over the summer, accommodating large numbers of visitors, their recreational assets, and their vehicles. It also shows that this is a character of newer subdivisions more distant from the coastline, with smaller sections and narrower and more formal roads still required to cater for a substantial summer population and proliferation of vehicles and vessels.



Individual sections are called on to enable numbers well above any “average household size” parameter to take advantage of living and holidaying in a shared environment, a requirement sustained in recent, more formal subdivision. As well as responding to topography and aspect, development plans need to cater for these demands, with sections scaled to accommodate the parking and manoeuvring of two or more vehicles and boats.

Multiple buildings may be called for to accommodate recreational assets as well as cars for permanent dwellings, while secondary dwellings are common and may be complemented by caravans and tents in the summer, The result is a diverse yet often low-density built environment adding to the sense of informality associated with existing settlement and which still defines the character of Mangawhai.

The issue is not that the distinctive character of the older residential areas of Mangawhai should be replicated in new subdivisions, however. Rather, that they should continue to allow for the distinctive use of Mangawhai’s residential areas as a base for a wide range of coastal activity by a swollen summer population. The uniformity of today’s medium-density urban design would conflict with this character. It is doubtful whether it could cater for the coastal lifestyle which defines Mangawhai’s character and explains its appeal and growth.

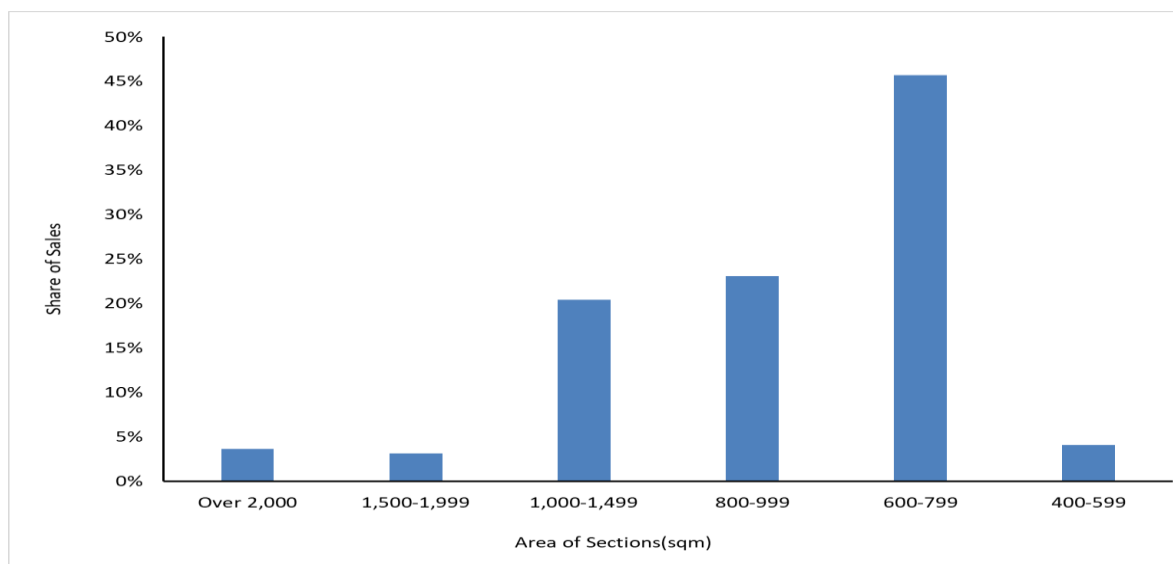
## Section Sizes

In Mangawhai, sections and houses often have the capacity to accommodate extended family and friend groups for long periods. The roads contribute to this flexibility and character with generous and often informal design accommodating overflow parking.

REINZ-sourced data has been used to analyse the section size distribution that provides this on-site capacity and flexibility, covering of all 416 sales from August 2018 to September 2021 (Figure 2). It excludes rural sales.

Very few sales were made of sections of less than 600sqm, with 69% between 600 and 1,000sqm (Figure 2). The median section size across all properties and localities is 810sqm (the average is 900sqm).

**Figure 2: Section Size Distribution: Mangawhai Residential Sales, Oct 2018-Sept 2021**



Northern and central properties tend to be larger than in more recent developments, largely a function of early dependence on-site septic tank sewage treatment. However, the figures confirm that sections even in the West and the Village generally remain adequate for the intensity of summer use to which they are put.

