Mitigating the effects of rural isolation is necessary for the development of such centres, as well as the wellbeing of inhabitants. Feeling connected to an area and having accessibility through mobility have been directly correlated with wellbeing, and this is especially evident in the relationship between rural isolation and the deprecation of mental health (Stanley et al, 2018; Walker, 2012). Differences in transport mobility and access is inherent to living in rural places, especially rural New Zealand, so it is imperative to understand the population composition and the physical geography of the area.

The composition of the rural Little River and Wairewa area (LR&WA) is likely to be very diverse. Statistics NZ (2018) states, "*Included under the rural umbrella today are a diversity of groups – farmers and farm workers, forestry workers, 'alternative lifestylers' and craftspeople, among others"*, implying that variations in the socio-economic status of LR&WA residents are likely, therefore there will be variations in transport mobility and access options. The geography of LR&WA can also hinder mobility and accessibility as it can restrict those without a means of transport. The community is scattered over a large rural area divided by steep hills, as well as being approximately 40-50 kilometres away from key services such as supermarkets, health services, pharmacies and more. Due to this, the geographical isolation of rural communities may affect the overall wellbeing of its inhabitants as mobility and therefore access to these services may be restricted. The purpose of this study is to analyse the level of connectedness that rural populations have to key services (such as health services, food & drink, government services etc) and whether the implementation of a community transport is needed, and more importantly wanted. The study was undertaken in the LR&WA.

Mobility and transport are one of the most important factors that greatly impact rural populations. Mobility is a basic necessity in a developing region to meet the populations basic needs (Šipuš & Abramović, 2017). Lack of transport has knock-on effects to the population affected; social exclusion, dependency on others, health, employment and many other factors of life can be affected by poor mobility (Stanley et al, 2018). Rural areas feature in all corners of the world, with some being more disconnected from urban areas than others. Little River is one such area. According to Šipuš & Abramović (2017), the importance of transport services in rural regions is crucial to the economic and social development of an area, increasing the wellbeing of inhabitants and aiding in the reduction of adverse effects that may arise due to isolation.

Stanley et al (2018), O'Shaughnessy et al (2011), and Šipuš & Abramović (2017) have investigated the importance of transport mobility to see whether a lack of transport affects the wellbeing of a community. In all three papers a similar conclusion can be made – the increased mobility of individuals, by way of community transport, increases social interactions and therefore combats against social exclusion and the mental illnesses that may arise from exclusion, for example, depression (National Forum for Assertive Outreach [NFAO], 2004). This conclusion can be examined further, and possibly strengthened, through examination of the current rural transport options in LR&WA

The LR&WA is found on the South Island of *Aotearoa* (New Zealand), in the Banks peninsula, between Christchurch (the main city of the South Island, with around 400,000 inhabitants according to the last census in 2013. Figure 1 circled in yellow) and Akaroa a French-style tourist destination – which is completely remote and a cul-de-sac (Figure 1 circled in orange). The LR&WA has 465 occupied dwellings (according to the 2013 census) and has several key services. Key services found in LR&WA are: a primary school, Marae, library, rugby club, café and store, bed and breakfast, museum, post office, and fuel station. The key services that are lacking are primarily health services, but also include others such as: primary health care, pharmacy, supermarket, and

population composition of the area, and to gauge residents' opinions of a potential form of community transport.

Several GIS data sources were

Activities	Average distance from LR&WA (km)	Average time from LR&WA (min)	Highest number of replies		Least number of replies
GPs	29.6	31.8	Not really connected	Reasonably connected	Very connected
Health Services	28.4	27.8	Not really connected	Reasonably connected	Very connected
Food/Drink	6.96	6.6	Reasonably connected	Not really connected	Very connected
Govt Services (WINZ)	53.2	50	Not really connected	Reasonably connected	Very connected
Cultural/Religious	10.84	9.8	Not really connected	Reasonably connected	Very connected
Education	6.8	7.4	Not really connected	Reasonably connected	Very connected
Recreational	4.18	4.6	Reasonably connected	Not really connected	Very connected

We collected a total of 88 responses through the survey, (67 by internet, 17 by paper form, and 4 by door-knocking). This gave a representation of 19% of the overall households in the LR&WA, thus a fair representation and making the results significant and relevant for analysis.

