Greater Wellington Regional Council
2017 Rail Survey Analysis

March 2018

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1. Executive summary

GWRC commissioned a rail survey undertaken in June 2017 to gather information to better understand travel patterns and travel characteristics across the rail network.

A sample of 2,350 passengers completed the survey across the network, with the data collection focussing on the AM peak period but also covering the weekday off-peak, PM peak and weekend.

Once cleaned, the data was expanded using automatic passenger count (APC) data to generate representative daily AM peak, Inter-peak, PM peak, weekend and annual totals form the basis for additional data interrogation.

This report summarises some of the high level travel patterns in relation to:

- access mode to rail network (from initial origin)
- egress mode from rail network (to final destination)
- ticket type usage by time period
- variations in travel patterns and characteristics by line / time of day
- trip frequency
- proportion of AM peak passengers making a return trip later in the day

There are a number of limitations that should be noted:

- Wairarapa line sample rates were very low, therefore this data should be used only at aggregate level
- AM peak and PM peak sample rates were good but Inter-peak / weekend sample rates were lower
- The data represents a snapshot of one point in time and thus number should generally be expressed as likely ranges rather than absolute figures

In summary, the data that was collected provides a useful basis for understanding rail travel patterns and characteristics, and can be used for more detailed studies looking at different aspects of the rail system – park and ride, public transport fares – as and when required.

2. Introduction

Understanding travel patterns and characteristics is essential for planning and operating public transport networks. The purpose of the **2017 Rail Survey** is to help with this task.

With the last regional rail survey undertaken in 2011, there was a need for more current information to inform decision making in relation to two significant current projects - public transport fare review and park and ride investigation.

For the 2017 rail survey, Wellington rail passengers were invited to participate in an online survey, with survey forms containing the web address handed out to a sample of passengers. The main aim of the survey was to learn about the travel characteristics of rail passengers who travel on the Wellington rail network during peak and off peak times.

A sample of 2,350 passengers completed the survey and the findings of this survey are available in the 2017 Rail Passenger Survey report[1] (see Appendix 1), developed by Research New Zealand (who undertook the survey).

The Research New Zealand report summarised the un-expanded data; the purpose of this report is to document the expansion process and to provide a broad high level overview of trends and patterns observed in this analysis.

3. Methodology

3.1 Online Rail Survey

The objective of the rail survey was to understand daily and weekly travel patterns, with information was collected from rail passengers on the Kapiti, Johnsonville, Hutt Valley/Melling and Wairarapa lines.

Over ten days in June 2017, Research New Zealand surveyors distributed postcards to train passengers on the train station platforms during weekday morning peak-times and on the trains during weekday off-peak-times and weekends. The postcards invited prospective respondents to complete a short online survey about their train journey that day.

The online survey asked respondents to provide information in relation to the following information areas:

- Day and time of their initial train journey and time of their return journey (if applicable)
- The origin and destination of the journey.
- Mode of travel to and from train station.
- The availability of motor vehicles as an alternative to taking the train
- usage of station parking – station car park, off-site, dropped off

3.2 Data Expansion

Around 40,000 one-way rail trips are made during an average workday (9,300 on an average weekend day). In comparison, 2351 completed survey results were received from the 2017 Rail survey.

To provide a representative view of travel patterns, the data from the rail survey was expanded using passenger count data to adjust for over- or under-representation by line, station or time period.

Passenger counts were used to expand weekday AM inbound survey results (by boarding station) and PM outbound survey results (by alighting station). Passenger counts by line were used for the other directions and time periods, necessitated by the smaller sample sizes; given that around two thirds of all rail trips take place during peak period, this approach is deemed appropriate. The weekday data was expanded using APC counts and reflect a total of ~40,000 weekday trips.

Table 1 shows Rail survey counts, APC door counts and the resulting expansion factors

[1] 2017 Rail Passenger Survey report. Research NZ. Available on the GW web site: http://www.gw.govt.nz/regional-transport-analysis/