**Table 3: Section Sizes by Area, All Property Sales Oct 2018-Sept 2021**

	Properties		Property Size	
	Dwellings	Sections	Average m <sup>2</sup>	Median
North	22	5	1,156	1,054
West	39	69	901	810
Central North	11	0	1,034	822
Central South	17	2	765	809
South	63	74	925	809
Village	51	63	828	745
Totals	203	213	896	807

## Conclusions

Mangawhai experiences a substantial summer population increase based on bach occupants, visitors to friends and relatives, and (not considered here) occupants of commercial accommodation. The result is a major boost in demands placed on local infrastructure, including water supply and waste-water capacity. For example, Christmas wastewater inflows are close to double the annual average.<sup>6</sup>

While infrastructure capacity can be designed to cope with peak demand – through holding tanks for sewage treatment for example – it is also important to cater for summer demands on residential land and in the streets. The latter refers to more than the capacity to provide village or beach-side parking, adequate carriageways, and intersections. It also incorporates the multiple uses to which roadsides are put within the wider corridor. Extensive Vehicle and vessel parking on the road or berm offsets the inadequate capacity on some sections for the demands made on them in many areas. This is in addition to significant pedestrian use, especially in holidays and weekends, and growing bicycle movements. Reducing road corridors in new subdivisions would be contrary to the demands that will be placed on them in Mangawhai, incidentally increasing hazards to their multiple users.

More generally, the modern subdivision design associated with established urban areas would fail to cater for the demands on the physical environment and the activities on which Mangawhai is based. The traditionally large summer holiday and weekend population will grow along with the permanent population, largely sharing the residential space of the latter. Permanent and part-time residents alike share activities: cycling, walking, boating (powered, unpowered, harbour- and ocean-based), fishing, swimming, and various water sports. All make storage, movement, and amenity demands that need to be reflected in any new capacity provided for growth.

This means that the size, form, and arrangement of residential lots should continue to provide for multiple vehicles and recreational assets to be stored on-site, and multiple uses

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<sup>6</sup> WSP Opus, 2018 Mangawhai CWWTP, *Summary Report*, p11; WSP, September 2021, Mangawhai Wastewater Modelling: Model Calibration and System Performance Planning, Attachment; available at [Mangawhai Wastewater, Kaipara District Council](#)

of the roadside berm. Where residents are unable to store and maneuver their vehicles and recreational assets on site (or on-berm) then these items will inevitably be parked on the roads. Generous road widths will be needed to accommodate this as well as the movement of bulky towed boats and jet skis on and off sites.

The pattern of activity on the ground identified by this survey reinforces the findings of a survey in December 2020 and January 2021 of what residents and visitors value about Mangawhai, and their priorities for its development. This concluded that:

*The significance of the coastal environment is overwhelming, related to its accessibility for and use by permanent residents, bach occupants, and visitors. This view is consistent with the positive view of the character of Mangawhai as a town and as a community. It seems that the qualities of the physical and community environments are closely linked.<sup>7</sup>*

It would be unfortunate if the capacity to cater for the activities that define the community and lifestyle are effectively rationed for future residents through inappropriate subdivision design, limiting the ability of their occupants to share in the benefits offered by Mangawhai.

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<sup>7</sup> *About Mangawhai: Values and Priorities*, Mangawhai Matters Inc (available on the [website](#))

**Attachment 1: Property Counts by Area**

Area	Properties	Cars Visible on the Property						Total	/Property	On Berm	Boats	Other
		0	1	2	3	4	5+					
North	182	73	66	29	7	6	1	174	0.96	17	14	13
Share	100%	40%	36%	16%	4%	3%	1%			10%	8%	7%
West	287	95	106	69	12	4	1	301	1.05	33	25	21
West Share	100%	33%	37%	24%	4%	1%	0%			11%	9%	7%
Central-North	228	75	72	45	22	8	6	290	1.27	41	34	21
Central-North Share	100%	33%	32%	20%	10%	4%	3%			14%	15%	9%
Central South	91	28	30	16	12	3	2	120	1.32	17	20	7
Central South Share	100%	31%	33%	18%	13%	3%	2%			14%	22%	8%
Heads South	495	171	175	85	42	12	10	569	1.15	88	75	41
South Share	100%	35%	35%	17%	8%	2%	2%			15%	15%	8%
Village	252	92	105	37	14	3	1	238	0.94	42	32	36
Village Share	100%	37%	42%	15%	6%	1%	0%			18%	13%	14%
<b>Total</b>	<b>1,535</b>	<b>534</b>	<b>554</b>	<b>281</b>	<b>109</b>	<b>36</b>	<b>21</b>	<b>1,692</b>	<b>1.10</b>	<b>238</b>	<b>200</b>	<b>139</b>
<b>Total Share</b>	<b>100%</b>	<b>35%</b>	<b>36%</b>	<b>18%</b>	<b>7%</b>	<b>2%</b>	<b>1%</b>	<b>100%</b>		<b>14%</b>	<b>13%</b>	<b>9%</b>

**Use of Properties**

	North	West	Centre-Nth	Centre-Sth	South	Village	Total
Two or more cars visible	24%	30%	36%	36%	30%	22%	29%
Share of cars on roadside	10%	11%	14%	14%	15%	18%	14%
Properties with boats	8%	9%	15%	22%	15%	13%	13%
Properties with Other*	7%	7%	9%	8%	8%	14%	9%