



Report to:
Horowhenua District Council

RATEPAYER AFFORDABILITY AND THE SHANNON WASTEWATER DISCHARGE SCHEME

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Ratepayer affordability and the Shannon wastewater discharge scheme

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1 Executive summary

The cost of upgrading the wastewater treatment discharge system in Shannon represents a significant burden on the Shannon ratepayers.

In 2006, Shannon had a resident population of 1,368 people. 52% of this resident population were under the age of 19 or over the age of 60. All the occupied dwellings in Shannon were private households, with the majority of people living in one family or one person households.

While 510 people were employed in Shannon in 2006, 6.6% were unemployed which was higher than the national average. A greater percentage of people in Shannon compared to New Zealand as a whole also recorded that they were not in the labour force. Almost 30% of Shannon households earned less than \$20,000 per year compared to 14% of New Zealand households, and Shannon is in the most deprived 10% of areas in New Zealand.

The median household income in Shannon was \$24,900 in 2006, with 4.4% of this income spent on rates. The average rates paid per household was \$1,106.05. On average, New Zealand households spent 2.5% of their household income on rates. But for those households in the lowest 40% of incomes, this proportion increased to between 4.3% and 5.7% of household income.

Given a proposed cost of the system of \$1.5 million, each ratepayer in Shannon would have to pay of the order of \$2,240 if the system was totally funded through a one-off charge. This would represent a further 9% of the median household's annual income. Clearly, this would make the rates-to-income percentage for Shannon households well above the range noted above.

However, given the life expectancy of the wastewater discharge system, a robust economic argument could be built in favour of spreading the cost over several years. Assuming the cost is to be spread over 25 years, but also factoring in interest costs at 8.5% per annum and annual operating costs at \$30,000, the initial per household cost would be of the order of \$340. This represents an additional 1.4% of the median household income. Further, assuming no change in household numbers or in the interest rate, the annual cost per household falls to \$258 by year 10, and \$148 in the final year.

2 Introduction

The Horowhenua District Council is proposing to upgrade the wastewater treatment and disposal system in Shannon.

This report assessed whether the Shannon ratepayers can afford the proposed upgrade. This assessment examined the demographics of Shannon including household incomes and labour force status, the relative deprivation of the community, and the amount that households paid for their rates.

The demographics of Shannon were then compared with New Zealand, and two communities of a similar size and relative deprivation, Kawakawa in the Far North District and Patea in the South Taranaki District.

3 Proposed wastewater discharge scheme

Wastewater from the communities of Shannon and Mangaore Village is treated in an oxidation pond system at the Shannon Wastewater Treatment Plant (SWWTP). The population served by the pond system is currently about 1,500 people with 594 connections to the sewerage scheme.

The SWWTP is located approximately one kilometre northwest of Shannon near the Mangaore Stream. Horowhenua District Council currently discharges secondary-treated wastewater from the SWWTP into the adjacent Stansell's Drain, which flows into the Mangaore Stream.

The Horowhenua District Council is proposing to upgrade the wastewater treatment and disposal system at the Shannon Wastewater Treatment Plant (SWWTP). The upgraded system will include the existing oxidation pond, an engineered wetland, a pipeline to Mangaore Stream, and a contingency discharge to the Manawatu River.

The proposed discharge scheme is for the discharge of tertiary treated wastewater to land as much as possible, and otherwise to the Mangaore Stream when its flow is greater than half-median. It is expected that a wetland will be built and planted, and the wastewater will be progressively dosed to the wetland. The liquid depth of the wetland will increase as plants grow. The wetland will produce a better quality of wastewater than the existing oxidation pond.

The existing discharge to Stansell's Drain would cease as soon as the necessary pipes and pumping system are installed.

The current estimate of cost of this proposed upgrade is \$1.5 million. The additional operating cost is currently estimated as \$30,000 per annum.

4 The Shannon community in 2006

Shannon is 30 kilometres south-west of Palmerston North and 17 kilometres north-east of Levin. The first settlers to Shannon, named after a director of the Wellington and Manawatu Railway Company, arrived after land sales in 1887. Flax milling, the development of farmland, and dam building at Mangahao kept the town buoyant until the 1920s.

