

Report on the 2016 Tertiary Student Travel Survey

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Contents

1.	Introduction	1
2.	Methodology	1
2.1	Questionnaire	1
2.2	Survey sample	2
2.3	Sample weighting	2
3.	Results	3
3.1	Tertiary provider	3
3.2	Type of residential accommodation and location	4
3.3	Transport modes used by students	5
3.4	Trips on public transport per week	7
3.5	Payment for public transport trips	9
3.6	Distance travelled by students	10
3.7	Public transport for tertiary students in the Wellington region	13
4.	Main findings	14
	Appendix 1: Questionnaire	15

Figures and Tables:

Figure 1 Student living arrangement by Territorial Authority	4
Figure 2 Proportion of student trips by mode and provider during peak times	6
Figure 3: Proportion of trips by mode in a typical week	7
Figure 4: Number of trips per week on bus & train.....	8
Figure 5: Distance travelled between home and study.....	10
Figure 6: Student home suburb by campus for Massey, Whitireia, Otago and Weltec students	11
Figure 7: Student home suburb by campus for Victoria University students.....	12
Figure 8: Comments about public transport for tertiary students in the Wellington region	13

Table 1 Student enrolments and weighted sample.....	3
Table 2 Tertiary campus by type of study (full or part-time)	3
Table 3: Location of home residence	4
Table 4: Student home territorial authority vs campus location	5
Table 5: Average number of PT trips per person per week	8
Table 6: Trips by public transport by time and day travelled	8
Table 7: Main ticket type for train and bus trips over all times	9
Table 8: Proportion of trips by Ticket type & fare zone travelled	9

1. Introduction

This report presents the results of the Greater Wellington Regional Council (GWRC) online tertiary student travel survey conducted in October 2016. The purpose of the survey was to gather information on tertiary student travel in the Wellington region. Specifically GWRC was interested in:

- Frequency of student trips for the purpose of study, work or other activities
- Which mode(s) were used for this travel
- Frequency at specific time periods (peak¹, off-peak and weekend)
- Which ticket type was used for public transport trips and in which fare zones

The results of the survey will be used (with other data sources) to assess tertiary student travel as part of the GWRC public transport fare review currently underway.

Nearly 2000 tertiary students completed the online questionnaire which was advertised using social media. Participation in the survey was voluntary and the only requirement was to be a student currently enrolled in tertiary education in the Wellington region. As part of the survey students reported over 29,000 trips made over a typical week for trips by car, bus, train, ferry, cable car, motor bike, walking and bike.

2. Methodology

2.1 Questionnaire

The survey questionnaire was designed using the Checkbox survey software. The software offers a simple online survey setup where participants follow a link to the questionnaire via PC, tablet or mobile phone. The software records the responses and provides individual results when the questionnaire is complete. Please see Appendix 1 for a copy of the questionnaire.

The questionnaire consisted of 12 questions covering the following areas:

- Type of study (full-time or part-time, undergraduate or postgraduate) and which tertiary provider and campus they are enrolled for tertiary study.
- Demographic information such as age, type of accommodation and place of residence (suburb).
- Type of transport used for travel to study, work & other activities, the frequency of these trips during peak, off-peak and weekend, and ticket type used to access transport.

¹ Peak times are before 9 am and between 3 & 6:30 pm Monday to Friday; Off-peak times are between 9 am and 3 pm and after 6:30 pm Monday to Friday.

2.2 Survey sample

The survey was promoted as an event on Facebook initially posted on the Greater Wellington Regional Council (GWRC) Facebook page. The post was distributed to a general audience of people over 18 years. The survey was introduced in the initial post using the following paragraph:

At Greater Wellington Regional Council, we're reviewing our public transport fare policies. As part of this, we'd like to learn more about how, when and where tertiary students travel, through a short survey. As a thank you for taking the time to fill it out, responses received will go in a draw for one of ten Wellington region travel vouchers of \$75 each.

From the initial post on GWRC Facebook the survey was shared among students at various student campuses in Wellington such as Whitireia, Victoria University and Massey University. People were encouraged to have a say about public transport and go in the draw to win a prize.

The online survey was open to all tertiary students in the Wellington region and aimed to reach at least 1000 students across the main tertiary campuses. The survey was designed to be quick and hassle free for respondents to achieve a good response rate. By allowing students the choice to participate or not this meant that the survey sample was self-selected and therefore likely to have some self-selection bias².

2.3 Sample weighting

The total intramural student population is approximately 41,500 for the region. 1,938 students completed the survey which is 4.6% of the intramural population. The student sample was weighted based on the distribution of tertiary enrolments by provider in the Wellington region (using Ministry of Education 2015 enrolment figures). Applying a weighting to students based on provider rebalanced the student population to be more representative of the regional student population.

Table 1 shows the student enrolments for the Wellington region in 2015. The last column shows the final distribution of the weighted sample by provider. The survey results presented in section 3 of the report are based on the weighted student sample except for the comments on public transport, section 3.7.

² A type of sampling bias which occurs when a sample is collected in a way that it results in a non-representative sample. A random sample avoids this type of bias.

