

FUEL PRICE RISES AND THE PERI-URBAN ECONOMY

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ABSTRACT

Wairarapa towns are only approximately one hour drive from Wellington, over the Rimutaka Ranges. Development of these towns in recent times has been partly effected through lifestyle blocks and domestic tourism. Wellington provides a strong source of demand for each of these activities, and related travel between Wellington and Wairarapa is almost entirely by road vehicle.

Within the context of the petrol price increases of New Zealand's 2008 winter, the research of this paper investigates any vulnerability Wairarapa faces due to increasing petrol prices affecting usage of road vehicles thus affecting accessibility between Wellington and Wairarapa. For this investigation, the research assessed media coverage of petrol pricing during 2008, inspected a series of traffic count data from two strategic sites within Wairarapa, and gathered brief perspective from a small sample of Wairarapa business owners.

1 INTRODUCTION

Statistics New Zealand (2005) reports that "the greatest change in rural areas over the past thirty years has been the development of peri-urban areas." Such peri-urban development has affected the Wairarapa region, particularly the population centres of Martinborough, Featherston, Greytown, Carterton, and Masterton. These areas are only approximately one hour drive from Wellington, over the Rimutaka Ranges.

There is evidence of strong links between the proximity of Wellington and the viability of Wairarapa's peri-urban activities; particularly with respect to lifestyle blocks and domestic tourism. By example:

- Real estate agents in Wairarapa say that Wellingtonians "see Wairarapa as a place to escape to, especially in the weekends" and that "there are a large number of people who now live in Wairarapa and commute to Wellington to work" (NZ Property Investor, 2006). "In the last couple of years, more and more people, especially 'Wellingtonians', are choosing to move to the Wairarapa whilst continuing to commute." (NZ Property Investor, 2008.)
- In early 2009, the Mayor of the South Wairarapa District said that "lifestyle blocks have re-populated much of rural New Zealand and aided the resurgence of rural towns as service centres. [...] Rarely does the land provide sufficient income to be self sufficient so owners often derive further income from other sources either by commuting to a nearby city or working from home. This income from outside the district further supports the local economy." (Staples, 2009.)
- In 2007, the Encyclopaedia of New Zealand stated that in the Wairarapa region "lifestyle blocks and weekend holiday homes are now more common, and are keenly sought by Wellingtonians." (Schrader, 2007)
- The Wairarapa economy was profiled by BERL in 2007. The industry segmentation used in the profiling did not include an area specific to tourism, but

commentary highlighted "the popularity of the Wairarapa Region as a short-break destination from Wellington and the Hawke's Bay." Growth in Wairarapa's retail trade was part attributed to "purchases by visitors to the region" and strengthening of "accommodation, cafes and restaurants reflect the role of tourism in the region." (BERL, 2008.)

- Although not distinguishing between domestic and international visitors, Destination Wairarapa's "Wairarapa Tourism Strategy 2009-11" recognises that "tourism brings employment and provides facilities, retail outlets, infrastructure and services that the local population might not sustain on its own." (Destination Wairarapa, 2007.)
- The Ministry of Tourism calculates that 78 percent of domestic visitors to Wairarapa come from Wellington and 77 percent of expenditure by domestic visitors originates from Wellington. (Ministry of Tourism, 2008.) More than 90 percent of domestic visitors to Wairarapa travel there by road vehicle. (Covec, 2006.)
- Planning for upgrade of the Wairarapa Corridor road between Masterton (in the Wairarapa region) and Upper Hutt (in the Wellington region) identifies regional issues that the road improvement could address. The stated issues include "low population growth in Wairarapa which inhibits local economic growth and suggests access to Wairarapa may be an issue"; "the importance of continued access to employment in Wellington CBD and the Hutt Valley by Wairarapa residents"; and "growth in tourism." (Greater Wellington, 2003.)

The significance of access between Wellington and Wairarapa is apparent. It is also clear that access between Wellington and Wairarapa is almost entirely road-dependent. Thus follows the hypothesis that the established links between Wellington and Wairarapa could be vulnerable to circumstances that reduce the inter-accessibility; circumstances such as increased prices of road vehicle fuels given that the Wellington-Wairarapa trip is approximately one hour driving including traverse of a low mountain range.

In New Zealand during the winter of 2008, the prices of road vehicle fuels were affected by gradual but sustained and strong increase. The progression of pricing of regular petrol surrounding that period is shown in Figure 1.