The findings of table 2 ( )] TJETQq0.000008

Table 2: Analysis of access to motor vehicle for respondents dependent on age (survey question 2 and 4, see supplementary material 1

Table 3: Analysis of the importance of a community transport implementation for respondents dependent on age (survey question 2 and 8, see supplementary material 1). Results are presented in percentage of participant responses and number of participant responses are indicated in brackets.

[redacted]		

[redacted]

[redacted]

[redacted]

From the above results, we have showed that residents of the LR&WA have a greater want rather than a need for a form of community transport. This

the coordination of the report writing. Furthermore, we would like to acknowledge with much appreciation Dr. Matheson who played the crucial role of our community partner and in helping us organise this research. We would also like to acknowledge Matt Greene, the LR&WA Community Trust, the LR&WA Community, and the University of Canterbury Geography department.

Beere, P. (2016). Creating a Road Network Analysis Layer with Travel Time Estimates using Opensource Data. *GeoHealth Laboratory University of Canterbury, Christchurch, New Zealand.*

Blablacar (2018). Retrieved from: https://www.blablacar.fr/

Stats NZ. (2013). 2013 Quick Statistics about a place: Little River. *Age and Sex.*
Retrieved from:

Supplementary Material 1: Paper copy of the survey

Little River

Montgomery's/Bachelor's Road

Okuti/Reynold's Valley

Ruaha/Ceentown

ot to say

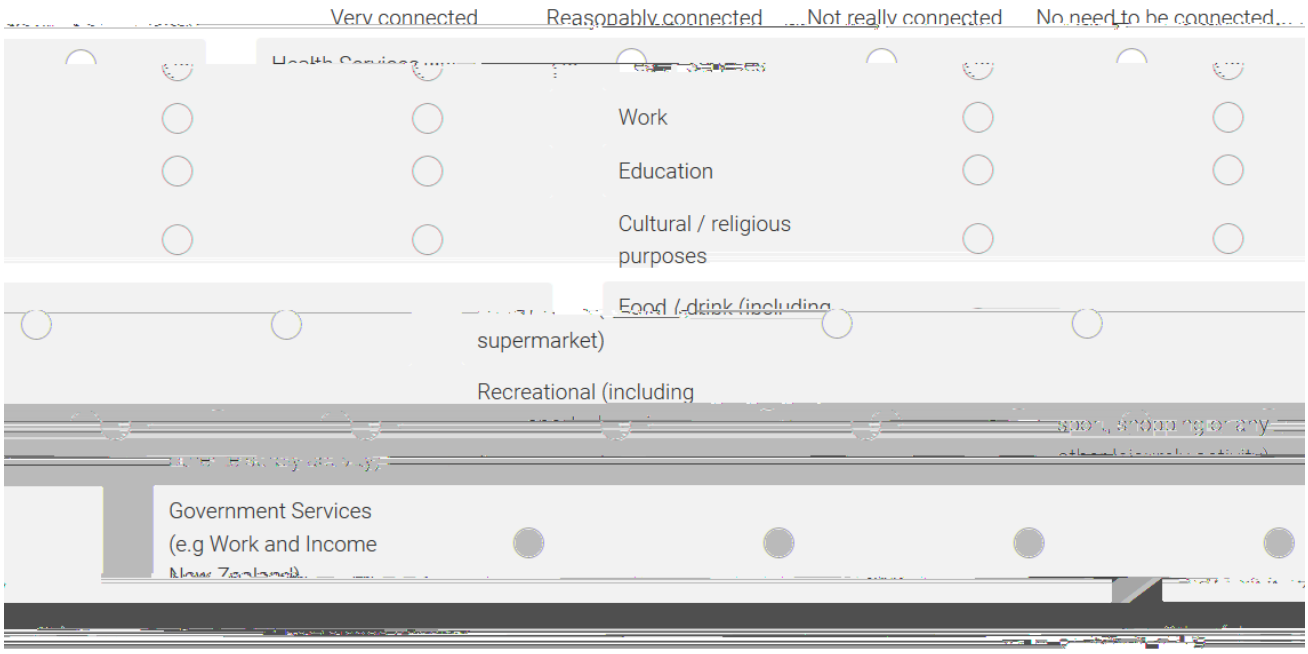
Birdlings Flat

Prefer n

Other (please specify)

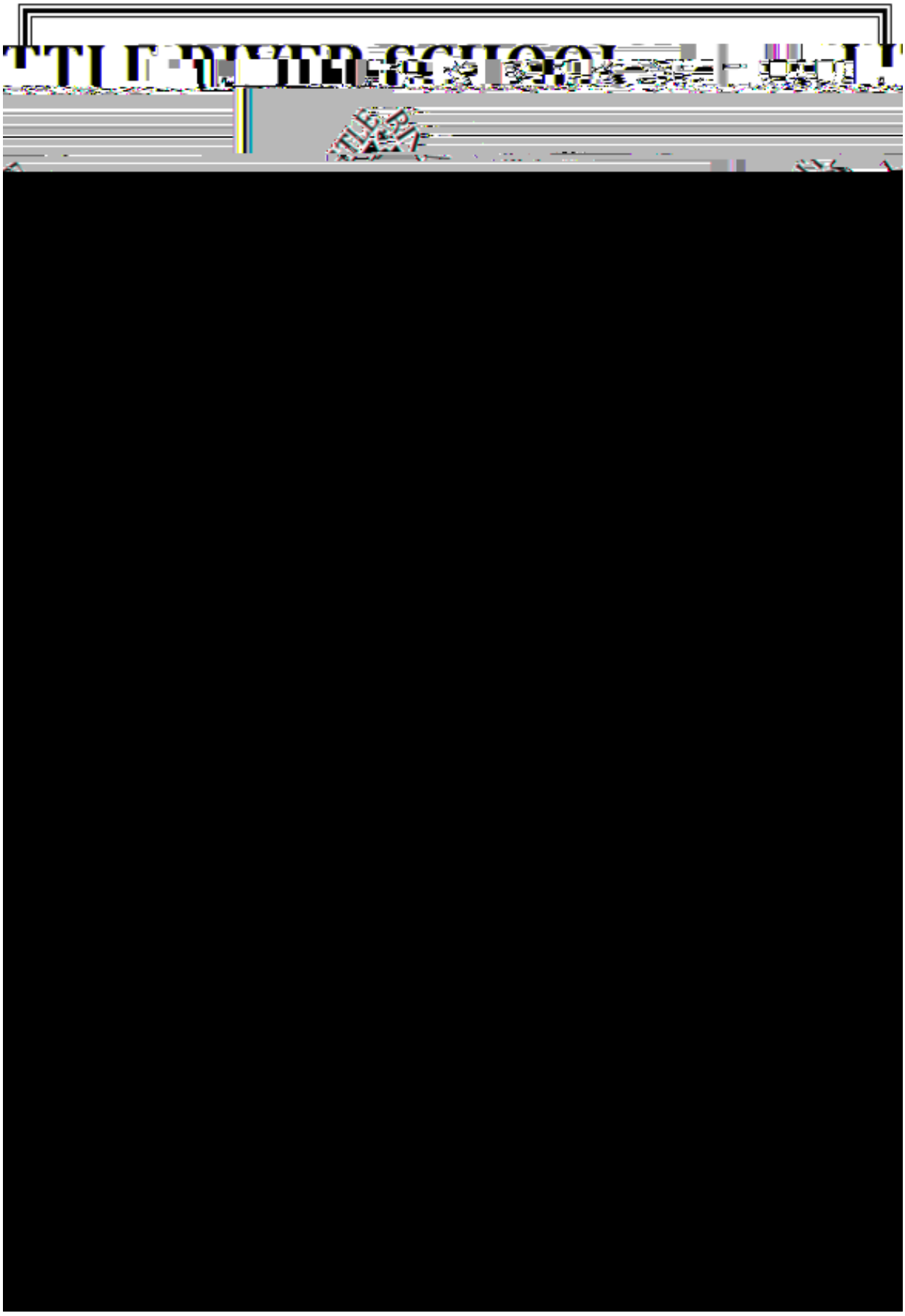
6. And for what reasons? Please check all that apply.