Table 1 Student enrolments and weighted sample

Tertiary providers	Total enrolments	% of total students	Total survey respondents	% survey respondents	% of weighted sample
Massey University	3,207	8%	89	5%	9%
Open Polytech	2,385	6%	2	0%	0%
Te Wananga O Raukawa	3,305	8%	2	0%	0%
Otago University	952	2%	11	1%	3%
Victoria University	20,315	49%	1761	91%	56%
Weltec	6,235	15%	43	2%	17%
Whitireia polytechnic	5,395	13%	30	2%	15%
Total	41,794	100%	1938	100%	100%

3. Results

3.1 Tertiary provider

The students surveyed were predominantly undergraduate students (89%) and were studying fulltime (94%). Table 2 shows the distribution of the participants across the regional campuses by course type. Five tertiary providers are represented in the survey results; the number of respondents from other providers was too few to include these students in the results.

Table 2 Tertiary campus by type of study (full or part-time)

Provider & campus	Territorial Authority	Full-Time	Part-Time	Total by campus	Total by provider
Massey University - Mt Cook	Wellington City	8%	1%	9%	9%
University of Otago - Newtown	Wellington City	2%	1%	3%	3%
Victoria University - Kelburn	Wellington City	40%	2%	42%	
Victoria University - Pipitea	Wellington City	11%	1%	12%	
Victoria University - Te Aro	Wellington City	2%	0%	3%	56%
Weltec - Te Aro*	Wellington City	10%	0%	10%	
Weltec - Petone	Lower Hutt	6%	1%	7%	17%
Whitireia – Elsdon**	Porirua	10%	1%	11%	
Whitireia -Te Aro	Wellington City	4%	0%	4%	15%
Total		94%	6%	100%	100%

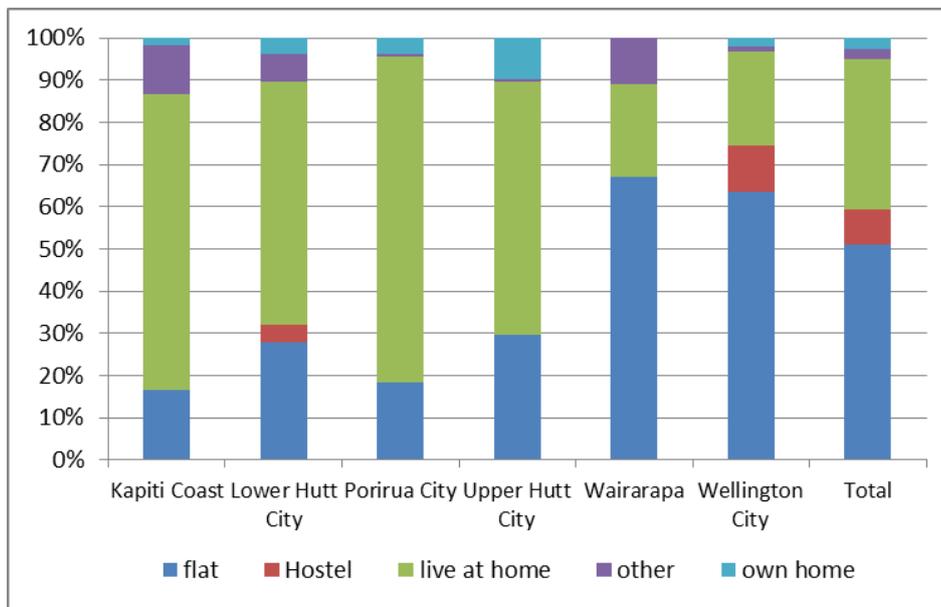
*Includes all Weltec campuses in Wellington City

**Includes all Whitireia campuses in Porirua.

3.2 Type of residential accommodation and location

Just over half of all the students in the survey (51%) were flatting and 36% were living at home. Flatting was the main accommodation choice for students living in Wellington City and the Wairarapa area³ but for other territorial authorities (TA) the majority of students were living at home.

Figure 1 Student living arrangement by Territorial Authority



Collecting information on the suburb and area where students live was important to understand their travel choices. The majority of those surveyed lived in Wellington City (70%) and the next largest group lived in Lower Hutt (13%). Of those living in Wellington City the main suburbs were: Kelburn, Mt Cook, Newtown, Mt Victoria and Aro Valley. In Lower Hutt the main suburbs were Petone Central and Melling.

Table 3: Location of home residence

TA	N	%
Kapiti Coast	77	4.2%
Lower Hutt City	245	13.2%
Porirua City	122	6.6%
Upper Hutt City	100	5.4%
Wairarapa (total of 3 TAs)	6	0.3%
Wellington City	1305	70.4%

³ Students from the three Territorial authorities in the Wairarapa area are reported as one area due to the small sample size from each TAs.

Table 4 shows the TA where students live against where they study. The table shows that the largest group were living in Wellington city and studying at Victoria University Kelburn campus (617 students, 32% of all students⁴).

This data also shows that some students are travelling across the region to get to their choice of study, for example 17% of students living in Wellington City were travelling to either Porirua or Petone to attend courses. Of those students travelling in the opposite direction, 90% of students living in Porirua are commuting into Wellington City or Petone to attend courses. Most of the students living in Kapiti Coast district travel into Wellington City (43%) and Petone (20%).