This paper reports work that investigated how the increased road vehicle fuel price affected discretionary travel between Wellington and Wairarapa. The work sought context and evidence of discourse around the winter 2008 period, such as that indicated by a survey of Automobile Association members where 50 percent of respondents reported that they were managing the increased fuel prices by reducing weekend trips (AA New Zealand, 2008a). An assessment of the general discourse around petrol prices was based on newspaper reports during 2008. Traffic counts on the one road between Wellington and Wairarapa were analysed and also traffic counts from one major road within the Wairarapa region were analysed. Telephone interviews with a small sample of Wairarapa businesses provided qualitative information.



Figure 1: Regular Petrol Price
Source: Ministry of Economic Development

2 MEDIA DISCOURSE

www.stuff.co.nz is the internet publication of all the newspapers of Fairfax New Zealand Ltd. The website's archives for the year 2008 were searched for all articles regarding New Zealand and containing reference to petrol pricing. Table 1 shows the found frequency of reference to petrol pricing per month. The average number of references is 36 articles per month. The possible effect of the New Zealand summer holiday period on the low January number of articles should be considered.

Table 1: Monthly number of articles found on www.stuff.co.nz containing reference to petrol pricing during 2008

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Number	25	33	29	36	39	35	40	45	39	33	38	41

Some articles referencing petrol pricing were simply tracking the price changes. These articles were more objective, although a range of descriptive terms were used. Terms used to describe increasing petrol prices included: rising, soaring, leaping, skyrocketing, spiking, brimming and surging; plus never-ending, unprecedented, "breaking record after record" (Dominion Post, 2008a), and relentless.

Other articles focussed more on the effects of petrol pricing on lifestyles. In July 2008, it was reported that the "traditional Sunday drive is under threat as petrol prices and the cost of living keep people from getting behind the wheel." (Dominion Post, 2008b.) "In August when petrol was more than \$2 a litre, [a Wairarapa retailer] was lamenting the loss of out-of-town visitors to his store." (Wairarapa Times-Age, 2008) Some articles referred to the role of petrol purchase within household budgets, highlighting the corollary that increased expenditure on petrol purchase decreases expenditure available for other items.

Fairness of petrol pricing appears to be some issue. This was raised through concerns that petrol pricing was not appropriately responding to changes in the cost of oil or to changes to the value of the New Zealand dollar relative to foreign currencies. Articles frequently covered the level and purpose of taxation that currently exists within the price of petrol, and also regional taxation that could potentially be added to the price of petrol. Petrol pricing issues also arose with respect to diesel vehicle operators and those paying Road User Charges. Other pricing discussion related to petrol prices being higher in rural and more remote locations.

The "fairness" theme also appears somewhat with respect to petrol-related crimes or questionable behaviours. By example:

- From April and then through the remainder of 2008, there were reports of the type: "Soaring petrol prices have sparked a rise in stolen car number plates, used by criminals to disguise themselves when committing petrol station 'drive-off' thefts." (The Press, 2008.)
- An anecdotal report from a petrol station worker said that "petrol theft used to happen once or twice a year, but this year they had been happening almost weekly. He believed it was 'absolutely' linked with rising petrol prices." (The Nelson Mail, 2008.)
- The Automobile Association offers a service of taking petrol to members' vehicles where the vehicle has run out of petrol. Members have to pay for the petrol delivered but any service charge is included within their membership fee. "In the Wellington region [during June 2008], callouts to embarrassed motorists whose tanks were empty increased 18.5 per cent on June 2007. In Wairarapa, the increase was a staggering 40 per cent." (The Dominion Post, 2008c.) The newspaper articles are written within the known context that the Automobile Association is widely viewed as "an iconic New Zealand organisation with an unrivalled reputation for delivering a range of services that support not only essential transport but also a Kiwi passion - motoring" (Marac, 2009) and additionally the Automobile Association is a "reputable and credible brand trusted by more than 1.2 million New Zealand members" (AA Travel, 2006). While the newspaper articles report that the Automobile Association had no intention of changing conditions of their refuelling service, still the articles identify the concern of the Automobile Association about the trend; and the articles emphasise logistical, safety, and mechanical issues surrounding running out of petrol in such a way.

Another major theme within articles referring to petrol-pricing relates to behaviours to reduce the amount of petrol used.

