GEOGRAPHY 309

RESEARCH METHODS IN GEOGRAPHY

ASSIGNMENT 4

GROUP REPORT

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Travel modes and expenditure patterns: A snapshot of South Colombo Street, Christchurch

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Abstract

This study seeks to provide quantifiable evidence of the links between consumer expenditures and trip making habits used in the urban suburb of Beckenham, Christchurch. A review of relevant literature highlights that those who employ non-automobile travel are competitive customers, thus challenging a common perception that automobile access is essential for economic prosperity. The dominant theory explains that active transport users will spend more on average than those who drive due to their higher frequency of trips. The motivation for this work is to test this theory through obtaining a snapshot of local travel and spending patterns. Field data was obtained on weekday afternoons at three locations on the Southern end of Colombo Street, including two cafes and one large supermarket. A sample of 114 convenience surveys were gathered, with survey questions being guided by the following key objectives; to categorize both the mode of travel and understand the reason behind this mode choice, and to quantify 1) average spend per visit, and 2) frequency of trips. The survey also queried where individuals drive, presented visually using GIS. Calculations were made to estimate the average spend - per month per mode – with cyclists spending the most retail dollars followed by those driving and those walking. These calculated values were $325, $283 and $137 respectively. In comparing overall cycling and driving expenditures, these findings therefore support the aforementioned academic theory. With slight variation between locations, automobile drivers and walkers make up the majority of customers. Supplementary findings include the conclusion that more men cycle than woman, and that a two kilometre threshold from the survey locations separates those who walk, cycle or bus frequently and those who prefer to drive.

1. INTRODUCTION

The Christchurch City Council (CCC) recognizes there is a unique opportunity to develop new transport networks following the Canterbury earthquakes, and there are many voices contributing to the wider debate about what form this restructuring may take. Many plans are underway, such as the Christchurch Transport Strategic Plan (2012) that states the investment in safe cycling is a priority for the city and offers guides on how to achieve this vision. Despite this, there is very little understanding of how this may effect local economic patterns, and this lack of understanding often leads business owners to be special about introducing 'mixed-mode' transport infrastructures in their locality. Christchurch, as a 21st century city, has been built to accommodate the automobile, and the belief that automobile access to retail areas is crucial for economic sustainability is widespread. However, a growing body of literature argues that having mixed-mode urban centres can create healthy and economically prosperous cities.

This study focuses on the urban suburb of Beckenham, where Colombo Street extends beyond the Central Business District (CBD) and through the suburbs retail core. This section makes up South Colombo Street and ends in Cashmere, a suburb adjacent to Beckenham. The area is recognized as having a high mode-share of cyclists in comparison to other areas in the city, therefore its serves as an excellent location to study the economic contribution that cyclists make to local shops. This study extends this and also considers the economic contribution of walkers and public transport users. Guiding this study are three aims; to firstly establish the theory found in wider literature about the relationship between expenditure and travel patterns, to seek to understand the nature of this relationship in South Colombo Street, and to further understand travelling patterns of patrons.

2. LITERATURE REVIEW

Travel Mode Choice in New Zealand

The Ministry of Transport in New Zealand estimates that only 1% of all the trips made are done through cycling with majority being done on automobile (Smith, Wilson, & Armstrong, 2011). Like Christchurch many authorities and advocacy groups are voicing their desire to better accommodate travel-modes that are not car-based, however as Popovich and Handy (2014) assert, this change is often met with opposition from many businesses who fear a negative economic impact.

Consumerism and Travel Mode Choice

Case studies show that users of alternative transport are competitive consumers. Several of these studies explore the economic effect of changing the layout of the corridor towards businesses. Drennen (2003) considered the addition or removal of traffic calming techniques such as high turn-over on-street parking, bus stations, landscaping, and pedestrian crossings. In Valencia Street, San Francisco, a positive relationship between sales, attracting customers and implementation of traffic calming techniques was shown. Drennen (2003) arrerts that people who rely less on automobiles and use other modes of transportation often have more discretionary income to spend. A local study of Newtown, Wellington, shows business owners to be positive towards the employment of traffic calming techniques as mentioned above, especially a high turn-over on street parking. However, while they encourage mixed-mode transport, they still consider the majority of their customers to be drivers or car-passengers (Fleming, Turner, & Tarjomi, 2013). In many places car parking is highly valued. This suggests there is a gap dividing these perspectives and those found in academic theory highlighting the importance of mixed-mode cities.