Table 1: Survey counts, APC counts & Expansion factors

	Rail Survey Counts						Expansion Factors						Raw Door counts					
	AM	AM	IP	IP	Pm	PM	AM	AM	IP	IP	Pm	PM	AM	AM	IP	IP	PM	PM
	IB	OB	IB	OB	IB	OB	IB	OB	IB	OB	IB	OB	IB	OB	IB	OB	IB	OB
Upper Hutt	63	6	7	3	5	55	9.44	77.20	43.94	22.00	76.46	6.65	595	241	291	311	238	366
Wallaceville	39	0	4	3	0	34	8.05	77.20	43.94	22.00	76.46	4.97	314	56	97	78	20	169
Trentham	53	3	1	5	4	44	6.49	77.20	43.94	22.00	76.46	4.27	344	160	217	106	36	188
Heretaunga	18	2	2	3	2	15	10.67	77.20	43.94	22.00	76.46	6.13	192	35	82	68	32	92
Silverstream	59	0	0	1	0	56	8.19	77.20	43.94	22.00	76.46	4.54	483	53	97	114	30	254
Manor Park	8	0	1	1	0	7	5.63	77.20	43.94	22.00	76.46	13.57	45	23	32	33	15	95
Pomare	20	0	1	2	0	19	8.10	77.20	43.94	22.00	76.46	5.05	162	18	45	58	15	96
Taita	49	0	0	5	0	43	7.45	77.20	43.94	22.00	76.46	6.00	365	125	70	130	56	258
Wingate	12	0	0	0	0	8	8.92	77.20	43.94	22.00	76.46	7.00	107	35	41	56	19	56
Naenae	40	0	1	2	0	35	6.33	77.20	43.94	22.00	76.46	5.31	253	35	91	96	26	186
Epuni	24	1	1	5	1	18	5.42	77.20	43.94	22.00	76.46	5.28	130	27	76	77	21	95
Waterloo	160	1	9	21	0	124	12.12	77.20	43.94	22.00	76.46	7.71	1939	61	301	284	183	956
Woburn	90	0	4	11	0	72	6.70	77.20	43.94	22.00	76.46	5.35	603	34	108	159	17	385
Ava	49	1	2	1	0	41	7.76	77.20	43.94	22.00	76.46	5.34	380	29	99	85	22	219
Petone	114	1	9	14	1	98	7.39	77.20	43.94	22.00	76.46	6.46	842	57	257	186	188	633
Ngauranga	0	0	1	0	0	0	0.00	77.20	43.94	22.00	76.46	0.00	0	0	0	0	0	0
Wellington	0	0	1	4	0	0		77.20	43.94	22.00	76.46		0	0	0	0	0	0
Melling	66	0	3	8	0	51	5.94	77.20	43.94	22.00	76.46	5.08	392	136	135	114	59	259
Western Hutt	32	0	0	1	0	29	3.66	77.20	43.94	22.00	76.46	2.90	117	33	26	25	17	84
Hutt & Melling Line	896	15	47	90	13	749	8.11	77.20	43.94	22.00	76.46	5.86	7263	1158	2065	1980	994	4391
Johnsonville	37	5	14	11	3	31	9.14	98.71	18.83	16.06	71.50	7.87	338	136	289	233	132	244
Raroa	20	1	6	4	0	14	10.80	98.71	18.83	16.06	71.50	6.50	216	280	234	80	40	91
Khandallah	17	1	3	4	1	12	9.00	98.71	18.83	16.06	71.50	7.92	153	46	73	60	25	95
Box Hill	9	0	1	1	0	9	8.22	98.71	18.83	16.06	71.50	5.44	74	30	42	60	17	49
Simla Crescent	34	0	3	3	0	25	4.97	98.71	18.83	16.06	71.50	3.40	169	44	65	71	13	85
Awarua Street	24	0	3	4	0	15	6.54	98.71	18.83	16.06	71.50	6.07	157	48	49	81	17	91
Ngaio	25	0	7	12	0	12	6.96	98.71	18.83	16.06	71.50	7.92	174	76	76	85	21	95
Crofton Downs	24	0	10	8	0	23	7.54	98.71	18.83	16.06	71.50	4.65	181	31	57	85	21	107
Johnsonville Line	190	7	47	47	4	141	7.69	98.71	18.83	16.06	71.50	6.08	1462	691	885	755	286	857
Waikanae	69	0	21	17	1	61	8.70	95.29	35.97	27.41	103.86	4.95	600	237	386	402	141	302
Paraparaumu	106	4	10	12	3	96	8.61	95.29	35.97	27.41	103.86	5.73	913	95	343	233	116	550
Paekakariki	36	0	5	5	1	31	4.25	95.29	35.97	27.41	103.86	3.26	153	14	76	96	23	101
Pukerua Bay	27	0	1	8	0	16	5.89	95.29	35.97	27.41	103.86	6.25	159	11	75	87	25	100
Plimmerton	40	0	0	3	0	33	6.78	95.29	35.97	27.41	103.86	6.97	271	36	102	111	28	230
Mana	35	1	3	3	0	32	6.43	95.29	35.97	27.41	103.86	6.50	225	17	99	98	19	208
Paremata	64	0	3	6	0	57	6.92	95.29	35.97	27.41	103.86	5.81	443	31	83	152	20	331
Porirua	148	2	7	13	2	123	8.24	95.29	35.97	27.41	103.86	7.08	1220	130	415	512	136	871
Kenepuru	5	0	2	2	0	5	10.20	95.29	35.97	27.41	103.86	6.60	51	24	32	58	27	33
Linden	49	0	2	1	0	43	7.49	95.29	35.97	27.41	103.86	5.12	367	16	156	98	32	220
Tawa	55	0	1	3	0	44	7.24	95.29	35.97	27.41	103.86	5.32	398	18	110	156	30	234
Redwood	65	0	1	4	0	52	6.09	95.29	35.97	27.41	103.86	3.31	396	25	106	103	25	172
Takapu Road	39	0	2	3	0	33	7.56	95.29	35.97	27.41	103.86	2.73	295	13	103	87	105	90
Kapiti Line	738	7	58	80	7	626	7.44	95.29	35.97	27.41	103.86	5.50	5491	667	2086	2193	727	3442
Masterton	3	0	0	0	0	3	76.92					100.00						
Renall Street	2	0	0	0	0	2	76.92					100.00						
Solway	1	0	0	0	0	0	76.92					100.00						
Carterton	1	0	0	0	0	1	76.92					100.00						
Woodside	2	0	0	1	0	1	76.92					100.00						
Featherston	4	0	0	1	0	3	76.92					100.00						
Wairarapa Line	13	0	0	2	0	10	76.92					100.00	1000	0	0	0	0	1000
Weekend	All counts combined					427	21.78	21.78	21.78	21.78	21.78	21.78	9300	All counts combined				

Weekend sample rates were even lower so the data collected across the network at the weekends was expanded to 9300 weekend trips, reflecting June average weekend patronage data as reported by Transdev.