Table 4: Student home territorial authority vs campus location

	Kapiti Coast District	Lower Hutt City	Porirua City	Upper Hutt City	Wairarapa TAs	Wellington City	Unknown	Total
Massey Univ - Wellington City	4	15	10	8	2	129	4	172
Univ of Otago - Wellington City	0	5	5	9	0	32	0	51
VUW - Kelburn	19	88	29	34	2	617	25	
VUW - Pipitea	2	19	7	5	1	185	8	
VUW - Te aro	1	4	0	1	1	40	1	
VUW (Wellington city) total	21	111	36	40	4	842	34	1088
Weltec - Wellington City*	8	39	23	16	0	85	23	
Weltec - Petone	16	8	39	8	0	62	8	
Weltec total	23	47	62	23	0	148	31	334
Whitireia - Porirua**	29	58	10	10	0	96	10	
Whitireia - Te Aro	0	10	0	10	0	58	0	
Whitireia total	29	67	10	19	0	154	10	289
Total	77	245	122	100	6	1305	79	1934

*Includes all Weltec campuses in Wellington City

**Includes all Whitireia campuses in Porirua.

3.3 Transport modes used by students

Participants were asked whether they used public transport to travel to work, study and other activities; 92% of respondents said they used public transport. Participants were asked to record the frequency of these trips by mode during a typical week. Mode use shows that students are largely dependent on public transport for the purpose of travel to work or study. On average, 44% of total trips are made using the bus, 20% are by train and 2% are cable car or ferry. Car/motorbike trips (9%) and walking/biking (25%) make up the rest of the total trips at peak time.

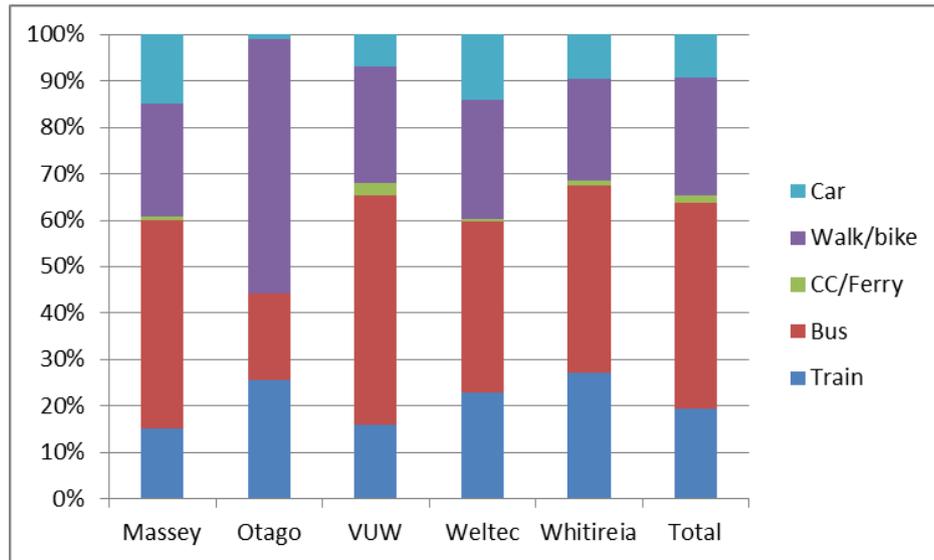
Tertiary providers and campuses are located in central Porirua, Petone and Wellington City and are all close to services on the regional transport network. Public

⁴ This result includes only those students that provided home location.

transport trips reported in this survey, primarily involve bus or train transport or a combination of both with a small group using the cable car or ferry.

Figure 2 shows the differences in mode use between tertiary providers using the information on typical weekly trips. Looking at total trips during the week, Otago students walk and bike the most often and use public transport least of all (44%), Whitireia students had the highest proportion of trips using public transport (68%). Victoria students make more trips by bus than other students (49%).⁵

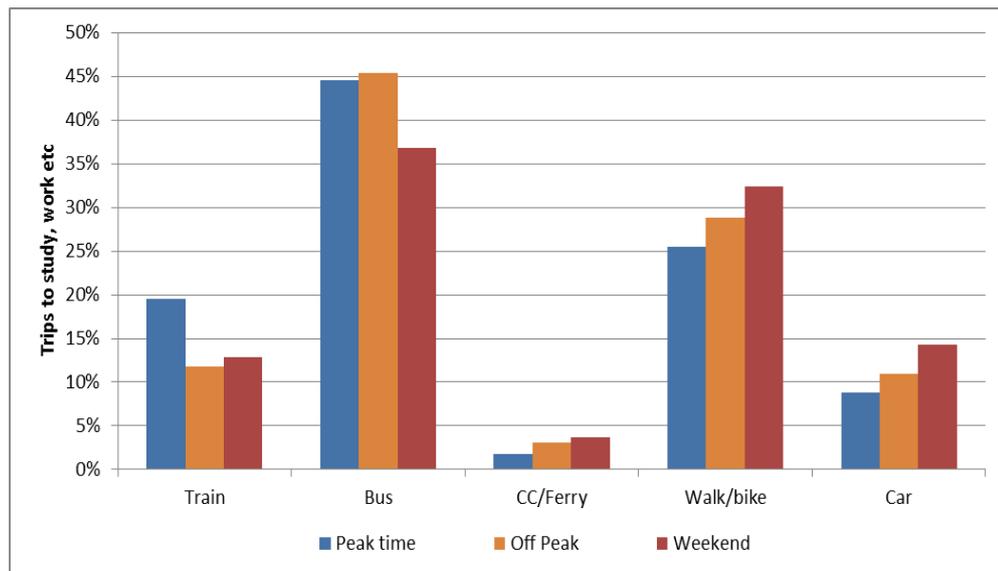
Figure 2 Proportion of student trips by mode and provider during peak times



Walking is a main means of travel (25% of trips during weekday and 32% in weekend) especially for students living in the suburbs but not far from the campus. Less than 11% of students use a motor vehicle or motorbike during the week (peak and off-peak) and car usage increases to 14% in the weekend.