- Some articles focussed on efficiency of vehicles and vehicle use. For example, as summarised in August 2008: "Motorists couldn't control the direction of the price of petrol, but they could control whether they drove to work in sluggish peak-hour traffic or left earlier and had a smoother, quicker drive, or cut back on the number of trips they made to the shops. Similarly, they could choose to be less heavy on the accelerator and brakes, all of which could take a little off the weekly petrol bill." (Sunday Star Times, 2008.)
- Other articles discussed modal change to public transport. A typical report includes statements such as "Wellington's public transport system is creaking as record petrol prices force people out of cars." (The Dominion Post, 2008d.) It is noted that any positives of public transport usage are apparently downplayed

with words such as "force" creating focus on removal of choice in people's travelling decisions.

Inspecting the newspaper articles of 2008 in isolation can only give an impression of the topicality and tone of opinion toward petrol pricing issues. However, it is proposed that the frequency and breadth of articles relating to petrol pricing would have brought petrol pricing strongly into the day-to-day public awareness, generally with a negative sense, or an impression of some futility and resignation with respect to petrol price changes.

3 WAIRARAPA TRAFFIC COUNTS

The New Zealand Transport Agency maintains traffic count sites throughout the New Zealand State highway network. Wairarapa has two traffic count sites that are continuously monitored and Figure 2 shows the locations of those two sites. Both traffic count sites are on State highway 2. One site is in Wairarapa near Clareville, between Carterton and Masterton; the other site is midway on the Rimutaka Ranges road between Wellington and Wairarapa.

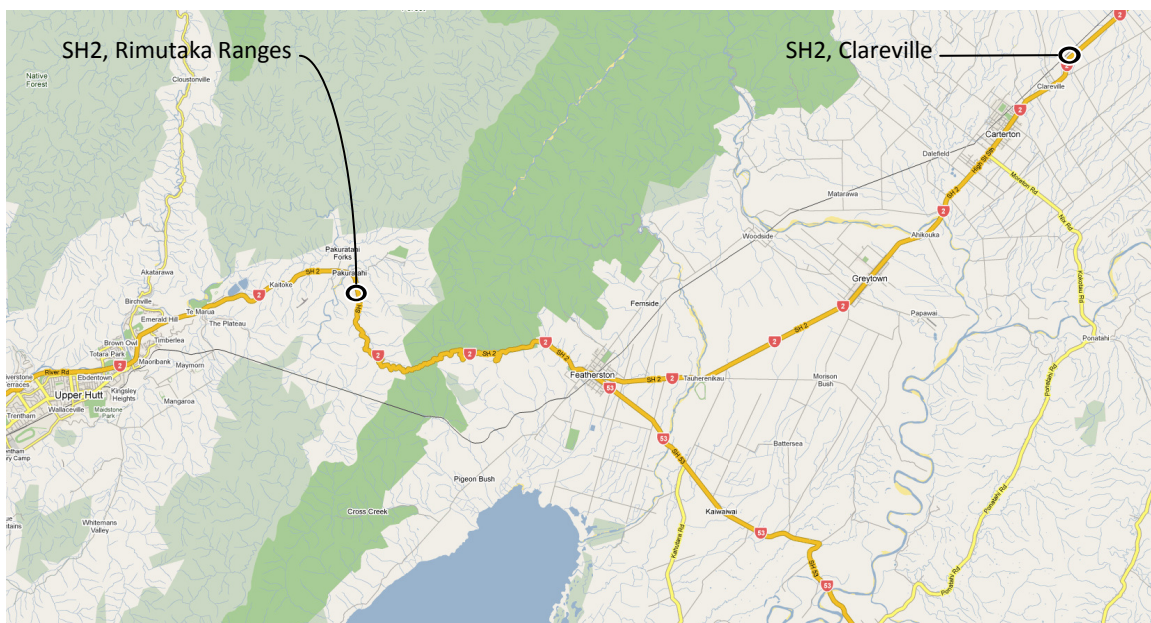


Figure 2: Locations of the studied two New Zealand Transport Agency continuous traffic count sites on State highway 2 through Wairarapa

Data was obtained from these two traffic count sites for the 24 week period of April through mid-September, for each of the years 2006, 2007, 2008 and as far as possible for 2009. The data was generally available such that the direction of travel of each counted vehicle was given. For each site for each year, the 24 week period was divided into six sets of four weeks, each starting on a Saturday. Within each set, daily traffic counts were averaged by weekday. Figure 3 and Figure 4 illustrate the type of data manipulation and display that were developed.