Given that the weekend data collected was deemed a representative sample across the network, combined with the fact that the weekend accounts for only around 5% of weekly rail patronage and

the purpose of surveying weekends was to provide a very high level indication of travel patterns / characteristics (and how they vary compared to the peak periods), this approach was again considered appropriate.

For the Wairarapa Line, 1000 passengers per day per direction were assumed, aligning with long term averages.

Weekly values throughout this document are calculated as five times the summed weekday plus two times the weekend day values.

In addition to the expansion to daily and weekly totals, we annualise the data as further described in **Chapter 7.**

3.3 Summary of expanded data

Table 2 gives an overview of the expanded data by station and time period. It needs to be stressed that at the sample size of the smaller stations is insufficient for analysis at this level and hence this table is indicative only. For the same reason, the data from the Wairarapa was omitted here entirely.

The time periods referenced in this document are as follows:

- AM peak – persons arriving at their destination station between 6.30am and 9am
- Inter-peak – persons departing from their origin station or arriving at their destination station between 9am and 3.30PM
- PM peak – persons departing from their origin station between 3.30pm and 6.30pm
- Evening – persons departing from their origin station after 6.30pm
- Weekend – Saturday and Sunday

Table 2: Daily Boarding and alighting counts by station and time period (expanded)

	AM		IP		PM		Evening		Weekend	
	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings
Wellington	309	14337	4418	4422	8908	481	814	76	3746	3724
Hutt Valley Line										
Upper Hutt	567	617	308	66	582	366	0	27	131	131
Wallaceville	314	0	176	66	0	169	0	20	44	44
Trentham	344	232	44	110	306	188	0	26	109	109
Heretaunga	269	154	88	66	153	168	0	12	0	22
Silverstream	560	0	0	22	0	330	0	9	65	65
Manor Park	45	0	44	22	0	95	0	0	0	0
Pomare	162	0	44	44	0	96	0	0	0	0
Taita	365	0	0	110	0	258	0	6	22	22
Wingate	107	14	0	0	10	56	0	21	22	44
Naenae	330	26	88	44	6	262	0	11	109	131
Epuni	207	77	44	110	76	171	0	11	22	22
Waterloo	2325	184	417	462	113	1262	76	116	261	283
Woburn	680	16	176	286	5	385	7	43	22	22
Ava	380	84	88	22	4	219	0	37	131	131
Petone	919	328	461	352	324	709	0	26	305	218
Ngauranga	0	107	66	0	115	0	0	0	22	22
Melling Line										
Melling	392	6	132	176	6	259	0	15	0	0
Western Hutt	117	0	0	66	0	84	0	0	0	0
Johnsonville Line										
Johnsonville	437	500	280	177	221	244	72	31	653	675
Raroa	216	99	129	64	0	163	0	26	109	109
Khandallah	153	115	73	102	72	95	0	16	131	131
Box Hill	370	0	19	16	0	121	0	72	0	0
Simla Crescent	169	0	56	48	0	85	0	10	152	109
Awarua Street	453	0	73	102	0	234	0	24	152	109
Ngaio	273	0	159	229	0	95	0	40	218	218
Crofton Downs	280	0	188	147	0	107	0	0	196	152
Kapiti Line										
Waikanae	600	0	755	466	104	302	0	40	501	501
Paraparaumu	1008	393	414	390	317	654	0	40	348	436
Paekakariki	153	0	207	209	104	101	0	16	240	218
Pukerua Bay	159	0	36	219	0	100	0	13	152	65
Plimmerton	271	0	27	154	0	230	5	21	109	109
Mana	225	95	135	118	0	208	0	0	65	87
Paremata	443	0	108	164	0	331	0	6	109	218
Porirua	1220	306	356	472	227	871	15	85	414	414
Kenepuru	51	15	72	55	12	33	0	0	0	0
Linden	367	0	72	27	0	220	0	20	131	131
Tawa	779	6	63	118	0	649	0	48	131	152
Redwood	396	0	36	110	0	172	0	13	22	22
Takapu Road	295	0	99	118	0	90	0	14	131	152

The survey cards were handed out during the morning peak (AM) and Inter-Peak (IP). Respondents were able to complete the survey online when it was convenient for them. The main focus of the questions was on the first trip of the day. Respondents were also asked if they had made (or were planning to make) a return trip later on the same day. If they responded 'Yes', they were also asked the time of that return trip. No further information about that return trip was acquired, but for the

purpose of this analysis and expansion it was assumed that the return trip is the exact inverse of the initial trip; destination station becomes origin station, access mode becomes egress mode etc.