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Additionally, a number of studies focus on the impacts cyclists make on businesses. Melbourne, a city similarly designed to accommodate the automobile like Christchurch, showed that while car drivers spend more than cyclists per hour, the economic benefit is shown when the space these different modes require is accounted for. Six bikes are able to occupy the space required to 'store' one vehicle, resulting in a higher average spend in relation to space (Lee, 2008). In Portland, Oregon, 18,000 questionnaires were obtained at different types of businesses, and while automobile travel dominates the mode share in each, it was found that patrons who cycle spend twice the amount than those who drive at drinking establishments (Clifton *et al.*, 2013). Cyclists also spend more at restaurants and convenience stores, however automobile users spend the greatest amount at supermarkets (Clifton *et al.,* 2013).

In a similar fashion, contributions of pedestrians towards the revenue of businesses are also assessed in several studies. In one local study of Auckland, it was found that pedestrian friendly environments encourage greater 'dwell times' and leads to approximately 56% of the expenditure attributed to walkers while only 26% was from motor vehicle users. The New Zealand Ministry of Transport (2008) support this finding, finding that walkers spend more per annum. Further abroad, a study of East Village, Manhattan found that investment in cycling and mass transit pays big dividends for local businesses, owing the vast majority of retail dollars towards walkers and users of public transport (Transportation Alternatives, 2012).

Method and Collection of Data

The majority of these studies gained their results by undertaking business interviews, questionnaires and reflecting on existing literature. While all areas have unique conditions, each technique was evaluated against the present study's area of interest and scope.

Questionnaires were the most popular method of gathering data with several types being utilised. In New York, survey forms were distributed to individuals in an area defined by zip codes that within a given time-frame (Transportation Alternatives, 2012). This resulted in a much better representation of the general populace. In Portland, an 'intercept style' was technique was used, otherwise known as convenience sampling. Surveyors stood outside previously identified establishments and approached individuals between a set time-frame. In the case of Portland, two survey questionnaires were also offered, one being a long, more in-depth survey and another short survey for those who don't have much time to spare (Clifton *et al.,* 2013).

In considering the most effective places to survey in this study, it is useful to reflect on those identified in other studies. Businesses of interest in Portland (Clifton *et al.,* 2013) were sorted into categories which correlates to the different type of service offer. The results gathered displayed that different services contributes to each individual's spending patterns with regards to their mode choice. Some studies also divided businesses between a certain characteristics they have. Supermarkets were placed in one category for one of the case studies as they provide private car-park space (Drennen, 2003), while some businesses were selected as they have their own on-street parking or the lack there-of (Fleming *et al.,* 2013). This division highlights the type of consumers that visit the establishments and therefore offers a better representation of consumer patterns when interpreting results.

Furthermore, the relevance of considering the timeframe in which to conduct surveys was illustrated by the case studies employing the use of questionnaires. Of the study of Manhattan, surveys were undertaken from 9 a.m. through 9 p.m. (Transport Alternatives, 2012). Dissimilarly, in Portland, surveys were conducted between 5 p.m. and 7 p.m. – a time heavy 'foot-traffic' therefore lending itself to a time efficient 'intercept style' survey. Moreover, Lee (2008) went to great lengths in trying to

better represent the populace by conducting surveys over a range of times, days, weekends and weekdays when studying Carlton, Melbourne. This resulted in 1020 survey respondents (Lee, 2008). Considering this timeframe was irrelevant for those studies who employed online surveys to gather results (Popovich & Handy, 2014; NZTA, 2014).

The use of interviews has also been used to further understand the perspectives of local businesses. Drennen (2003) interviewed business owners in San Francisco before and after implementations of traffic calming techniques. Potential loss in revenue was cited to be the main reason for their initial reluctance, however after changes were made to the corridor, business owners seemed to show a change in attitude when asked again whether revenue remained the same, if not increased (Drennen, 2003). Meanwhile, business owners in Wellington were mainly supportive of the installation of traffic calming techniques, however they strongly oppose the removal of on-street parking (Fleming *et al.,* 2013). NZTA (2014) also used interviews to further enhance their data.

The dominant theory within this existing literature is that the economic contribution made by automobile users is not the most important. Often, this is contrary to public perception. In a variety of ways, these studies show that consumers using alternative transport modes – including cycling, walking and using public transport – are valuable consumers. Catering to the travel and safety requirements of these transport modes also produces some positive economic outcomes. This study will consider this theory while employing some of the aforementioned methods to gain an understanding of South Colombo Street consumer and expenditure patterns.

3. METHODS

This section presents the broad study design, the data-collection process, and the techniques used in data analysis. Three sites were selected along

Colombo Street, south of Milton Street to survey. These sites were (1) Countdown Sydenham - a major supermarket in the area, (2) Coffee Culture - a popular café in Beckenham's retail core, and (3) Taste @ Twenty - a café and small grocer in a residential area further down the street. These locations were chosen as they were observed to be busy and were spread fairly evenly across the survey area. Furthermore, although broadly relating to food and drink, the supermarket sells goods that would have to be carried off site, whereas food is often consumed onsite at the café's. Variation in the shopping environment was important to include.