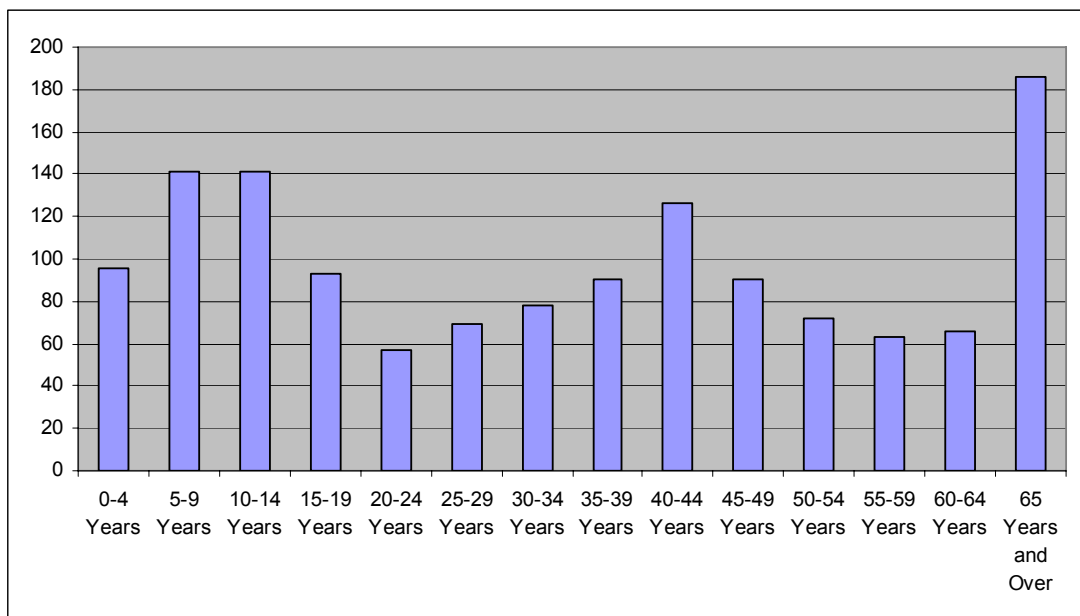
In 1939 the Government bought the Moutoa Swamp near Shannon as an experimental flax plantation. During the Second World War the Government helped the flax industry because it was supplying farmers and the military. After the war, government subsidies and import restrictions on fibres from overseas kept the industry going. The removal of government protection in the 1970s and competition from synthetic fibres hastened the end of the flax industry in Shannon. The last flax manufacturing plant closed in 1985.

Flax manufacturing has given way to dairy farming, and the township is now a rest and refreshment stop for travellers on State Highway 57.

In 2006, Shannon had a resident population of 1,368 people. Over the last 10 years, the resident population of Shannon has decreased from 1,446 people in 1996 to 1,368 people in 2006.

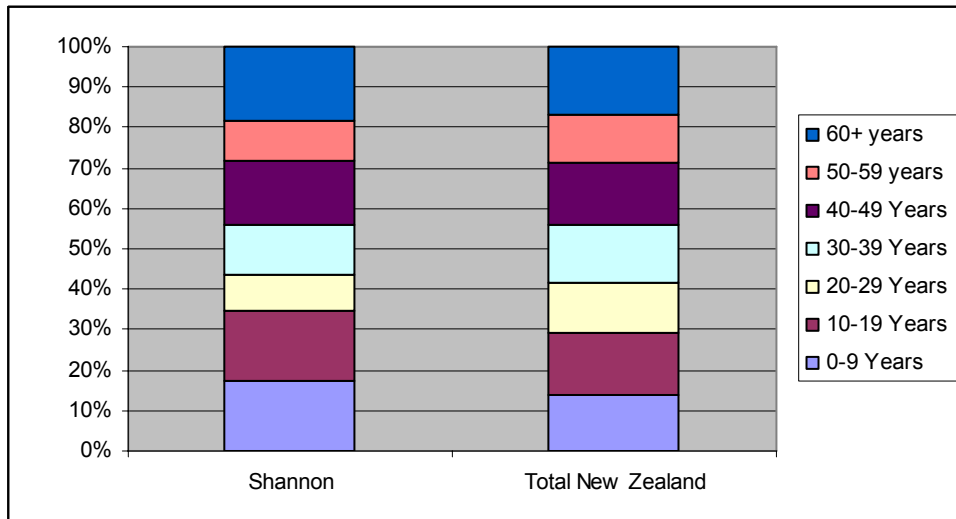
Slightly more females than males lived in Shannon in 2006, 696 females compared with 675 males, and the median age of the resident population was 35 years old. Figure 1 illustrates the age profile of the resident population of Shannon in 2006.