7. How connected to these places do you feel?



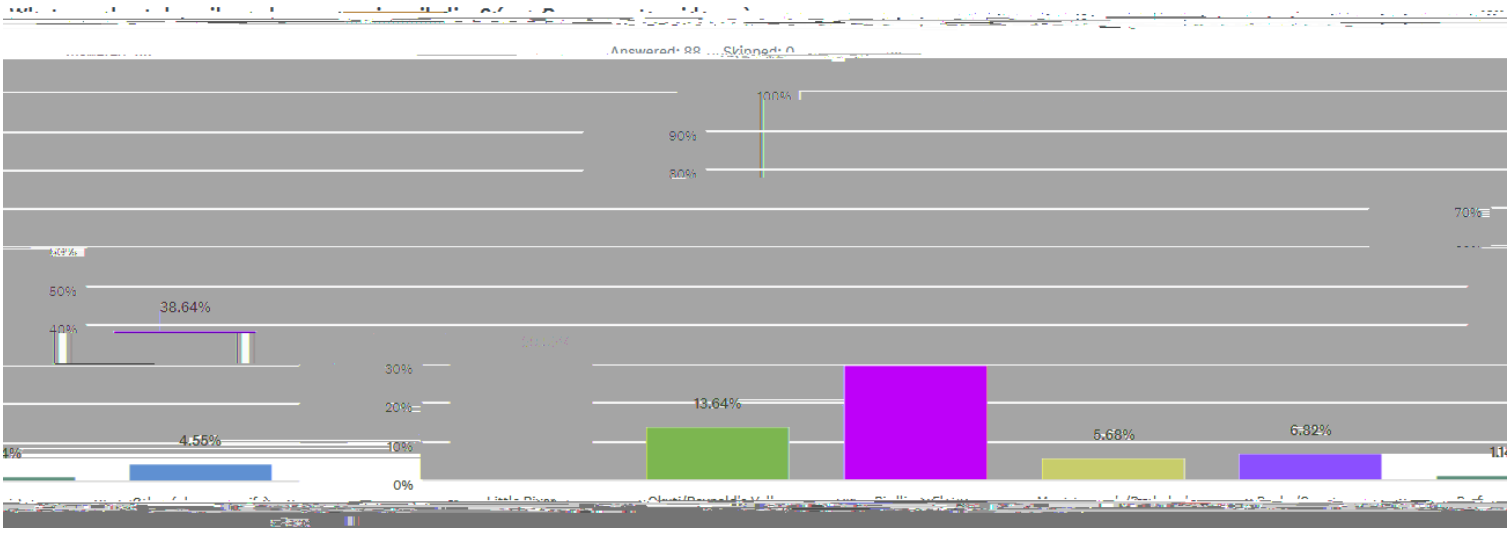

Not at all
A moderate amount

Supplementary Material 2: Notice of the project in the Little River School Newsletter