Data was collected between 4 p.m. and 6 p.m. on Monday 8th and Tuesday 9th September, 2015. Because of the small sample size, we controlled for weather by limiting our data collection to favourable days. The timeframe was chosen because it corresponded with the conventional 'peak-hour' for weekday traffic, and it was hoped the respondents would be broadly representative of the wider population. The survey was administered via convenience sampling. Like existing studies of this type (Clifton *et al,* 2013), this method is appropriate for gaining a sufficient sample of the population at hand and is most resource and time efficient. Respondents were intercepted on their way in or out of the establishment and were asked to complete a two sided questionnaire. A copy of the questionnaire can be found in *Appendix A*.

To address the research question, questions related to the individuals travel choice (that day and on average), what they spent, where this money was spent, and how often they visited the area on average. Supplementary information was also gained such as approximate home location, age, occupation, and their reasons for choosing their travel mode on that day. The questionnaire sought to obtain a snapshot of travel and expenditure patterns on that day, and, for the purpose of calculating averages, these were assumed to be the norm for these respondents. Central to this investigation was extrapolating average expenditure per visit to the average expenditure over a month long period. These calculations were made based on the equation below.

Expected expenditure per month

$$= \sum \frac{Spending\ money\ each\ trip * frequency\ of\ visit\ per\ month}{number\ of\ sample\ for\ each\ transfer\ mode}$$

Prior to this calculation, the respondents were categorized based on the mode they travel. 'Spending money each trip' was then separated into the maximum and minimum values for the category in which it was selected (see question 7 in *Appendix A*. A mean expenditure was then derived, and multiplied by the 'frequency of visits per month' made by each individual (see question 6 in *Appendix A)*. This was repeated for each respondent within the specified mode category, and the sum was divided by the number of those respondents. This produced a mean expenditure value that each individual would spend based on his or her mode of transport. This provided the basis for our comparison of travelling and expenditure patterns. Bar graphs and tables were then used to convey these results and compare between modes as well as between locations.

The last component of our data analysis involved the construction of a Geographic Information Systems (GIS) spatial distribution map. A wider Christchurch regional map was used a base layer to familiarize readers with the display. A road network was created to calculate the non-linear distances between survey locations and the estimated home location of each respondent (derived from question 5 in *Appendix A)*. Their home location is represented by points coloured to represent each different mode of travel, and these colours correspond with those presented in the graphs. Semi-transparent polygons were overlaid to represent 'distance thresholds' that were set to two, five and ten kilometres. While extending beyond the study area, these elements allow greater depth in understanding the mode share and locations from which the survey respondents travelled.

4. RESULTS & ANALYSIS

In this section, the data is analysed and presented to understand the relationship between mode share and expenditure. The results that follow show the spatial distribution patterns, expenditure patterns, and trip frequency of respondents. Throughout, this information is related to mode share and the variation of the above results is compared between survey locations. The analysis draws on the most important data obtained from the survey and are presented as averages. The first set of figures relate to mode-share, expenditure and frequency of visits, while the second set of figures relates to the broader travelling patterns of respondents.