Figure 1 Age profile of the resident population of Shannon, 2006



These numbers reflect New Zealand demographics, as the median age in New Zealand in 2006 was 35 years old, and approximately 49% of the population were male. Figure 2 below illustrates the age profile of Shannon compared to New Zealand.

Figure 2 Age profile of the resident population of Shannon compared to New Zealand, 2006



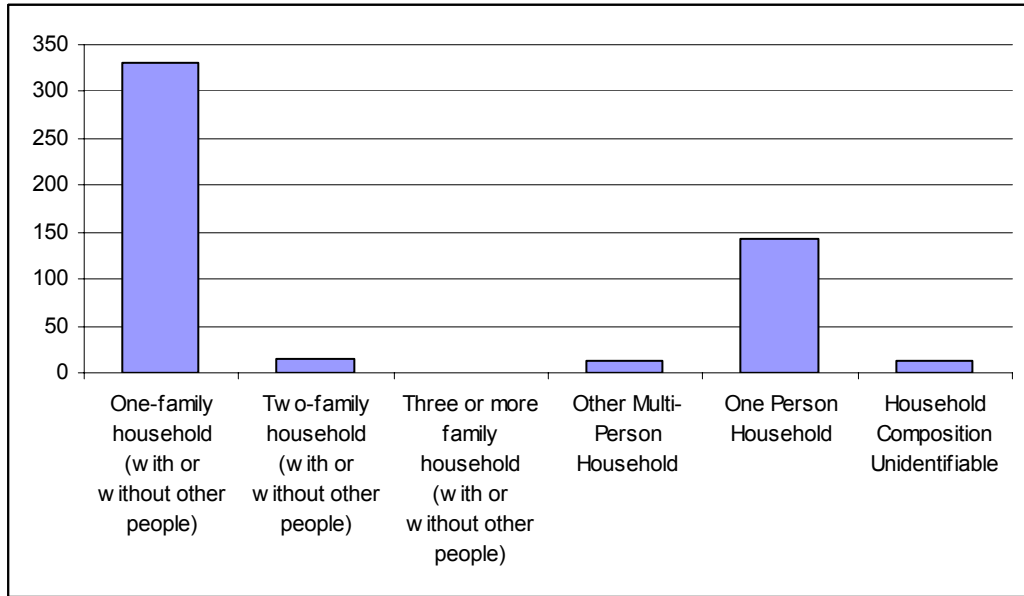
Shannon had more people in the younger and older age groups than the national average in 2006. As shown above, 471 people, or 34% of the resident population of Shannon, were under the age of 19. In comparison, 29% of the resident population of New Zealand were under the age of 19. At the other end of the scale, approximately 18% of Shannon’s population in 2006 were over 60 years old while nationally 16% of people were over the age of 60.

4.1 Household composition

The age profile of Shannon is also reflected in household composition. In 2006, there were 510 occupied dwellings in Shannon and all of these dwellings were private.¹ Of this number, the majority (330) were one family households. The next largest group of households was one person households, at 144 households.