3.4 Limitations of the survey and expansion process

A number of factors should be borne in mind when interpreting and using the survey results. They include:

- Sample rates:
    - Inter-peak sample rates were considerably lower than morning peak sample rates – given that the primary focus of the survey programme was to use the limited budget to focus on gathering data during peak periods (supplemented by the Inter-peak) this is considered an appropriate compromise
    - Sample rate in outbound direction was considerably lower than in inbound direction (again, a function of survey methodology and the focus on the AM peak, inbound)
    - The number of survey responses from Wairarapa line passengers was very low:
        - One reason for this is that surveyors were unable to hand out survey cards on one of the designated days.
        - Of those questionnaires completed, 28 of the weekday responses referred to the Wairarapa line (14 of these trips originated in the Wairarapa, the remainder from along the Hutt Valley) which is a low sample rate considering that over 1000 passengers travel from the Wairarapa every morning.
        - In summary, whilst Wairarapa line data can be used in aggregate format, it should not be used at a station specific level.
    - A low sample rate can lead to high expansion factors which can distort the results, particularly when investigating detailed questions (e.g. examination of what happens at a single station)
- Human error during questionnaire completion:
    - a small number (~6%) of respondents indicated that they took the same trip[2] 8 or more times a week which implies doing the same trip more than once a day – it is likely that these people also counted any return trip in their calculations and we therefore halved the observed trip frequency (i.e. from 8 to 4) for the purpose of survey analysis
    - Around 9% of the people who drove a car to the station also indicated they did not have a car available as alternative for the rail trip.
- Afternoon and evening trips: As described in 3.2, information about these trips is only available as inferred from the AM and Inter-Peak questionnaire returns where people are asked whether they will make a return trip later in the day and, if so, when; the survey responses showed that 95% of people travelling inbound in the AM peak returned later in the day (the majority doing so in the PM peak), justifying our approach of concentrating on the AM peak inbound trips.

[2] Trip = a one way journey

- Time uncertainty: In the survey it was asked “Which day and what time was it when you first travelled by train”. Answers include before 6am, 6-7am, 7-8am, 8-9am, 9am-3pm and after 3pm. Some respondents may have interpreted this as: *What time was the trip started* or *What time did the trip end* or *During which time period did most of the trip happen.* For the purpose of this analysis, all answers of before 9am are aggregated in AM peak.

4. Verification of expansion process

In order to evaluate the effects of the expansion, some high level comparisons with the unexpanded data from the Rail Passenger Survey report were undertaken.

If the sample population was a random sub-group of all daily trips, the expansion should only result in very minor differences.

However, as pointed out in 3.4, some trips are over / under-represented in the sample and this section should help understand any sample bias and the extent to which the expansion process rectifies any bias

Figure 1 shows access mode to the train stations (weekday and weekend) by mode for the original unexpanded data set (left) and the expanded data set (right).

The expanded data set has a much greater percentage of walk access trips (compared to unexpanded) because the expanded data set now includes return trips (mostly originating in the CBD and mostly walking) and a greater proportion of inter-peak trips (where the walk access percentage is greater than the car access percentage).

In order to confirm that this is the correct explanation for the differences, the return trips were removed from the expanded data (Figure 2) and this shows a much closer alignment with the unexpanded data.

Some differences remain and will be a function of the under-representation of inter-peak and outbound trips in the original sample.

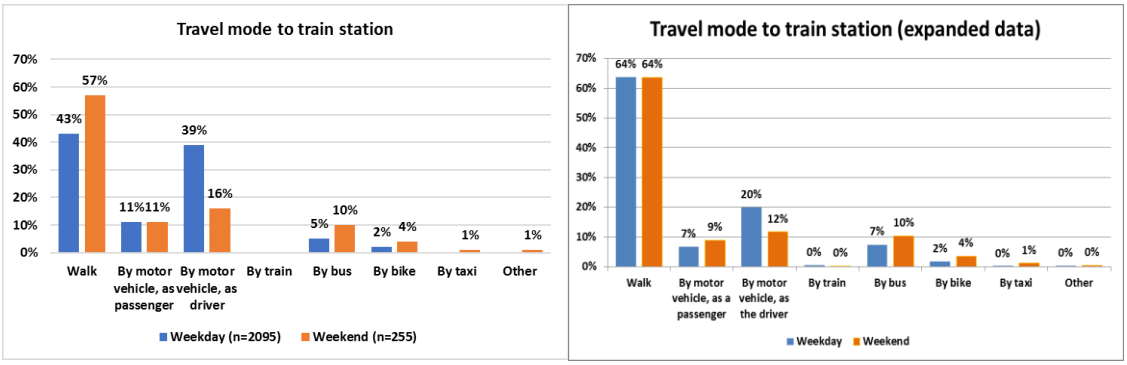


Figure 1: Access mode to rail station – unexpanded (left) and expanded (right), weekday and weekend