Mode-Share Patterns

A total of 114 respondents made up the sample. Of these, 45 were surveyed at Taste @ Twenty, 41 at Countdown, and 28 at Coffee Culture. *Figure 1* shows the total mode-share of this sample in percentages. Drivers make up the greatest mode-share with 58%, followed by walkers with 30%. Cyclists make up 7% of all respondents, with the remaining 5% taking the bus. *Figure 2* expands on the former but compares the mode-share between the three locations. The key difference is that the vast majority of consumers at Countdown drive (making up 75% of mode-share) but, dissimilarly, the mode-share between driving and alternative modes of transport (walking, cycling and bussing) at both cafés is almost equal. At Coffee Culture, 43% drive and at Taste @ Twenty 52% drive – the remainder of each are non-automobile users.
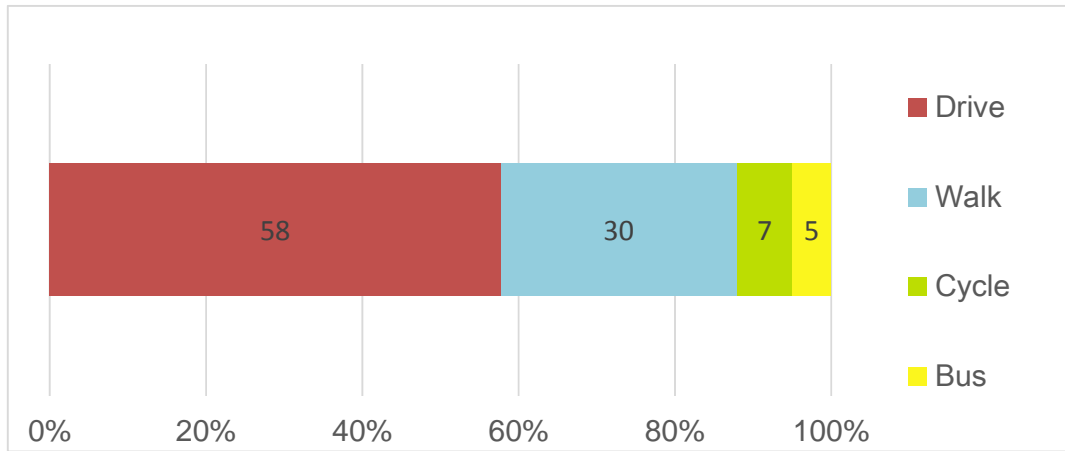
Figure 1: Total average mode share of survey respondents.
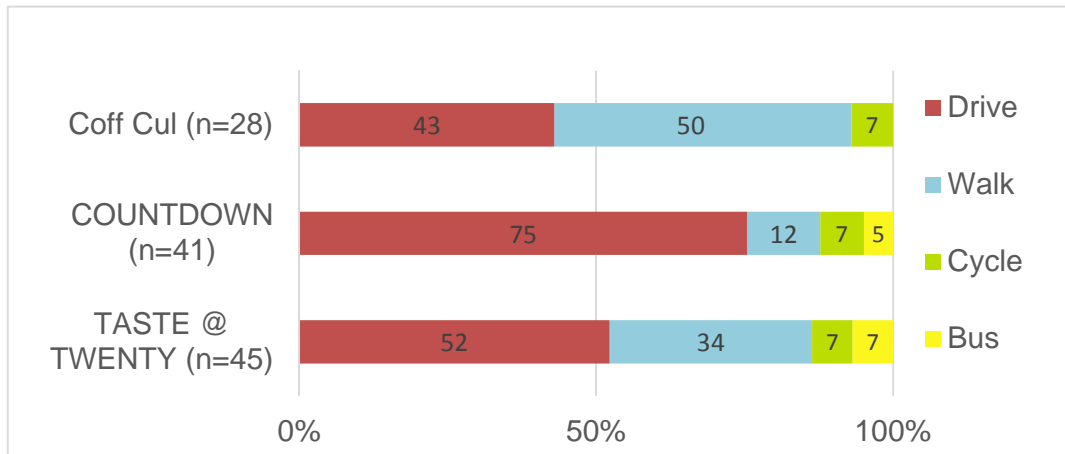

Figure 2: Total average mode share of survey respondents
per survey location.

The most important conclusions drawn from *figure 1* and *figure 2* are; (1) Driving is the dominant transport mode for patrons in the area, (2) 7% of survey's respondents will cycle when shopping, (3) the mode-share between drivers and non-drivers is almost equal for patrons visiting cafés, and (4) most patrons will drive to the supermarket. The assumptions made in drawing these conclusions centre around the idea that the survey data is merely a snapshot of the population, thus not an exact representation of all travel patterns in the area. However, these conclusions still offer valuable information about consumer patterns in the area.

It is important to understand the mode-share patterns for each individual survey location, as well as the mode-share of the whole area. In understanding this further, it is useful to reflect on relevant New Zealand literature. Looking at the New Zealand Transport Survey (NZTS) (Ministry of Transport, 2015)(b) states that average cycling mode-share in Christchurch is around 3%. However, Cycling Action Auckland (2014) indicate, in relation to the 2013 New Zealand census, that cycling mode share in the Beckenham area is actually around 16%. Adjacent suburbs are also high, some around 10%. This supports the 7% cycling mode-share found in this study, and indicates this area has a mature cycling culture, when compared to the New Zealand average of around 1% (Ministry of Transport, 2015)(b). The findings in the research also mirror data found by NZTS, where around half of all trips in New Zealand are made by people driving cars, and 79% are made by both drivers and passengers of cars (Ministry of Transport, 2015)(a). In our survey we did not distinguish between drivers and passengers, but our results support this kind of mode-share distribution. It is important to note, this survey only accounts for individuals who shop in the area, rather than all individuals passing through as the New Zealand statistics account for.

Finally, understanding the nature of the establishments, studied supports the dissimilar results observed at each location. Supermarket shopping tends to be focused on purchasing large quantities of perishable goods. For this reason, this is easiest to transport in an automobile. In comparison, goods purchased at both cafés are usually consumed on site. Transport of goods does not dictate travel choices, as is evident with an even proportion of people employing non-automobile transport at these locations. Again, convenience remained a common consideration for patrons, however this related the distance they travelled (in *Table 1*). Logically, distance determines what is 'convenient'.