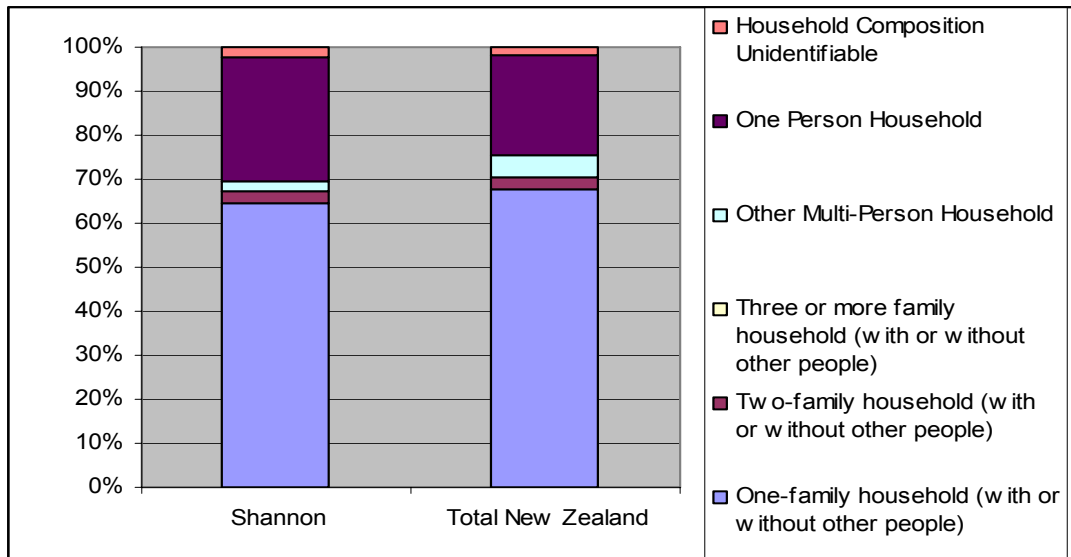
¹ In 2006, no households occupied non-private dwellings in Shannon. Throughout this section of the report the dwelling type referred to is an occupied private dwelling.

Figure 3 Household composition of private dwellings in Shannon, 2006



In terms of the number of people living in a household, the majority of people in Shannon lived in a household alone or with one other person. In 2006, 166 people lived in two-person households while 143 people lived in one-person households. As shown in the figure below, these numbers reflect national trends.

Figure 4 Household composition in Shannon compared to New Zealand, 2006



The number of people in a household is also reflected in household size. The median number of bedrooms per household in Shannon in 2006 was three, with 279 households having three bedrooms as part of their private dwelling. The second most common dwelling was a two bedroom home. In New Zealand, the median number of bedrooms per household

was slightly higher as 20% of households were four bedroom homes compared to 15% in Shannon.

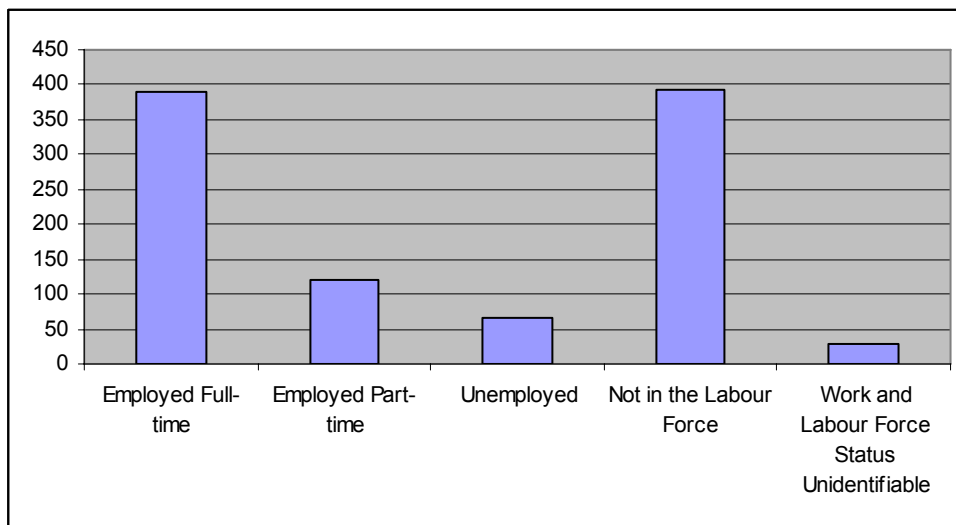
Examining tenure, 59% of households in Shannon owned or partly owned their dwelling, 28% lived in a dwelling that they did not own, while 5% lived in a dwelling that was owned by a family trust. In terms of households that lived in a dwelling they did not own, 71% rented this dwelling from a private person, trust or business. Others rented their property from Housing New Zealand or the district council.

The median weekly rent paid in Shannon in 2006 was \$120. 66 households paid less than \$124 per week for rent while 42 households paid between \$125 and \$174 per week for rent. No households in Shannon paid more than \$175 per week for rent.

4.2 Labour force status

In 2006, 390 people in Shannon worked full-time, and 120 people worked part-time.