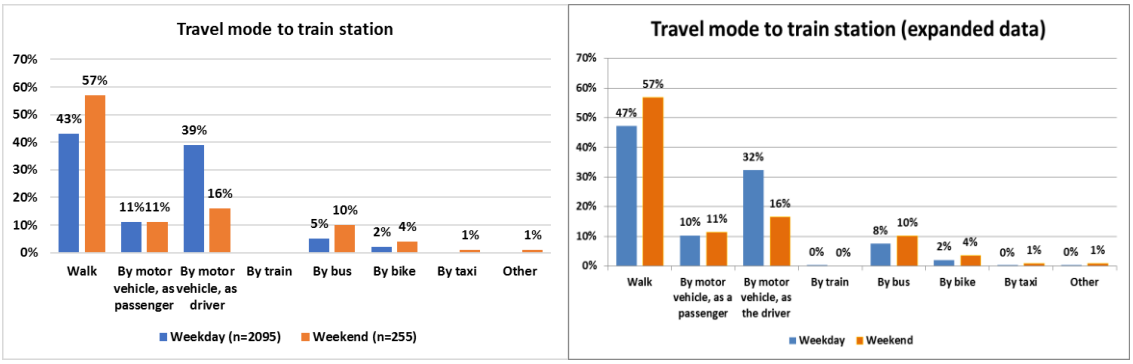


Figure 2: Access mode to station – unexpanded (left) and expanded excluding PM peak and reverse trips (right), weekday and weekend

The percentage of trips made by ticket type / time period are shown in **Figure 3** (un-expanded and expanded). Return trips have already been removed from expanded data in accordance with the description above.

The main difference is that monthly pass tickets account for a lower proportion of all fares in the expanded data set compared to the unexpanded data set (even accounting for the removal of PM peak return trips) and Supergold accounts for a higher proportion.

This is a function of the Inter-peak sample rates being a lot lower than the AM peak sample rates, combined with the fact that all Supergold travel occurs in the Inter-peak, resulting in the dilution of peak period monthly pass trips.

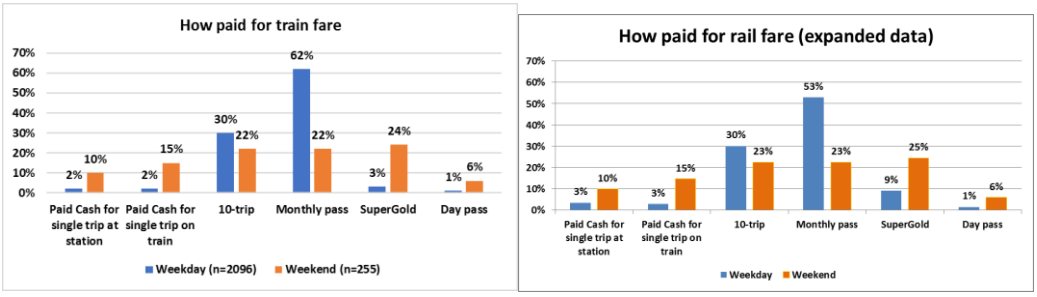


Figure 3: Trips by ticket type – un-expanded data (left) and expanded data (right)

Figure 4 below compares the un-expanded and the expanded data for the weekday AM peak. The unexpanded and expanded percentages are relatively similar and support the view that the expansion process has worked as intended and the main differences between un-expanded and expanded records stem from different sample rates between AM (inbound) and AM (outbound), Inter-peak and the additional of PM peak reverse trips.

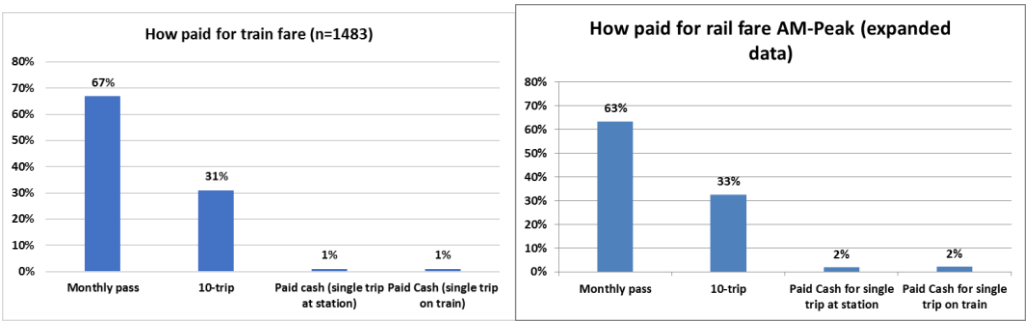


Figure 4: Trips by ticket type, weekday AM – unexpanded (left) and expanded (right)

5. Weekly Trip Distribution - Overview

Table 3 and **Figure 5** below categorise the 220,000 weekly rail trips by time period and line.

The time period definitions are as follows:

- AM peak – persons arriving at their destination station between 6.30am and 9am
- Inter-peak – persons departing from their origin station or arriving at their destination station between 9am and 3.30pm
- PM peak – persons departing from their origin station between 3.30pm and 6.30pm
- Evening – persons departing from their origin station after 6.30pm
- Weekend – Saturday and Sunday

It is accepted that the expansion counts might not fully align with the time period definitions; however, given the purpose of this survey is to provide high level information and trends this limitation is not considered significant.