Expenditure Patterns

Figure 3 shows the average expenditure of all survey respondents per travel mode. This is measured in $NZ dollars and covers a period of

one month. Cyclists have the greatest expenditure per month at $325, followed by drivers spending $283, bus users spend $161 and walkers spend $137. Again, breaking this same information into the three locations yields varying results as shown in *figure 4*. At Coffee Culture, cyclists have the greatest expenditure at approximately $300 per month, followed by walkers and drivers who spend close to $200 per month. At Taste @ Twenty, cyclists and drivers spend the greatest amount (over $300 each) followed by walkers and bus users who spend just over $100.
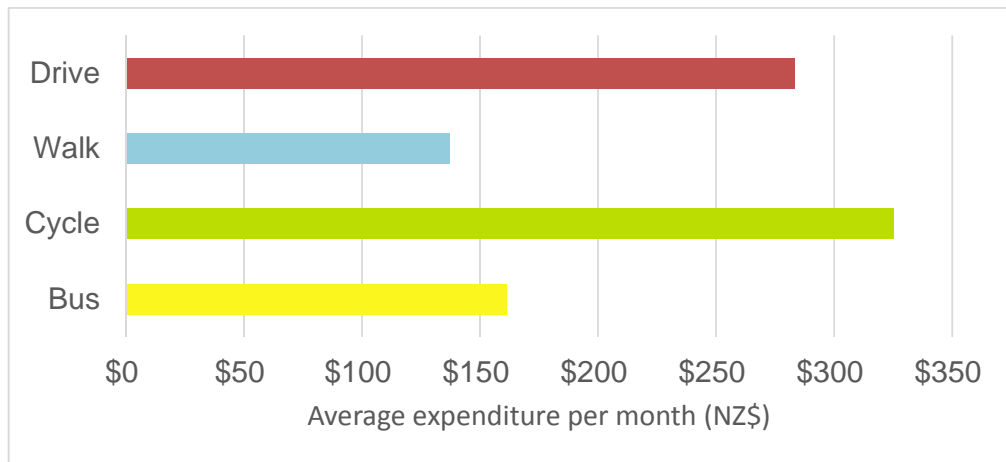

Figure 3: Total average expenditure of survey respondents
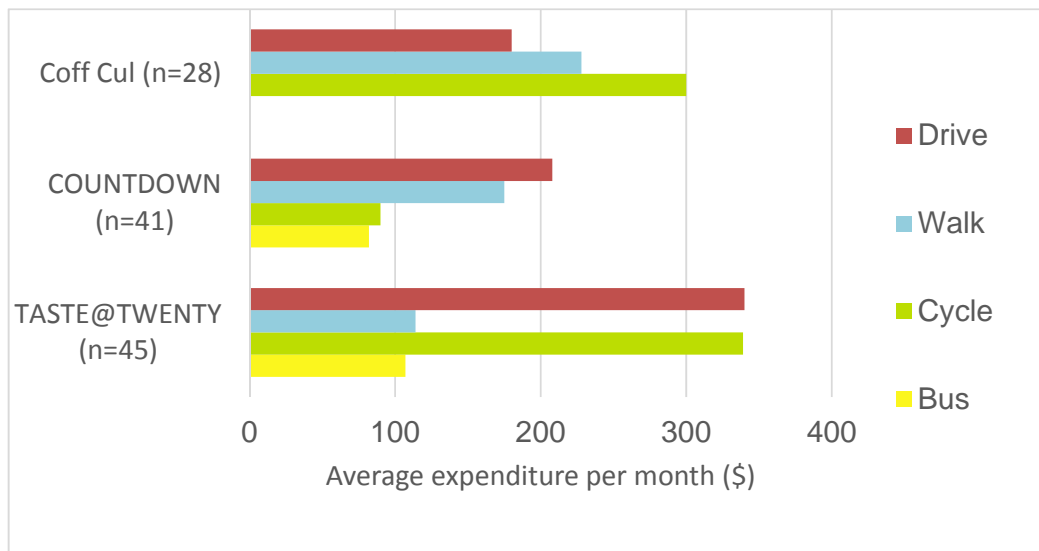per mode of transport, per month.

Figure 4: Total average expenditure of survey respondents
per mode and survey location, per month.

Comparatively, at Countdown, drivers have the highest expenditure per month, being $200, followed by those walking with $180, and those cycling and bussing with below $100 spent per month.

The findings shown in *Figures 3* and *4* allow conclusions to be made that are directly relevant to the research question. This is because frequency and expenditure are what make up consumer patterns. Overall, cyclists have the highest average expenditure per month in South Colombo Street, with the exception of Countdown where drivers have the highest expenditure. Again, this may be explained by the shopping environment. This conclusion is attributable to cyclists' higher frequency of visits, rather than their expenditure per visit. There is a likeness between this conclusion and those found in similar studies previously mentioned (Clifton *et al,* 2013; Popovich & Susan, 2014; Fleming *et al,* 2013; Transportation Alternatives, 2012). The common argument is that cyclists contribute an equal amount to drivers to the local economy, with a significant expenditure in tandem with a high frequency trips.