Figure 5 Labour force status of Shannon, 2006

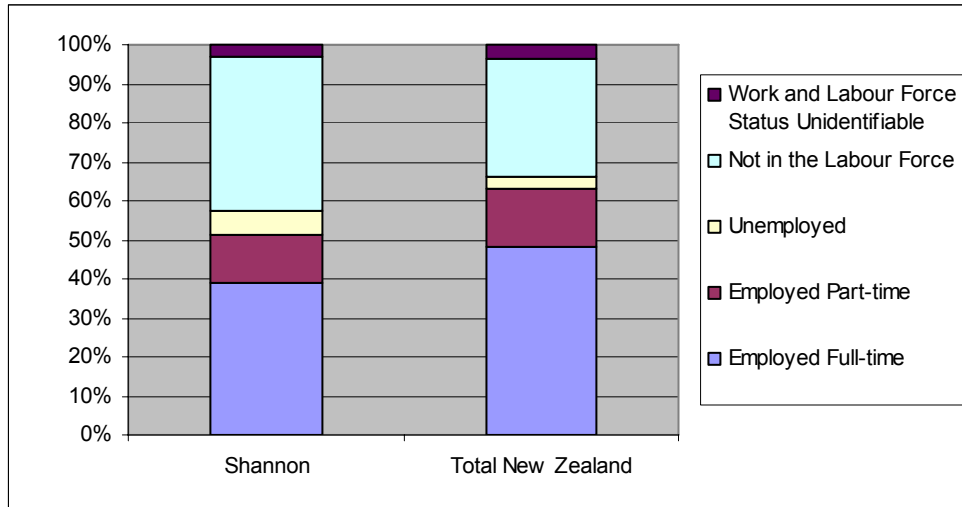


Of the 510 people employed, 402 people were paid employees, 42 were self-employed, 21 were employers, 18 were working as unpaid family members, and 30 people were recorded as not elsewhere included.

The next largest group in terms of labour force status were those who recorded they were not in the labour force, at 393 people. People may not be in the labour force for a variety of reasons such as studying or looking after family members such as children.

A smaller number of people recorded they were unemployed, 66 people, and 30 respondents to the census had a work and labour force status that was unidentifiable.

Figure 6 Labour force status of Shannon compared to New Zealand, 2006

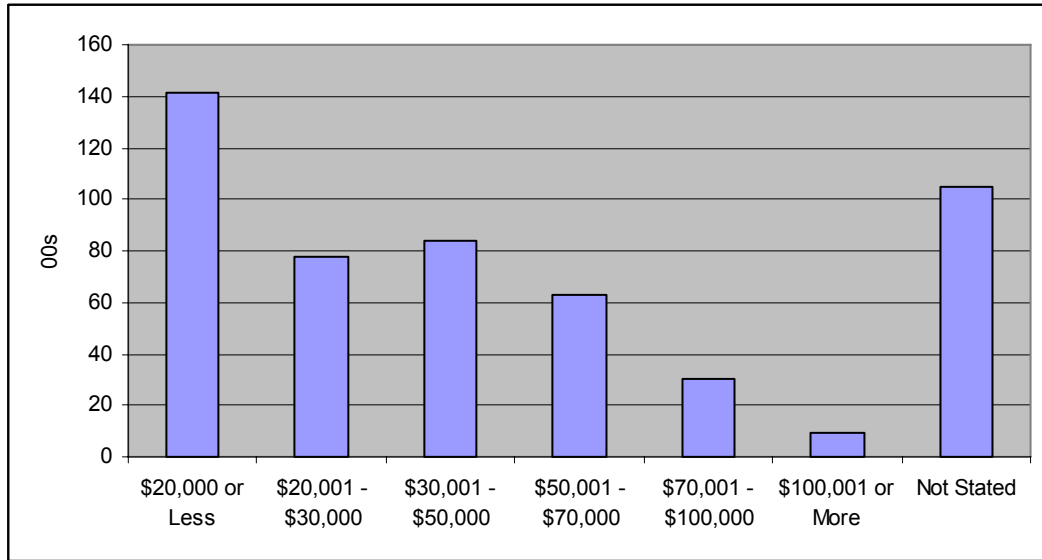


If we compare the labour force status of Shannon with New Zealand, as shown in Figure 6, the percentage of people unemployed in Shannon was 6.6% while nationwide unemployment at the 2006 census was 3.7%. The percentage of people employed in Shannon in 2006 was 51%, while nationwide this number was 63%. A greater percentage of people in Shannon, compared to New Zealand as a whole, also recorded that they were not in the labour force.