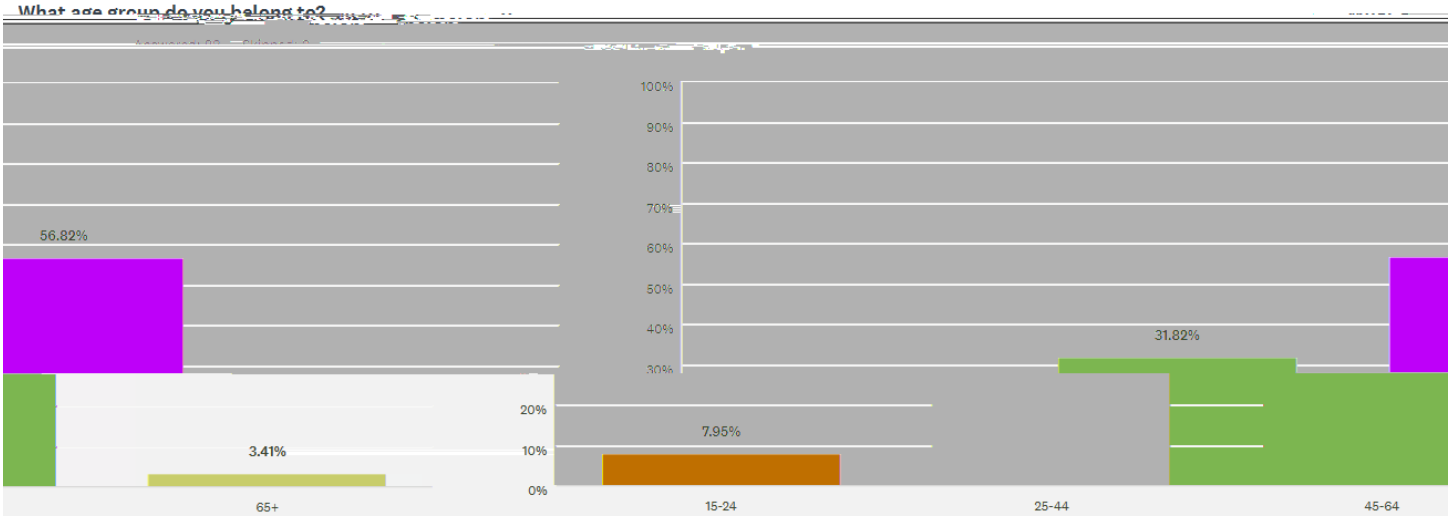


Supplementary Material 1: Survey Monkey results

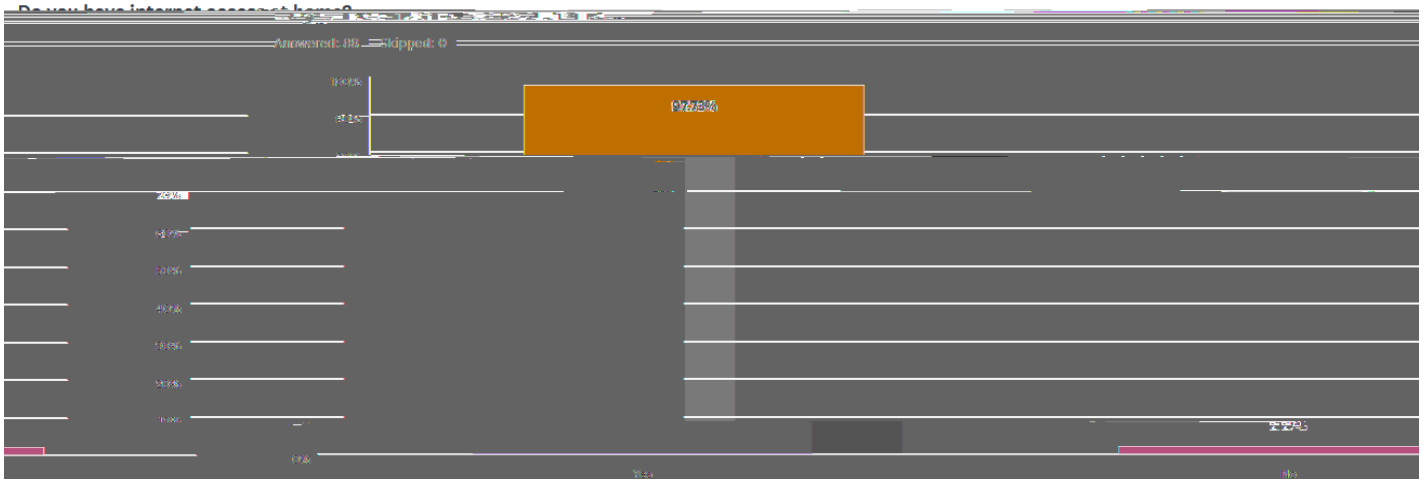
Q1:



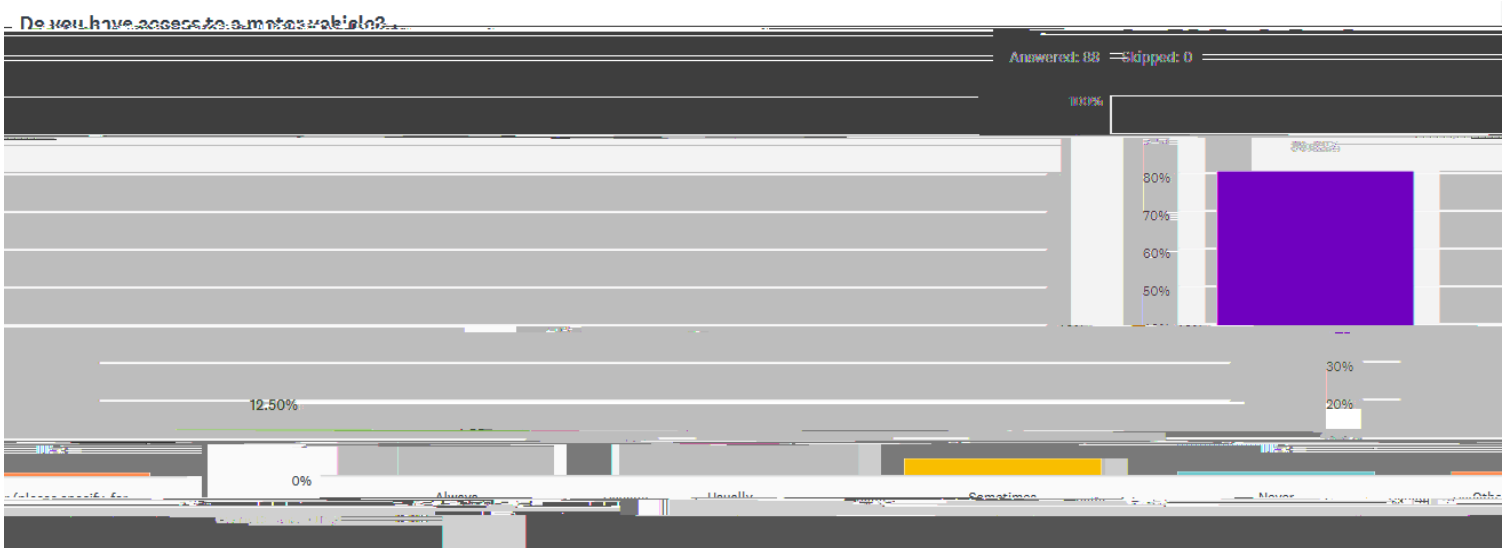
Q2:



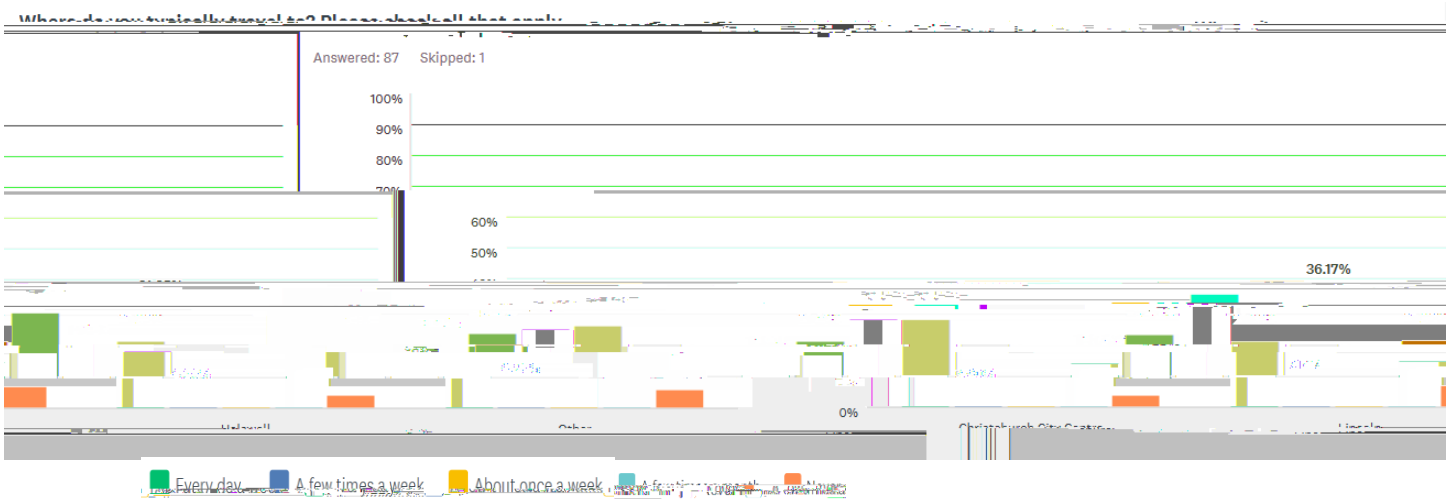
Q3:



Q4:



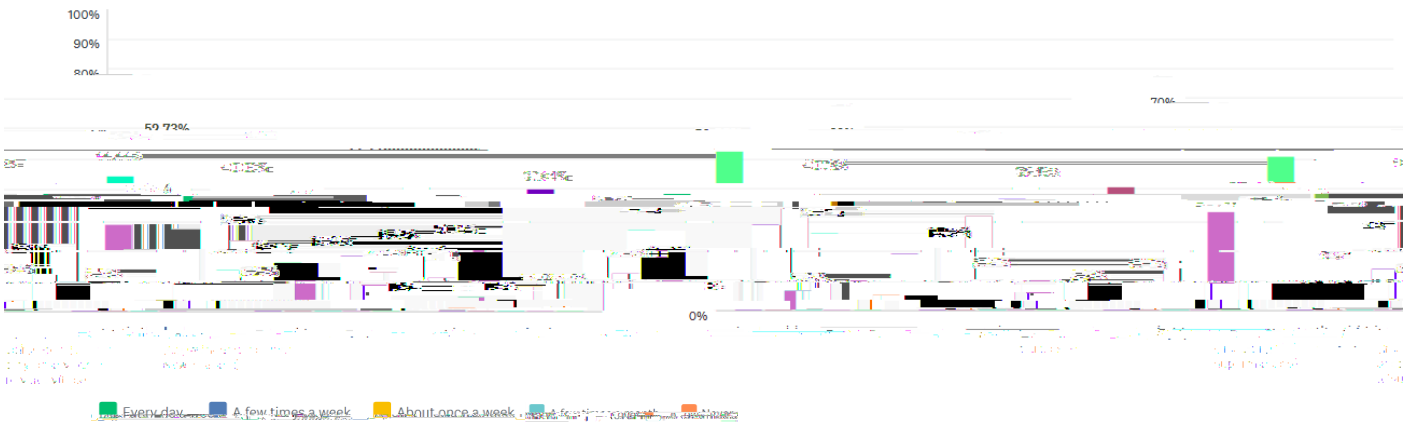
Q5:



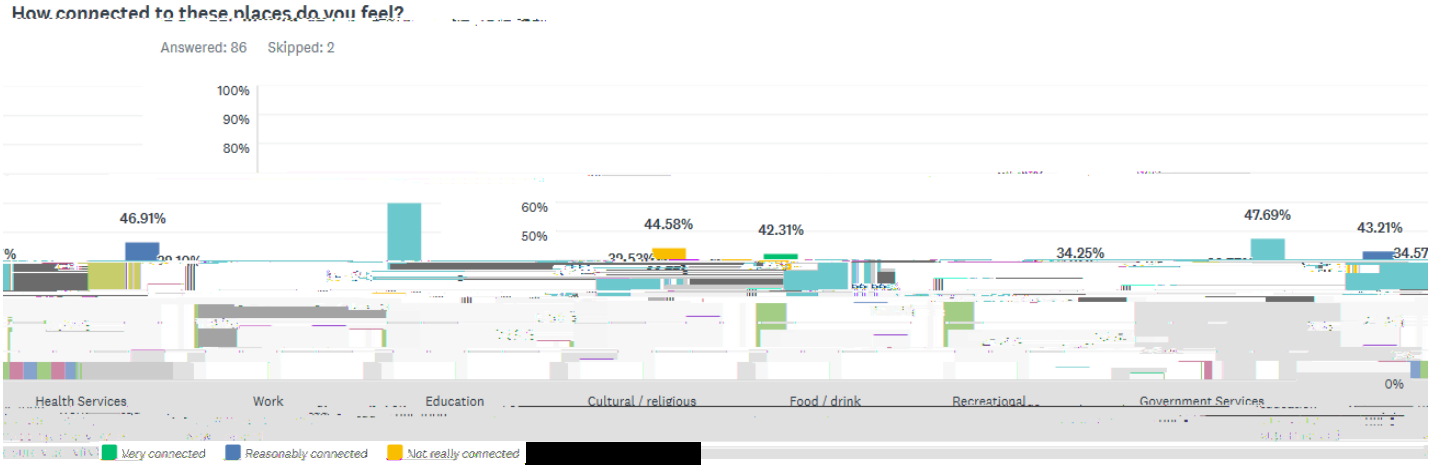
Q6:

And for what reasons? Please check all that apply.

Answered: 88 Skipped: 0



Q7:



Q8:

[redacted]

Q9:

[redacted]

Would be good for teenage kids

Organised carpooling with a place to park my car in town, and share the journey in/out.


We have a small car pool already used as frequently as possible. And about to have another person join us.
not at all
A transport service would change my life as I'd regain my independence by having the choice of travelling into the city (on my days off work) at a later time in the day, rather than having to
Bus. / usually.
Would not affect my life
work
Very useful for teenagers without driving license. Also for Halswell supermarket runs

My daughter would use it and save me a trip in to town. Think it would be great for those less fortunate with transport and happily put my hand up for trips into town as a driver

trainings to Lincoln - again dependent on times.

Possibly 4 x per week mostly for work purposes. The times would have to work though. Also sending the kids in for sports

I would use one from time to time. If the service was regular I would use it more frequently - ie. I would use it in conjunction with my car

-Lge drive and money saver and less mileage on vehicles

using to get to and from the airport

Not likely but could consider

I believe there should be a public transport option available as we live. I believe there should be a local CD and buses available in this area. I have written my opinions as I see it over the years to

would use as often as possible to commute to work - socially

especially when it comes to hospital appointments

I might use it to go into Christchurch but parking is a problem

maybe not

It would give us more options to travel, especially if it accommodated late(r) night travel

as much as possible