Comparatively, the results gathered (*figure 3 and 4*) show that walker's spending patterns at each location are less conclusive. While there is no numerical evidence, it was noted by surveyors were just passing through the survey area. This was especially evident at both cafés accounting for a low average expenditure, however walkers surveyed at countdown were surveyed after leaving the supermarket, meaning they almost certainly purchased items. Lastly, due to a low count of bus users in the sample, it is difficult to draw significant conclusions. Colombo Street is an arterial route within the bus network of Christchurch, so this outcome is surprising.

In the final analysis there is a relationship between expenditure patterns and travel mode in the study area. Expenditure differs between modes, and also between location types. The transport infrastructure in the area – most notably the presence of cycle lanes – means there is a high mode share, because a variety of transport modes are supported. The aforementioned results strongly suggest this diversity is positive for local businesses as it is not only those who

drive who contribute the most retail dollars. The practical application of these findings will be further discussed.

Spatial Patterns

Figure 5 shows the spatial variation of survey respondents in greater Christchurch. Each point represents a respondent's approximate home location, and the variation in colour represents different transport modes. The shaded areas overlain on the map show the travel mode respondents were expected to employ based on the distance they travelled. This was drawn from the work of Smith et al, (2011) and are two kilometre, five kilometre and 10 kilometres. *Figure 6* simply shows the mode-share observed within the two kilometre five kilometre threshold in percentage bar graphs. Within the former, walking and driving take up the greatest proportion of mode share, being 39% and 42% respectively, however beyond two kilometres it is observed that the majority of patrons drive, making up 73.9% of the mode-share.
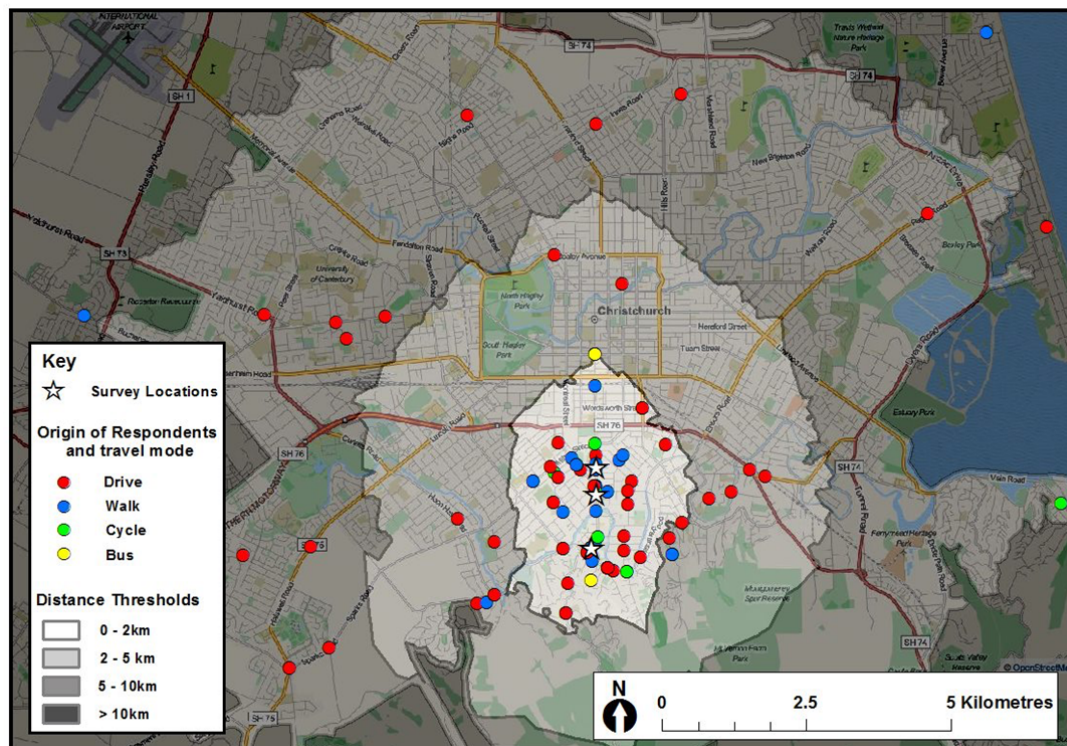