Table 3: Weekly trips by line (in thousands)

	Time Period					
Line	AM	IP	PM	Off-Peak	Weekend	Grand Total
Hutt Valley Line	37.5	15.6	24.0	2.2	4.4	83.7
Johnsonville Line	11.8	8.4	6.1	1.1	5.0	32.3
Kapiti Line	29.8	21.4	20.3	1.6	8.3	81.4
Melling Line	4.5	4.4	2.9	0.1	0.1	11.9
All Lines Combined	88.6	49.8	58.3	4.9	18.6	220.2

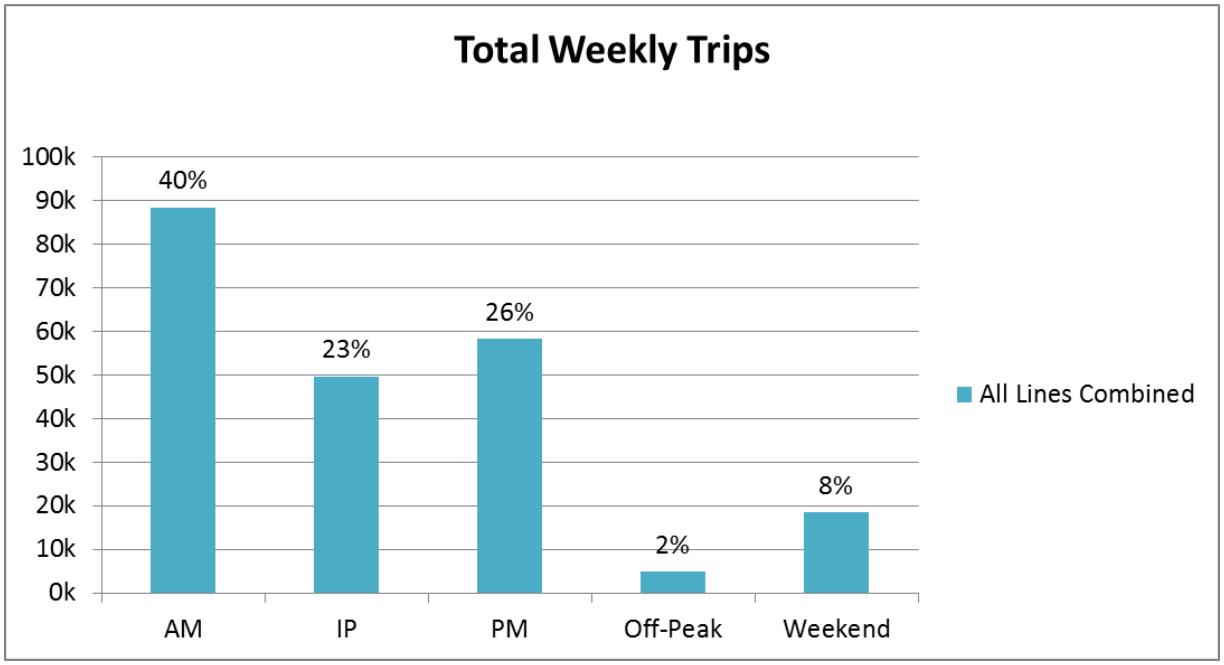


Figure 5: Total weekly trips by time period

The data shows the following:

- Peak periods account for over 2/3rd of weekly rail trips
- The combined Hutt Valley / Melling line is slightly busier than the Kapiti line, when assessed over a whole week
- The weekend accounts for between 5% and 10% of weekly rail trips, depending on the line

Table 4 below shows AM peak trips categorised by time of arrival (mostly into Wellington Station)

Table 4: AM peak trips by hour of arrival at destination station

Time of day	6:00 – 6:59 am	7:00 – 7:59 am	8:00 – 8:59 am	6am to 9am total
Number of Trips	3850	10000	3700	17550
Percentage of AM Trips	22%	57%	21%	100%

Table 4 shows that nearly 60% of all AM trips are undertaken in the hour between 7am and 8 am while ~20% of the trips fall into each of the hours of 6am to 7am and 8am to 9am

6. Results

Inbound passenger volumes are greatest in the AM peak (arrivals into Wellington prior to 9am).

The following section summarises the trips as follows:

- by trip origin
- by trip destination
- by trip purpose
- by access and Egress mode (how they travel to and from the station)
- car availability
- bus ticket type (for those using feeder bus services)
- park and ride characteristics
- rail ticket type

6.1 Trip Origin

Table 5 below daily trips by time period and trip origin (i.e. home, employer's business, study, etc.).