It is hoped that the data averaging techniques with the use of two traffic count sites with the context of the New Zealand Transport Agency's estimations of traffic flow change between 2006 and the current time, overcomes some potential traffic

influencing factors that should be taken into account, such as weather or roadworks or events. Any analysis readily acknowledges that it is impossible to determine trip purpose, origin, or destination from the two traffic count sites used. Some of the northbound vehicles at the Clareville traffic count site would have been local traffic and some would have originated from outside of Wairarapa, such as from Wellington. Some of the northbound vehicles at the Rimutaka Ranges traffic count site would have the study area of mid-Wairarapa as their destination and some would have intended to travel to northern Wairarapa and onwards.

At the Clareville traffic count site, traffic volumes on weekdays were generally greater than traffic volumes on weekends. At the Rimutaka Ranges traffic count site, traffic volumes travelling northbound from Wellington to Wairarapa were generally greatest on Fridays and Saturdays; plus traffic volumes travelling southbound from Wairarapa to Wellington were generally greatest on Sundays. This indicates support for the notion of Wellingtonians travelling to the Wairarapa for the weekends.

Across each travel direction at each traffic count site, though sometimes slight, it is observed that 2008 traffic volumes are regularly less than corresponding 2007 traffic volumes. At the Clareville traffic count site, where data is available 2009 traffic volumes are generally greater than 2008 traffic volumes and generally slightly less than 2007 traffic volumes. At the Rimutaka Ranges traffic count site, where data is available, comparisons between 2009 traffic volumes and 2008 traffic volumes and between 2009 traffic volumes and 2007 traffic volumes show no consistent nor notable trend.

The period of the 24 weeks was inspected for macro trends, such as traffic volumes normalising as vehicle drivers became accustomed to petrol prices or traffic volumes normalising as petrol prices decreased. No trend could be identified. The scale of differences between 2007 and 2008 traffic volumes appears fairly consistent over the whole range of petrol price movements that occurred during the 24 week period. This could perhaps show that petrol price was just one factor, and not necessarily a determining factor, in the trip-making decisions taken to be indicated by these traffic count sites.

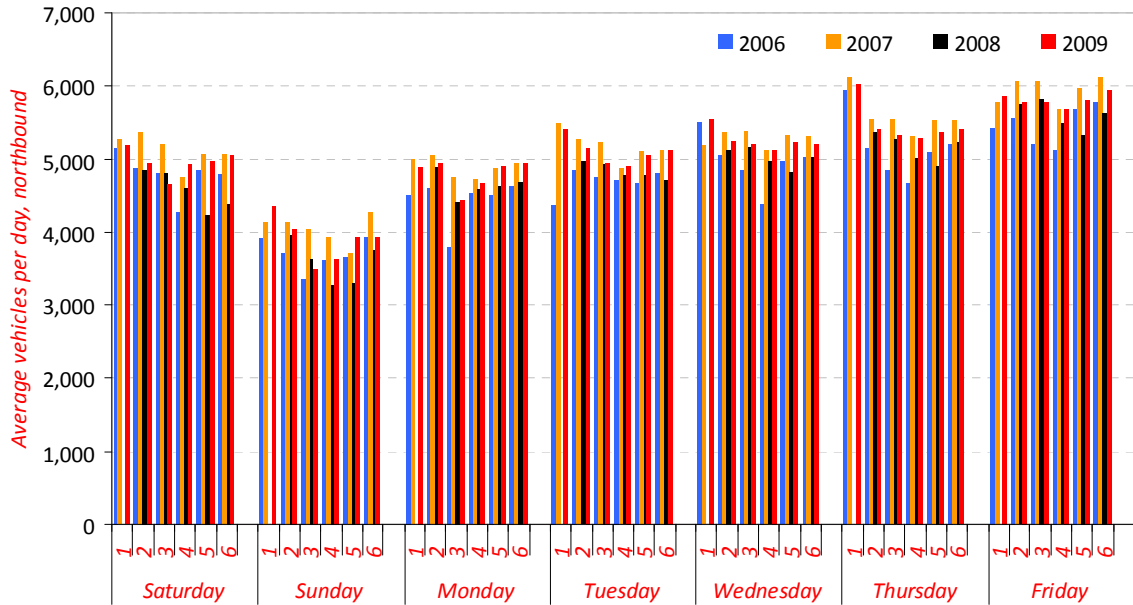


Figure 3: Data from the State highway 2 Clareville traffic count site, for traffic travelling in the northbound direction.