Figure 5: Spatial distributing of survey respondents home location, and estimated average travel distance buffers.
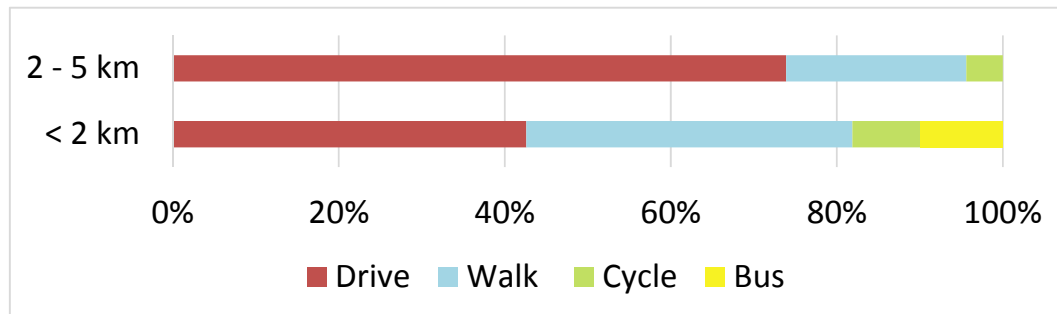
Figure 6: Mode-share within 0 – 2km and 2 – 5 km distance thresholds.

Location	Drive (km)	Walk (km)	Cycle (km)	Bus (km)	Average Distance (km)
Supermarket	3.5	0.6	1.4	2.0	2.7
Coffee Culture	3.8	2.7	0.4		3.0
Taste@Twenty	3.0	1.8	4.1	0.3	2.5
Average	3.4	1.7	1.9	1.1	2.7

Table 1: Estimated average travel distance from home location to survey locations – per mode per trip (kilometres)

Finally, *table 1* draws on this travel distance information but enhances its detail by relating mode and distance travelled to the survey location the consumer visited. As expected, those driving will travel the greatest distance with an average of almost three and a half kilometres, whereas walkers, cyclists, and bus users will travel between one and two kilometres on average. The final column in the table shows the average distance travelled to each survey location. The variation between these is small, with the smallest distance being two and a half kilometres travelled to Taste @ Twenty and the greatest being three kilometres at Coffee Culture. Interestingly, the distance travelled to Countdown is not the highest, contrary to what may be expected as the mode-share is dominated by car drivers.

The information shown in *figure 5* is useful in acknowledging the spread of the gathered data, and how the travel patterns represented in this research relate to that found in relevant literature. Immediately obvious is the large cluster of survey respondents around the three survey locations in the centre of the map, within the two kilometre threshold. Within this area, there is an even split between automobile users and non-automobile users as shown in *Figure 6.* At further distances beyond two kilometres, the proportion of survey respondents driving is significantly larger at around 75%.

Smith, Wilson, & Armstrong, (2011, p. 15) states "The New Zealand data suggests that short trips, less than 5km long, are a reasonable focus for travel mode change from driving to cycling in New Zealand". In relation to *figures 6 and 7*, the survey data suggests that two kilometres is considered a short trip, rather than five, this is because beyond two kilometres a change from high mode-share to automobile dominated travel is observed. While this information does not directly answer the research question, it provides greater depth in understanding why the travel patterns found exist.

Practical Applications

The findings of this research inform wider understanding about how transport infrastructure can affect the economies through which they support. For the local economy in South Colombo Street, this study highlights the value of having cycle-lanes present, and may contribute to discussions about enhancing the safety of these lanes or the number of bike stands in the area. On a wider scale, the findings may also inform urban planning decisions in relation to Christchurch's rebuild following the earthquake induced damage in 2010 and 2011. Christchurch has been built to accommodate the automobile, so studies such as this may spark a debate that challenges what modes future Christchurch should accommodate. The city's flat topography makes it ideally suited for a mature cycling culture to be fostered, and its wide streets may present the opportunity to make urban centres more pedestrian friendly. While this study is restricted in its spatial scope, it serves as an excellent case study of how travel and expenditure modes are linked in Christchurch.

5. LIMITATIONS

There are various limitations in this study. While many limitations relate to the restricted time in which this study was undertaken, there are others that could be addressed easily to improve the reliability and validity of the study. Below are a number of considerations regarding the shortfalls of this study, as well as recommendations for further research in the area or similar research elsewhere.

While administering our survey it became clear that certain questions offered ambiguous or inaccurate answers. These compromised the accuracy of our information and the accuracy of our conclusions. The most notable of these relates to consumer spending behaviour – one of the two most vital variables required for valid calculations to be made. Respondents were asked to choose a category relating to their expenditure that day, however there was no category for those intending to spend no money while passing through the area. These respondents were instead put into the category 'less than 10 dollars'. This would have amplified expenditure patterns when making calculations for a month-long period. Including a $0 category would enhance the studies accuracy if it were repeated.