⁵ For suburb location of each of the campuses see table 2

Figure 3: Proportion of trips by mode in a typical week



The distribution of mode share for student trips at peak, off-peak and weekend is shown in Figure 3. Peak and off-peak mode share for bus trips is very similar at 44% & 45% respectively. The proportion of public transport mode share decreases from 66% to 53% and car use increases from 8% to 14% when comparing peak time trips to weekend travel. Walking and biking trips show an increase in mode share from 25% (peak time) to 32% in the weekend.

3.4 Trips on public transport per week

The average number of trips per week is shown in Table 5 for those respondents who indicated they used public transport and had recorded at least one trip for bus, train, ferry or cable car. The table shows the frequency of trips by mode per student for weekdays at peak, off-peak and the weekend. Frequency of use for bus and train travel is similar across all times during the week. Overall bus travel is more prevalent with an average of 9.5 trips per week for those students who use the bus and 8.8 trips per week for train users.

For all public transport users in the survey, average trip frequency was 9.1 trips per week. Public transport boardings per capita for all participants were calculated at approximately 280 trips per year. This estimate is considered high when compared to rates for the adult regional population (77 boardings per capita per year) and may not be representative of the student population.

Table 5: Average number of PT trips per person per week

Mode	number of students	Average no. of trips on weekdays/Weekend			
		Peak	Off-peak	Weekend	Total
Bus	1327	5.6	3.9	2.6	9.5
Train	547	6.0	3.5	2.9	8.8
Cable car & Ferry	108	2.7	2.8	2.1	5.7
Total	1982	5.6	3.7	2.6	9.1

Note: Ferry and cable car trips were merged because student numbers were low.

Figure 4 shows the number of weekly trips by train and bus (peak and off-peak) per student. The number of students travelling at off-peak times by bus is similar to peak times. Trips by rail occur more often at peak times compared to off-peak and there is a higher frequency of trips, indicating that these students are more regular travellers. Some students will be taking more than one mode of public transport to get to study or work; 341 students (18%) reported taking both bus and train trips each week.

Figure 4: Number of trips per week on bus & train

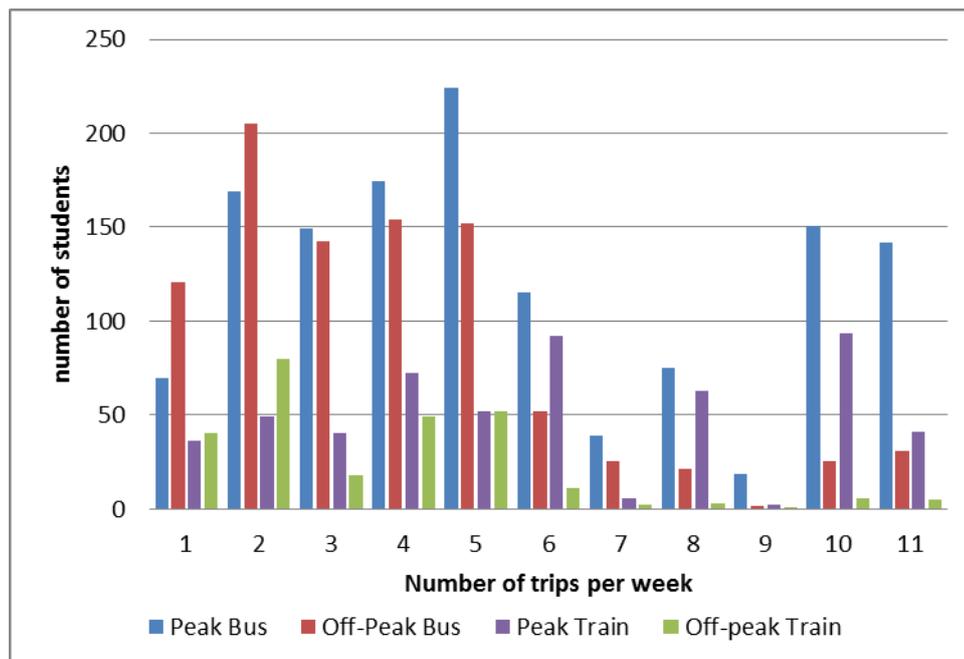


Table 6 shows the total number of trips per week by respondents on rail, bus and cable car according to the time and day travelled. The majority of trips on public transport are taken at peak times (61%) but together off-peak (weekday) and weekend trips made up 39% of total trips.