The first blue bar represents the average Saturday traffic count taken from the four weeks starting the Saturday nearest the start of April 2006 (being 01.04.2006 to 28.04.2006). The second blue bar represents the average Saturday traffic count taken from the four weeks following the four weeks of the previous 2006 bar (being 29.04.2006 to 26.05.2006). The orange, black then red bars are the equivalent data for the three following years of 2007, 2008 then 2009.

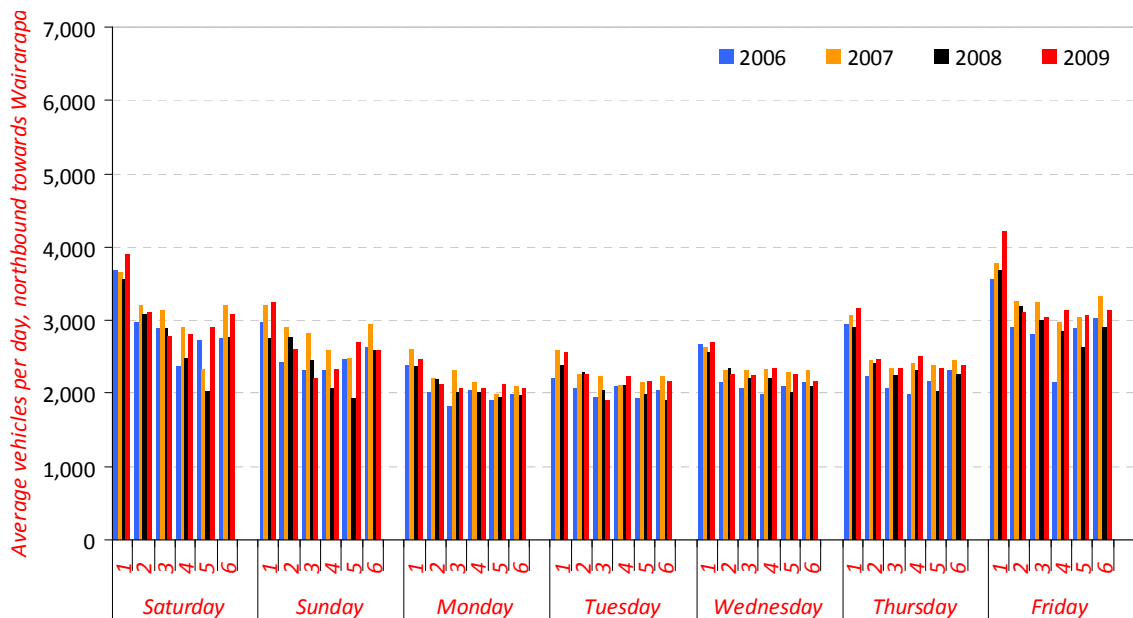


Figure 4: Data from the State highway 2 Rimutaka Ranges traffic count site, for traffic travelling in the northbound direction towards Wairarapa.

4 TELEPHONE INTERVIEWS WITH WAIRARAPA BUSINESS OWNERS

Telephone interviews were conducted with a small sample of Wairarapa business owners and business managers. Some businesses were selected from those listed in Destination Wairarapa's "Wairarapa Escape Planner 2008". Other businesses were selected from retail shops located on the main street in any of Wairarapa's towns and which appeared to market particularly to tourists. The final sampled group contained 19 participants. The statistical and conclusive limitations of this sample size are noted.

The telephone interviews contained qualitative questions regarding turnover between 2007 and 2008. They were conducted between 20 January and 12 February 2009. The sample group of 19 participants consisted of 4 from restaurants/cafes, 5 from activity/attraction businesses such as canoeing, 5 from accommodation facilities, 3 from shops aimed at tourists, and 2 from garden centres. 13 of the participants said that more than half of their business came from Wellington.

Interviewees were asked about turnover during the recent winter (June through August 2008) compared to turnover during winter of the previous year (June through August 2007). They were also asked to compare turnover of the early summer (October through December 2008) to turnover of the early summer of the previous year (October to December 2007). Table 2 and Table 3 summarise responses.