Table 5: Daily trips by time period and trip origin

	Home	On Employer Business	Other (e.g. shopping, social, sport, recreation)	Polytechnic or University or training	School	Usual workplace	Grand Total
AM	17250	0	250	0	0	150	17700
IP	4450	350	1800	300	300	2700	9950
PM	200	150	400	150	450	10400	11650
Evening	0	50	100	0	100	700	1000
Weekend	4750	50	3600	100	0	700	9300
Sum Weekday	21900	550	2550	450	850	13950	40300
Weekly	119000	2850	19950	2450	4250	71150	220100

Table 6: Daily trips by time period and trip origin (percentage)

	Home	On Employer Business	Other (e.g. shopping, social, sport, recreation)	Polytechnic or University or training	School	Usual workplace	Grand Total
AM	97%	0%	1%	0%	0%	1%	100%
IP	45%	4%	18%	3%	3%	27%	100%
PM	2%	1%	3%	1%	4%	89%	100%
Evening	0%	5%	10%	0%	10%	70%	100%
Weekend	51%	1%	39%	1%	0%	8%	100%
Sum Weekday	54%	1%	6%	1%	2%	35%	100%
Weekly	54%	1%	9%	1%	2%	32%	100%

Table 5, Table 6 and **Figure 6** show where people are coming from before they start their trips. Unsurprisingly, the vast majority of journeys originate at home during the AM peak. In the Inter-Peak, there is about a 50/50 share of people coming from home and from elsewhere. The PM peak and evening trips are dominated by people coming from work.

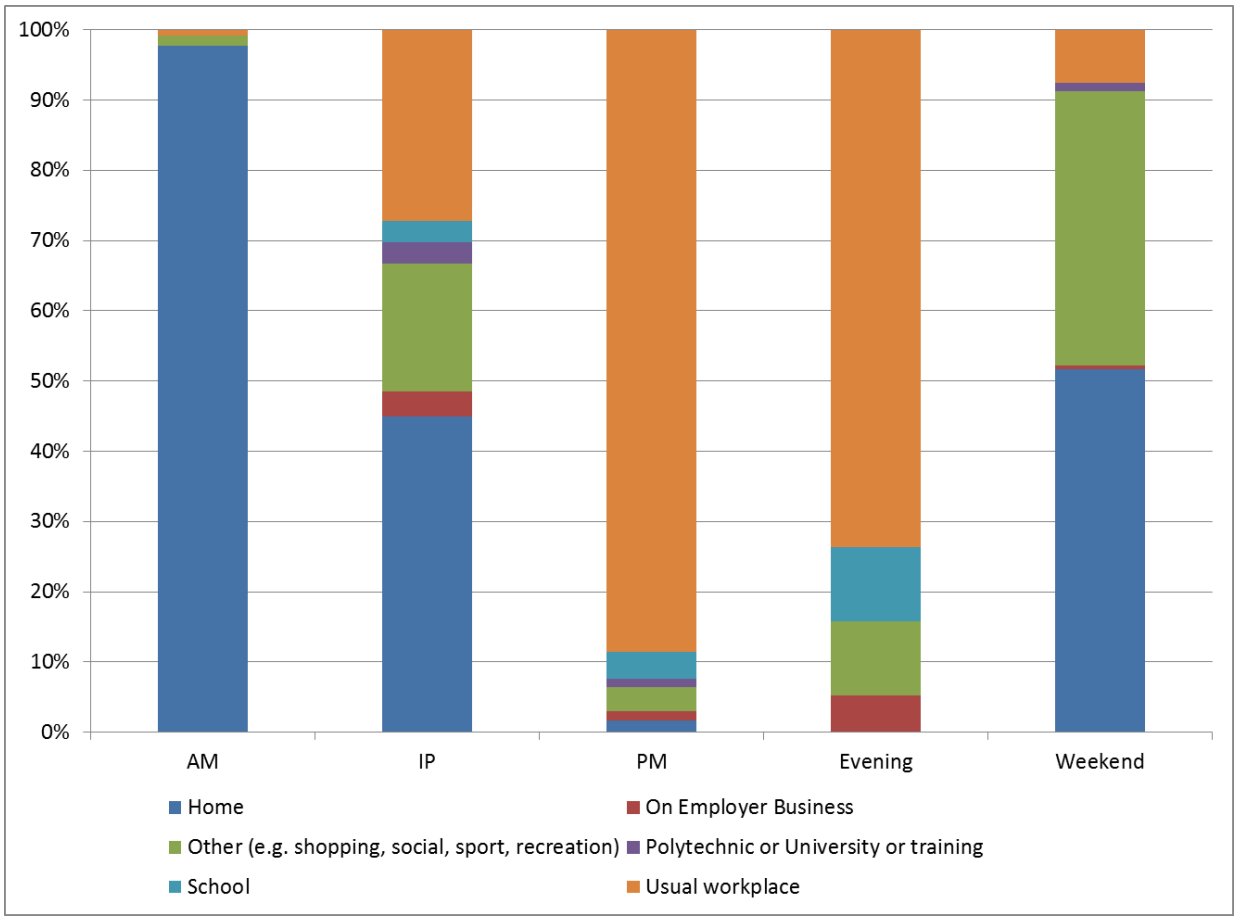


Figure 6: Percentage of daily trips by origin (all time periods)

6.2 Trip Destination

Trip destination is summarised in **Table 7, Table 8** and **Figure 7**. About 90% of all AM peak journeys are journeys to work, with 7% of AM peak trips destined for school.