4.3 Household median income

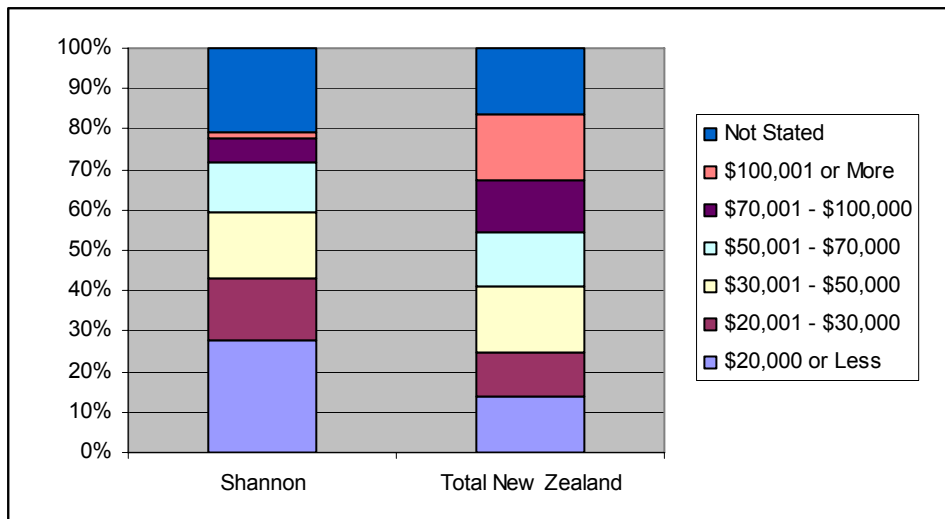
In 2006, the median household income in Shannon was \$24,900. In contrast, the median household income in New Zealand in 2006 was \$51,400. This median income may reflect the age profile of the resident population of Shannon. As mentioned earlier, approximately 52% of the resident population of Shannon were over the age of 60 and under the age of 19 in 2006.

Figure 7 Household incomes of private dwellings in Shannon, 2006



The disparity between household incomes in Shannon and New Zealand is illustrated in Figure 8. Almost 30% of Shannon households earned less than \$20,000 per year while 14% of households in New Zealand as a whole earned less than \$20,000 per year. At the other end of the income scale, 20% of households in Shannon earned more than \$50,000 per annum in 2006 while approximately 43% of households in New Zealand earned over this amount.

Figure 8 Median income of private dwelling households in Shannon and New Zealand, 2006



4.4 Index of relative deprivation

A measure that combines many of the dimensions previously mentioned in this section is the index of socioeconomic deprivation. According to this index, Shannon has a scale of deprivation of 10. This means Shannon is in the most deprived 10% of areas in New Zealand.

NZDep2006 is an updated version of the previous indexes of socioeconomic deprivation. These indexes are carried out by the Department of Public Health at Otago University and are funded by the Ministry of Health. The index of socioeconomic deprivation combines nine variables from the 2006 census that reflect eight dimensions of deprivation. These dimensions are income, whether people live in their own home, support, employment, qualifications, living space, communication and transport.

The NZDep2006 index of deprivation has two forms, an ordinal scale and a continuous score. The ordinal scale ranges from 1 to 10, where 1 represents the areas with the least deprived scores and 10 the areas with the most deprived scores. The continuous score has been scaled to have mean 1,000 index points and standard deviation 100 index points.

4.5 Comparable equity with other New Zealand communities

Comparing Shannon with other rural communities of a similar size and relative deprivation can indicate whether Shannon ratepayers can afford an increase in their rates.

Kawakawa is a rural township in the Far North District. In 2006, 1,347 people lived in this community and the median age was 31 years old. In 2006, the resident population of Patea in the South Taranaki District was 1,143 people. In this rural township the median age was higher than the national average and that of Shannon, at 40 years old. Patea and Kawakawa had a scale of deprivation of 10 in 2006, which means similar to Shannon these townships are in the most deprived 10% of areas in New Zealand.