A similar mistake in wording was made when respondents were asked to justify their travel choice from a list of available options. The categories 'distance to home' and 'weather conditions' are ambiguous in the way they may be positive or negative influences. It would have been more efficient to expand the options into 'good' and 'bad weather', and 'close' and 'far distance to home'. Despite being present in the survey, the data obtained from this question was not included in our final analysis as it was surplus to the scope of our inquiry and largely inaccurate upon reflection. With the adjustments recommended above, it would be a useful question to include in future research as it would further develop an understanding of travel choices.

A further limitation of our study is the restricted time period in which it was completed. This affected the scope of our research and the validity of its results. Obtaining field data was affected by bad weather during the study period, resulting in surveying only being undertaken during weekdays and over peak-hour travelling times. While the data is sufficient to study weekday peak hour patterns, it cannot be readily applied to other periods in the week such as weekends or non-peak hour periods during week days. Considering variance between seasons is also beyond this studies scope but would be advantageous information to gain in the future. The snapshot is narrow, and does not account for the temporal variance of travel patterns and consumer expenditure in the area. Surveying over a variety of periods will improve the scope and validity of the study if it were to be repeated. Furthermore, the survey locations were limited to grocery stores and cafes, as we did not choose to survey retail stores or other service providers. Again, this choice was governed by time constraints. Having greater variety in survey locations would be a valuable addition to further research.

Finally, there are limitations associated with our sampling method. For reasons previously stated, convenience sampling was appropriate for our investigation, however it is arguably one of the least reliable methods for obtaining a true sample of a population. It is based on convenience and the judgement of the researcher, and of those individuals approached, many declined to complete the survey. While we obtained a sufficient number of surveys, the reliability of the method and accuracy of results would be enhanced if the sample size was increased. A further recommendation for future research would be to undertake interviews with local shop managers. As the study challenges the perception that drivers are the most valued customers, it would be useful to gain opinion based data to further understand these perceptions at a local scale. This would improve the application of the study's conclusions and would broaden the scope of the analysis.

6. CONCLUSION

The study provides evidence that suggests consumers who access shops via non-automobile modes are valuable patrons for local businesses in Colombo Street, south of Milton Street. In the final analysis of the data, it appears non-automobile users make more frequent trips than those who drive resulting in a higher average expenditure over the course of a month. These findings challenge the perception that accommodating automobiles is vital for economic prosperity, and it contributes to a wider debate about urban transport infrastructure and its relationship to consumer behaviour. In isolation, the results from this study are encouraging for businesses in the area, but a more detailed analysis of broader travel and expenditure patterns would be essential if this study were to have practical application in Christchurch. Future research is needed to account for the spatial and temporal variation that was beyond the scope of this research snapshot, but alone it does serve as an interesting case-study.

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CHRISTCHURCH NEW ZEALAND

Department of Geography

Consumer & Transport Survey on Colombo Street, 2015

Date & Time window:
Colombo Street Area:
Weather:
Surveyor:

We are a group of passionate third-year geography students at University of Canterbury. We are investigating consumer patterns and travel choices on Colombo Street south of Milton Street. It would be appreciated if you could spare three minutes of your time in helping us with our research. Involvement in this project is voluntary. We will not identify you as an individual. Completing this survey gives us your consent to use this information in our research.

1. How did you travel here? (Please circle)

Drive   Cycle   Walk   Bus   Other: ____

2. Is this your usual form of transport to this location?

Yes   No   If no, how do you usually travel here? ____

3. What made you choose this form of transport today?

☐ Cost   ☐ Availability of parking
☐ Weather conditions ☐ Distance to home
☐ Time of day   ☐ Social factor
☐ Safety   ☐ Sharing a ride
                     ☐ Other

4. In general, which other factors regularly influence your transport choices?

5. What is the intersection nearest to your home?

First Street	Second Street

(From the above question, we hope to estimate the distance you have travelled)

6. On average, how frequently do you come to this area?

Daily   2-5 times/week   weekly   fortnightly   monthly   Less than monthly: ____

7. Approximately how much money have you spent on this trip?

<$10 $11-30 $31-50 $51-100 $101-200

$201-300 $301-400 $401-500 > $501

8. Please circle your main activity whilst here

Restaurant/café dining   Take away   Drinking (Bar)

Use of services (school, doctor, post office, library, pharmacy, police station, etc)   Grocery shopping   Recreational shopping (clothes, books, etc)

Working   In transit through strip   Other ____

If appropriate, underline any other activities above that may apply to you

9. Gender:

Male   Female   Other

10. Age (years):

<19   20-24   25-29   30-34   35-39   40-44

45-49   50-54   55-59   60-64   65-69   70+

(These age brackets mirror that of New Zealand census data)

11. Please classify your main occupation:

Thank you for taking the time to complete this survey, your input is greatly appreciated.