Table 6: Trips by public transport by time and day travelled

	Weekday		Weekend	Total
	Peak times	Off-peak times	all times	
total trips	11,055	4,758	2,242	18,055
%	61.2%	26.4%	12.4%	100%

3.5 Payment for public transport trips

The majority of students use a prepaid fare such as Snapper, Mana smartcard, or rail ten-trip tickets. A smartcard was used for 88% of bus trips and 78% used a ten trip or monthly pass for train travel. Cash is used for only 13% of weekly trips. This suggests that students in the survey were regular users of train and bus services; that they are technologically savvy and informed about payment options and preferred the more economical prepaid options for travel.

Table 7: Main ticket type for train and bus trips over all times

Ticket type	train	Bus	Total
Pre-paid/Smartcard	41%	88%	75%
Monthly pass	37%		10%
Cash	18%	12%	13%
Other	3%	0%	1%
Total	100%	100%	100%

Student trips on public transport and the distance travelled according to fare zone was also analysed according to ticket type. The number of fare zones travelled each week was calculated by comparing residential location and tertiary provider location for each student to measure fare zones travelled.

Table 7 shows the proportion of trips per week by fare zone. Zones 1-3 have the highest number of fares paid for by cash and prepaid (the majority of these trips are bus trips). 66% of trips are made within 3 zones using prepaid fares such as those commuting within Wellington City or between Lower Hutt and Porirua. Those students travelling 4 zones or more also favour prepaid fares; 20% of trips are prepaid compared to 3% using cash.

Table 8: Proportion of trips by Ticket type & fare zone travelled

Ticket type	Fare Zones	% of trips
Cash	Zones 1-3	11%
	Zones 4-6	3%
	Zones 7+	0%
Pre-paid (Snapper, bus card, ten trip)	Zones 1-3	62%
	Zones 4-6	13%
	Zones 7+	1%
Monthly rail pass	Zones 1-3	4%
	Zones 4-6	4%
	Zones 7+	2%

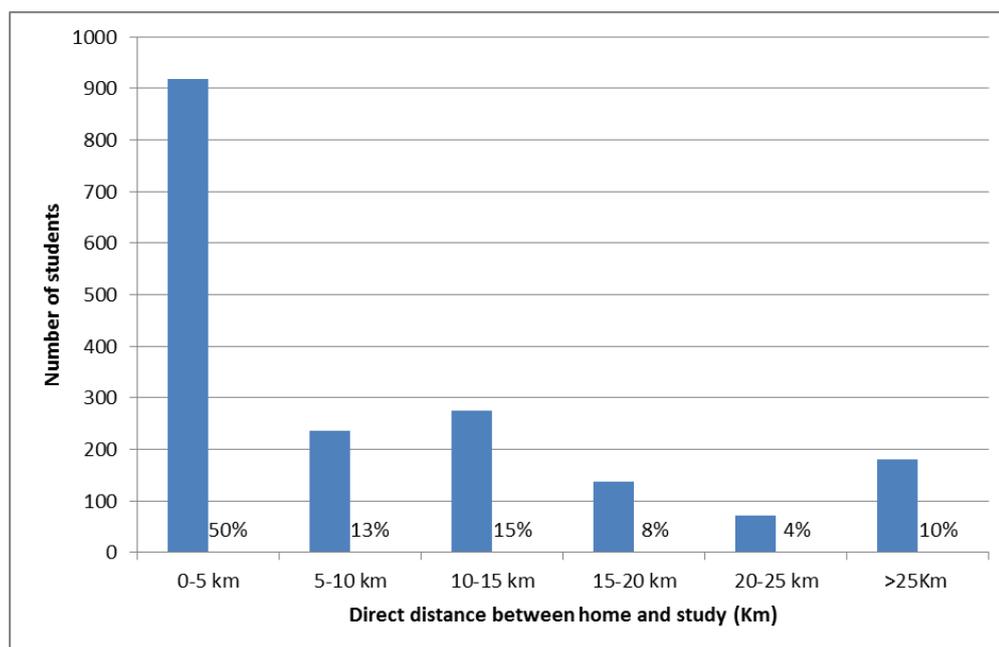
3.6 Distance travelled by students

The distance between home suburb and campus was calculated for each student using the direct distance between these two points and not the distance by land which would be further⁶. Figure 5 shows the distance travelled from home suburb to campus by number and percentage of students. The figure shows that 50% of students are travelling 5 km or less and only 14% of students are travelling 20 km or more for each trip.

There are significant differences in travel distance for students by tertiary provider. Students attending Whitireia campuses in Porirua travel the greatest distance (an average of 16.9 km per trip) followed by Weltec students attending courses in Wellington (13.4 km per trip). Victoria University students (Pipitea campus) have the shortest distance to travel for study; an average of 5.2 km per trip.

Students attending courses with one of the five providers (for this survey sample) live throughout the Wellington region with the highest concentrations near tertiary campuses in Wellington City near Kelburn, Te Aro, and Newtown and smaller concentrations in Petone. Figure 6 shows the student home by suburb and colour coded by student provider.

Figure 5: Distance travelled between home and study



⁶ This method may under-estimate the distance travelled but gives an approximate measure and therefore meets the requirements of this survey.