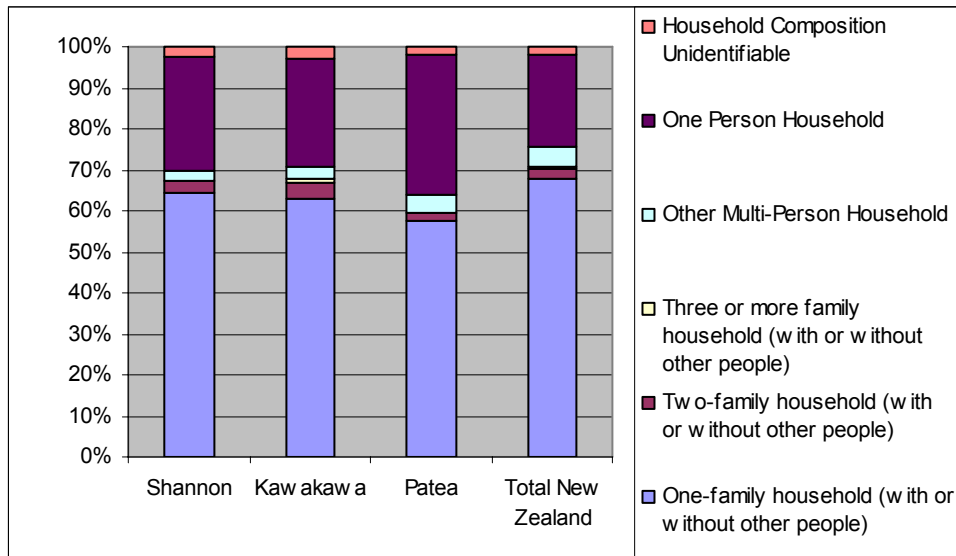
In 2006, 447 households lived in private dwellings in Kawakawa, and of this number 63% were one family households and 26% were one person households. 43% of people owned or partly owned the dwelling they occupied in Kawakawa, while 40% rented the dwelling they occupied. The majority of landlords were private people, businesses or a trust, and the median weekly rent paid was \$136.

In 2006, 480 households lived in private dwellings in Patea, and of this number 58% were one family households and 34% were one person households. 48% of people owned or partly owned the dwelling they occupied in Patea, while 34% rented the dwelling they

occupied. The majority of landlords were private people, businesses or a trust, and the median weekly rent paid was \$90.

The figure below compares household composition in Shannon with Kawakawa and Patea, and the national average. The household compositions in Shannon and Kawakawa are very similar, with slightly more people living in one person households in Patea.

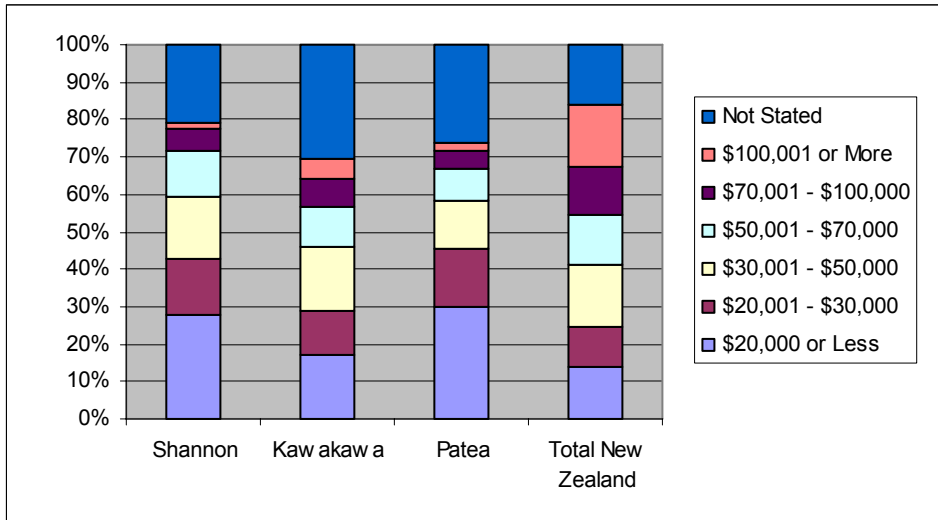
Figure 9 Household composition of private dwellings, 2006



In Kawakawa, 486 people were employed in 2006 including 381 full-time and 105 part-time. 54 people recorded they were unemployed and 315 people recorded they were not in the labour force. The median household income in Kawakawa was higher than Shannon at \$35,700 in 2006.