Table 2: Summary of responses regarding turnover comparisons for winter

June-August 2008 turnover compared to June-August 2007	Number of responses (% of total survey respondents)	
Down due to the recession	5	(26%)
Down due to a rise in petrol prices	1	(5%)
Down due to bad weather/season	1	(5%)
Down due to other reason	1	(5%)
No change	5	(26%)
Up due to good weather	2	(11%)
Up due to other reason	2	(11%)
Closed for winter	2	(11%)
	Total Down	42%
	Total Up	21%

Table 3: Summary of responses regarding turnover comparisons for early summer

October-December 2008 turnover compared to October-December 2007	Number of responses (% of total survey respondents)	
Down due to the recession	8	(42%)
Down due to a rise in petrol prices	1	(5%)
Down due to a decrease in overseas tourists	1	(5%)
Down due to other reason	1	(5%)
No change	1	(5%)
Up due to people not travelling further to Hawkes Bay	1	(5%)
Up due to other reason	5	(26%)
	Total Down	58%
	Total Up	32%

For each question only one participant volunteered that any turnover decrease was due to an increase in petrol prices. (Arguably the one participant who volunteered that turnover in October-December 2008 was up from the same period in the previous year due to people not travelling further to Hawkes Bay could have also been considering petrol prices within their response.) Moreover, the comments indicate that concerns about any general state of economic recession far overshadowed concern about increased petrol prices, but it is noted that this response type could have been influenced by the timing of the survey coinciding with a large media focus on local and international recession.¹

Participants were asked in general terms for their estimation whether there had been any changes in numbers of visitors to the Wairarapa in 2008 compared with the numbers of visitors in 2007. The majority of participants believed visitor numbers had declined and most immediately volunteered that this was related to the economic recession. Again, the timing of the survey could have influenced the prevalence of this response type.

As summarised in Table 4 and Table 5, participants were then asked outright about petrol pricing. 47 percent of participants considered that the higher petrol prices during June-August 2008 had negatively affected numbers of visitors to Wairarapa. 47 percent of participants thought that into the future, sustained higher petrol prices would continue to negatively affect the numbers of visitors to Wairarapa. Within the explanations offered by participants, increased petrol prices were frequently automatically linked to a decreased availability of discretionary spending. (This could be taken to somewhat echo similar linkages commonly drawn in newspaper articles of the time.)

¹ In illustration of the potential of this influence, a brief tallying of articles containing the word "recession" from www.stuff.co.nz indicates: 46 articles during October 2008; 52 articles during November 2008; 45 articles during December 2008; then at the time closer to the telephone interviews, 240 articles during January 2009; and 157 articles during February 2009.

Table 4: Summary of responses regarding increased petrol prices influencing visitor numbers during June-August 2008

How did the June-August 2008 increases in petrol prices affect the number of people visiting?	Number of responses (% of total survey respondents)	
Negative Fewer people visited during that time	4	(21%)
Negative People were talking about it at the time	2	(11%)
Negative There was a noticeable drop in visitor numbers when prices increased	1	(5%)
Negative But then people got used to it and visitor numbers recovered	2	(11%)
No influence The problem is more the global economy	2	(11%)
Neutral There was no change	5	(26%)
Positive Visitor numbers increased as people weren't travelling further	2	(11%)
Don't know	1	(5%)
	Total Negative	47%
	Total Positive	11%

Table 5: Summary of responses regarding increased petrol prices influencing visitor numbers into the future

If petrol prices rise again and remain at high levels, do you think domestic tourism in the Wairarapa will be affected?	Number of responses (% of total survey respondents)	
Negative Domestic tourism will decline	3	(16%)
Negative People will travel less and stay local	3	(16%)
Negative People will have less money for leisure activities	3	(16%)
It is more likely to be affected by the recession	1	(5%)
Neutral The people who come to the Wairarapa can afford it anyway	2	(11%)
Positive It will increase as there will be fewer people travelling further north	4	(21%)
Positive It will increase as less people will travel overseas	1	(5%)
Neutral We're close enough to Wellington for it not to be a problem	4	(21%)
Don't Know	1	(5%)
	Total Negative	47%
	Total Positive	26%

Table 4 and Table 5 show some participants seeing potential for increased petrol prices to increase visits to Wairarapa from local origins. This type of proposal also featured in the media at the time, such as "with petrol prices soaring the close break may become the holiday of choice, so this could work in Martinborough's favour, with it being on the capital's doorstep and not too far from other parts of the lower North Island." (NZPA, 2008.)