Figure 6: Student home suburb by campus for Massey, Whitireia, Otago and Weltec students

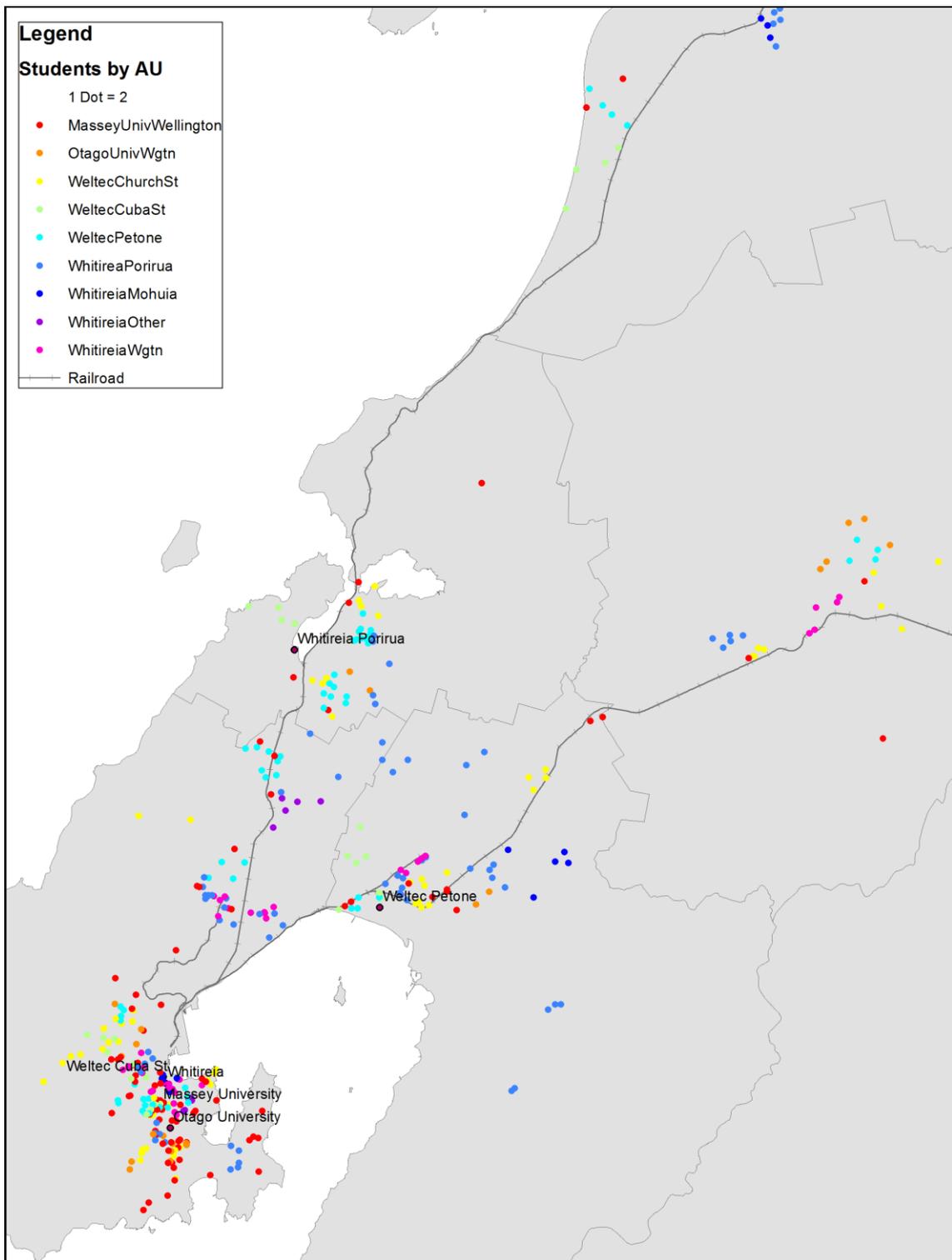
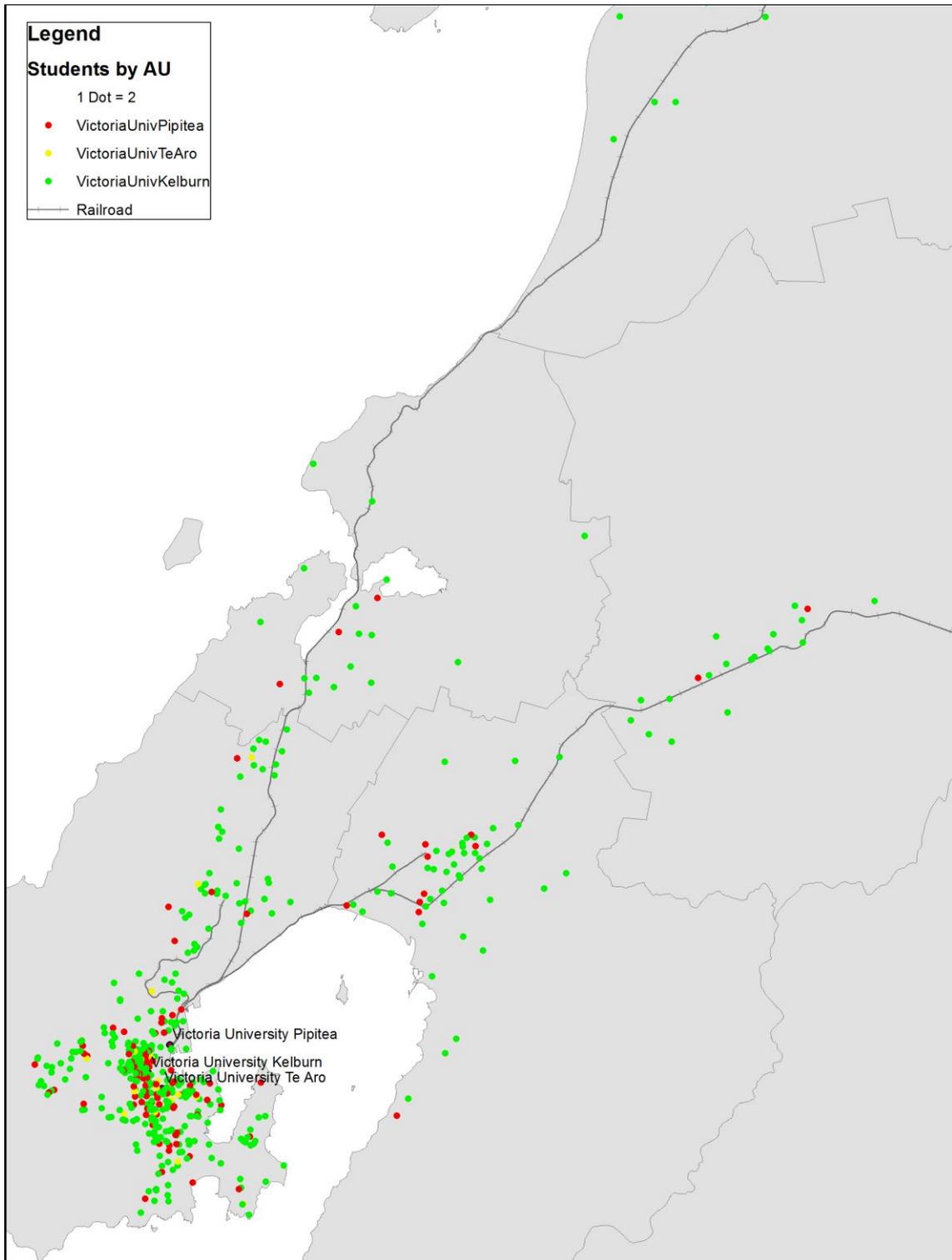