In Patea, 402 people were employed in 2006 including 294 full-time and 108 part-time. 51 people recorded they were unemployed and 384 people recorded they were not in the labour force. The median household income in Patea was slightly lower than Shannon at \$23,000 in 2006. As shown in the figure below, household incomes in Patea in 2006 were similar to those in Shannon.

Figure 10 Household incomes of private dwellings, 2006



Based on the Far North District Council rates calculator the estimated rates for Kawakawa in 2006/2007 were \$1,200. In turn the average rates for Patea according to the South Taranaki District Council were \$1,500. These rates are higher than rates paid in Shannon, but the capital value per household was higher in Kawakawa and Patea. If rates were to increase in Patea, ratepayers would face affordability issues similar to Shannon due to 30% of households having a household income less than \$20,000 and the relative deprivation in the township.

5 Shannon ratepayers

As of July 2007, there were 644 ratepayers in Shannon and the average rates paid per household was \$1,106.05. Shannon ratepayers are a mixture of urban and rural ratepayers, with 587 urban ratepayers and 57 rural ratepayers. No commercial rates are paid in Shannon.

If the proposed cost of the upgraded wastewater discharge scheme is \$1.5 million, each ratepayer in Shannon will have to pay an additional \$2,240 in rates to fund this scheme. The percentage of median household income spent on rates in 2006 was 4.4%. However, a significant proportion of households in Shannon received less than the median income. Approximately 30% of Shannon households received \$20,000 or less in 2006 and household rates were 5.5% of household income in these households. The rates burden on these households will be greater, as many of these households are on fixed incomes. The cost of upgrading the wastewater discharge system in Shannon represents a significant additional burden on these Shannon ratepayers.

However, given the life expectancy of the wastewater discharge system, a robust economic argument could be built in favour of spreading the cost over several years. Assuming the cost is to be spread over 25 years, but also factoring in interest costs at 8.5% per annum and annual operating costs of \$30,000, the initial per household cost would be of the order of \$340. This represents an additional 1.4% of the median household income. Further, assuming no change in household numbers or in the interest rate, the annual cost per household falls to \$258 by year 10, and \$148 in the final year.

5.1 Rates affordability issues

The average ratio of rates to household income for New Zealand households is 2.5%. The median income in Shannon was \$24,900 in 2006 and the average rates were \$1,106.05; therefore, annual rates as a percentage of household income was 4.4%. In comparison, annual rates as a percentage of household income in Kawakawa were 3.6% and in Patea were 6.5%. For New Zealand households with the lowest 40% of incomes, annual household rates as a percentage of household income falls in the range 4.3% to 5.7%.²

The income threshold for the Rates Rebate Scheme is \$20,000 and the estimated rebate per household is based on income and number of dependents. It is unknown how many households in Shannon currently receive a rates rebate but a single person living alone on

² BERL. 'The sustainability of rates and the measures to address affordability over time'. Report to the Local Government Rates Inquiry. June 2007.

New Zealand Superannuation with no other income paying \$1,200 for household rates could receive an estimated rates rebate of \$500. The maximum rebate entitlement is \$500, which means if household rates were to increase to \$2,000 per annum (as in the one-off charge situation) this household would be unable to increase the amount of assistance they received.

Previous work completed by BERL on rates affordability found that households that consist of lower income groups are more exposed to rates increases than those on higher incomes. The lowest average weekly household incomes are in one person households, one family households, and one parent with child(ren) households. On average, households whose principal income is from New Zealand Superannuation have an average weekly income that is less than a third of those households whose principal income is from wages and salaries or self-employment. A situation similar to those on New Zealand Superannuation exists for those households whose principal source of income is from other government benefits.³ The majority of people in Shannon live in one person or one family households, and many of these households are on fixed incomes.

³ BERL. 'The sustainability of rates and the measures to address affordability over time'. Report to the Local Government Rates Inquiry. June 2007.

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