Overall, it is significant to note the structure of the interview questions with volunteered reference to petrol pricing versus prompted response regard petrol pricing. With unguided questioning, petrol pricing was seldom identified. The spontaneous response could be taken as the more telling representation of the

prominence of petrol pricing in practice. With participants directly guided to consider petrol pricing, opinion of impacts of increased petrol prices were broadly divided.

While individual comments are interesting, throughout this discussion it is noted that the survey has a very limited sample size and the scale of questioning was not in-depth interviewing. This set of interviews was intended as a scoping study to identify the main themes but not to quantify or rank these. However, it emerged that the timing of the interviewing coinciding with strong topicality of recession appeared as a potential compromise to the validity of participants' recollections and explanations of events of the periods intended for examination. Participants' responses seemed to be inordinately influenced by recession issues so that it was considered non-beneficial to extend the interviewing sample in that form at that time. Still, interpretations of participants' responses can be used with prudence for some indicative value.

5 DISCUSSION

The study of this paper was framed in the context of extensive media comment (supported in part by New Zealand Transport Agency statistics²) that increased petrol prices were markedly decreasing travel, that households were struggling to budget for the increased transport prices, and that weekend out-of-town travel by car was declining. These claims were surprising in that a previous retrospective study of 1970s travel, through the period of petrol prices increasing by approximately 600 percent, found patterns of vehicle use to generally follow the status quo. (Lester and Dravitzki, 2006.)

The importance of lifestyle blocks and domestic tourism to the towns and surrounds of the mid-Wairarapa region are established. If the travel changes claimed in the media were actually occurring, decreased traffic volumes on the only road between Wellington and Wairarapa, over the Rimutaka Ranges, should have been easily detected through the traffic count site data; and a survey of businesses with substantive patronage originating from Wellington should have readily identified economic impacts.

However, the study has not found any reliable decrease in traffic volumes between Wellington and Wairarapa and the interviews with businesses indicated that the recession generally, rather than petrol prices specifically, was believed the most likely cause of any business decrease.

Although the study was conducted only at the preliminary level, it is sufficient to show that there is not a simple direct relationship between petrol prices and the type of travel to access lifestyle blocks and domestic tourism.

² As contained in, for instance, New Zealand Herald (2008) Cheaper petrol sees Aucklanders returning to their cars.
http://www.nzherald.co.nz/fuel-prices/news/article.cfm?c_id=1500966&objectid=10544444

It is proposed that this makes some sense when considering the total monetary price of a Wellington to Wairarapa return journey and the relatively small monetary change incurred by the increased petrol price. For example:

- Driving directions from the "Google maps" website give the distance from Wellington to Carterton as 84.4 kilometres.
- The Automobile Association estimated 2008 petrol usage for a medium car at 9.68 litres per 100 kilometres³ (AA New Zealand, 2008b).
- The peak petrol price in winter 2008 was 217.8 cents per litre and the petrol price exactly one year prior to that was 156.9 cents per litre.
- At the winter 2008 peak petrol price, the Wellington to Carterton return journey would total \$35.59. One year prior, the return journey would total \$25.63.
- The New Zealand Transport Agency's Economic Evaluation Manual (2008) figure for weekend vehicle occupancy on rural roads is 2.2 people per vehicle.
- The average per person change in price for the Wellington to Carterton return journey is approximately \$4.50.

\$4.50 is arguably an insignificant adjustment to the price of a weekend outing or day trip between Wellington and Wairarapa. A monetary value around \$4.50 could be easily exceeded by the intrinsic value attached to such a journey.

The study has revealed that petrol prices increases have subtle impacts. The study would need to be much more intensive to reveal the impact of petrol price increases on the peri-urban economy. For example, while impact on travel to Wairarapa has not been strongly detected, August 2009 data of property sales shows that the Wairarapa sales prices are down on August 2008 values significantly more than corresponding data for the Wellington metropolitan area (Realestate.co.nz, 2009). This could be an indication that demand for properties in the Wairarapa has declined, though whether this is the recession in general or in combination with some petrol pricing factor cannot be determined other than by other in-depth study.

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³ This figure is based on a car with engine size 2,000 cc to 3,500 cc, the car being driven 14,000 kilometres per year, and the car being within its first five years of ownership.

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