Figure 7: Student home suburb by campus for Victoria University students



3.7 Public transport for tertiary students in the Wellington region

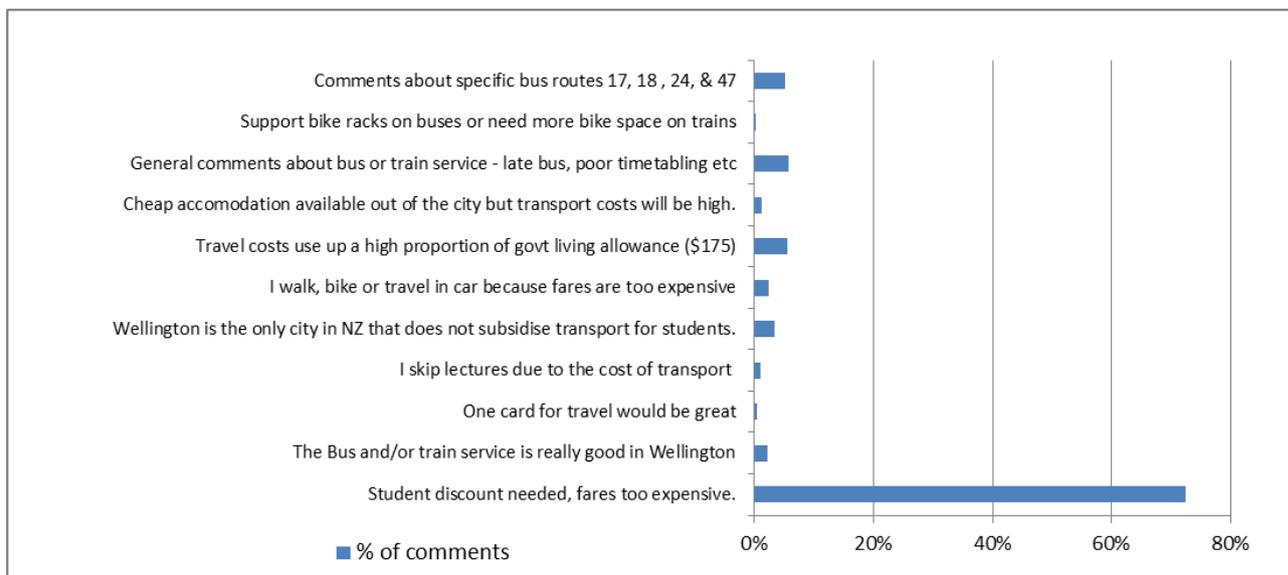
At the end of the survey respondents had the option of providing comments about public transport for tertiary students. Sixty percent of the respondents provided comments. The comments ranged from remarks about the access, timetabling or cost of existing bus and rail services used by students to the reasons for subsidising student travel in the Wellington region.

72% of respondents commented on the need for reduced fares for tertiary student travel on public transport. Students said that public transport costs are a high proportion of their weekly expenses and they could not always afford to travel. Some said they would not use the car for trips to study if public transport became less expensive.

Students were mindful of the relationship between transport and accommodation, and acknowledged that they chose to pay more to live in town and therefore reduce travel expenses. Another frequent comment referred to the discount given to secondary students and respondents queried why this was not also available to tertiary students.

Students also commented on the frequency of the bus or proposed changes to the bus routes that run to their campus (8%) e.g. bus route 18 and 47. Some respondents (5%) said the bus and rail service was very good in Wellington.

Figure 8: Comments about public transport for tertiary students in the Wellington region



4. Main findings

A high proportion of the students surveyed used public transport with 85% reporting at least one trip on public transport as part of their typical travel to work or study. Across all modes of transport the typical means of travel for students during the week at peak times was the bus (44%) followed by walking or biking (25%) and then trains (20%). The high mode share for bus and active transport most likely reflects the high proportion of students in the survey who are living and studying in the Wellington city area.

For all public transport users in the survey, the average trip frequency was 9.1 trips per week. For trips on train, bus and cable car, 61% were at peak times and 39% were at off-peak and weekend.

The typical bus user travels up to 3 fare zones and averages 9.5 bus trips over the whole week. Those students who use the train average 8.8 trips over the whole week and are travelling from 1 to 4 fare zones. 85% of all commuters surveyed paid for their fare using a smartcard, ten-trip or a monthly pass.

There were differences in mode of transport between tertiary provider groups; Victoria and Whitireia students had the highest proportion using public transport and Massey and Weltec had the largest proportion using cars.

The survey collected information about where students lived and type of residential accommodation; 70% of participants lived in Wellington City and 63% were flatting. The majority of students from other TAs were living at home.

The distance travelled by students to attend courses varied from campus to campus, this was expected given the mix of central city, urban and suburban settings. Analysis of the distance between home and campus showed that Victoria University students lived closest to their main campus and Whitireia students studying at Porirua were travelling the greatest distance. Overall 22% students lived at least 15km from their main place of study and 50% lived within 5 km.

The public transport boarding and trip rates (for the student sample) were relatively high compared to trip rates for the adult population in the region. This aside, the student survey results have been useful in gaining an understanding of:

- the distribution of fares across 14 fare zones
- the proportion of trips made using different ticket types
- the proportion of trips made during the different time periods
- the number of trips made by different modes

Appendix 1: Questionnaire

***Welcome to the student travel survey - thanks for taking the time to tell us about how and when you travel.**

Complete this 2 minute survey and enter your email to be in the draw to win one of ten \$75 travel vouchers (to suit your commute) for the Wellington Region.

Are you enrolled in tertiary study or training?

- Full-time study
- Part-time study
- Not currently a student

What type of course?

Degree, certificate or diploma are all undergraduate courses.

- Undergraduate study
- Postgraduate study
- Don't know or N/A

***Which tertiary provider are you enrolled with?**

Please select the tertiary provider and campus you visit for the majority of your classes.

- Massey University - Wellington campus
- Open Polytechnic
- Otago University - Wellington campus
- Otago University - Wellington city campus
- Te Wananga O Raukawa
- Victoria University - Kelburn campus
- Victoria University - Pipitea campus
- Victoria University - Karori campus
- Victoria University - Te Aro campus
- Wellington Institute of Technology - Petone campus
- Wellington Institute of Technology - West Hutt road campus
- Wellington Institute of Technology - Cuba street campus
- Wellington Institute of Technology - Church street campus
- Whitireia NZ - Porirua campus
- Whitireia - Mohuia campus
- Whitireia - Wellington campus
- Whitireia - Kapiti campus
- Whitireia - Other
- Other

***Please select the area or suburb where you live when you are studying.**

(Drop down list of 213 areas for Wellington region sourced from Statistics NZ)

***Do you use public transport for any of your trips?**

That is travel on the bus, train, cable car, or ferry.

- Yes
- No

How many trips do you make for work, study, or any other purpose, over a typical week.

Show how many trips you make for each type of transport you use at the three different times.

Trip = One way journey (e.g. from home to university)

Peak times = Before 9am and between 3 - 6:30pm on weekdays.

Off-Peak times = Between 9am and 3pm & after 6:30pm on weekdays.

Weekend = Anytime during the weekend

	Peak time trips each week											Off-Peak Trips each week											Weekend Trips														
	0	1	2	3	4	5	6	7	8	9	10	11 or more	0	1	2	3	4	5	6	7	8	9	10	11 or more	0	1	2	3	4	5	6	7	8	9	10	11 or more	
Bus	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>																																
Train	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>																																
Cable car	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>																																
Ferry	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>																																
Walk/Bike	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>																																
Car/Motor bike	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>																																
Other	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>																																

When you are travelling by public transport how do you usually pay for the trip?

How do you pay?	Going by bus?			Going by Train?			Going by ferry or cable car?				
	Cash	Smart card (Snapper or Mana card)	Other	Cash	Rail ten trip	Rail monthly pass	Other	Cash	Smart card (e.g.snapper)	Cable Car multi-trip card	Other
How do you pay?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Finally some general questions:

What is your age?

- Under 18 years
- 18 - 24 years
- 25 - 64 years
- 65 years or above

What type of accommodation do you live in?

- Student accommodation (e.g. hostel, halls of residence)
- Flat or shared house
- Live at home with parents/guardians
- Home owner
- Other

To be in the draw for a travel voucher prize, please provide your email address:

Do you have any comments about public transport for tertiary students in the Wellington region?

Enter comments here:

Thank you for taking part in this survey.