The Johnsonville Line has a different distribution, with ~30% of trip destinations going to school and 63% to work, a function of the Onslow College / Raroa College (outbound trips) and Wellington Girls School (inbound trips)

Table 7: Trips by time period and destination

	Home	On Employer Business	Other (e.g. shopping, social, sport, recreation)	Polytechnic or University or training	School	Usual workplace	Grand Total
AM	200	150	250	300	1200	15600	17700
IP	4900	450	2600	300	150	1600	9950
PM	11250	0	150	0	0	200	11650
Evening	950	0	0	0	0	0	1000
Weekend	4400	50	3900	150	50	750	9300
Sum Weekday	17300	600	3000	600	1350	17400	40300
Weekly	95300	3100	22800	3300	6850	88500	220100

Table 8: Trips by time period and destination (percentage)

	Home	On Employer Business	Other (e.g. shopping, social, sport, recreation)	Polytechnic or University or training	School	Usual workplace	Grand Total
AM	1%	1%	1%	2%	7%	88%	100%
IP	49%	5%	26%	3%	2%	16%	100%
PM	97%	0%	1%	0%	0%	2%	100%
Evening	95%	0%	0%	0%	0%	0%	100%
Weekend	47%	1%	42%	2%	1%	8%	100%
Sum Weekday	43%	1%	7%	1%	3%	43%	100%
Weekly	43%	1%	10%	1%	3%	40%	100%

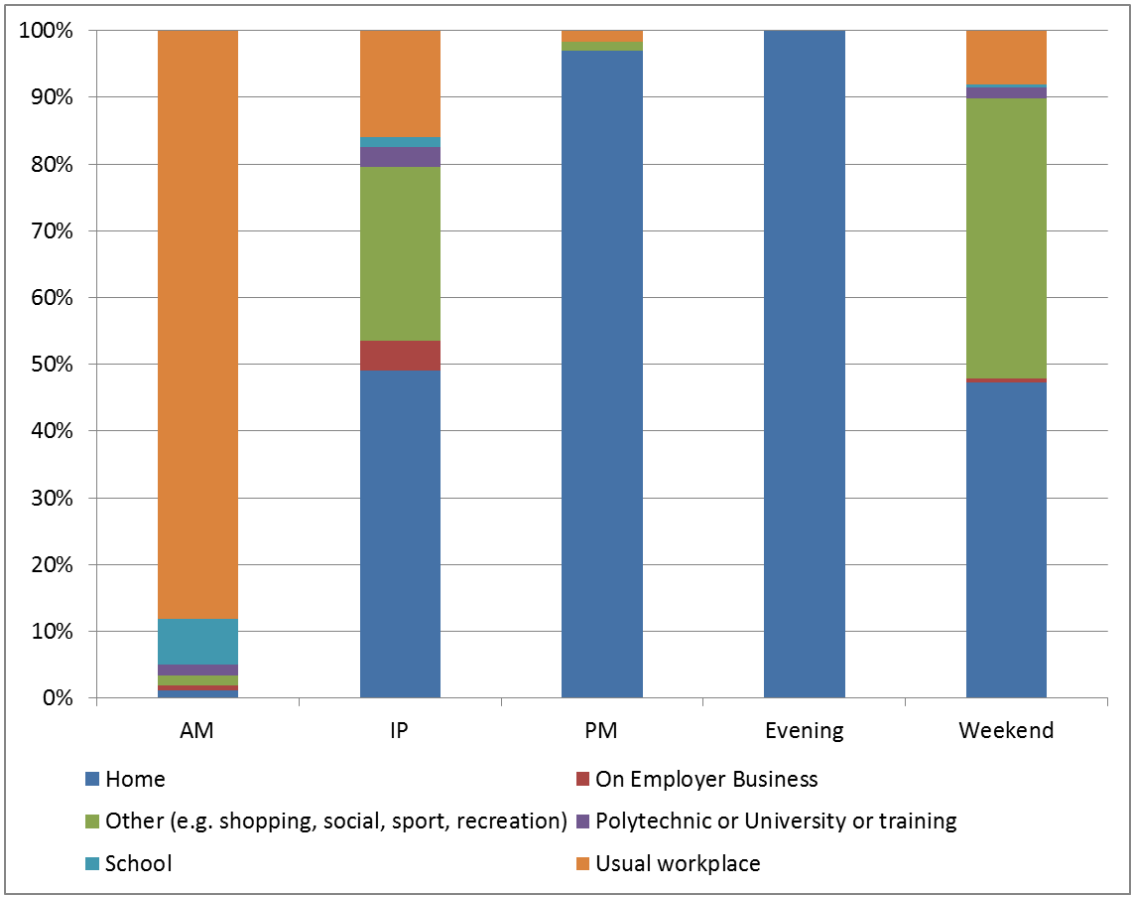


Figure 7: Percentage of trips by purpose

During the Inter-peak, rail trips are split broadly 50:50 between persons heading to home and persons heading to go shopping / undertake other activities.

6.3 Trip Purposes

Trip purpose is derived by combining information about origins and destinations.

Table 9: Trip purpose by time period

	AM	IP	PM	Evening	Workday Total	Weekend
Home Based Work	15450	4000	10450	700	30600	1250
Home Based Education	1500	950	600	100	3150	250
Home Based Other	350	3800	300	100	4550	7350
On Employer Business	150	650	100	50	950	100
non Home Based Work	200	250	100	0	550	50
non Home Base Other	0	200	100	0	300	250

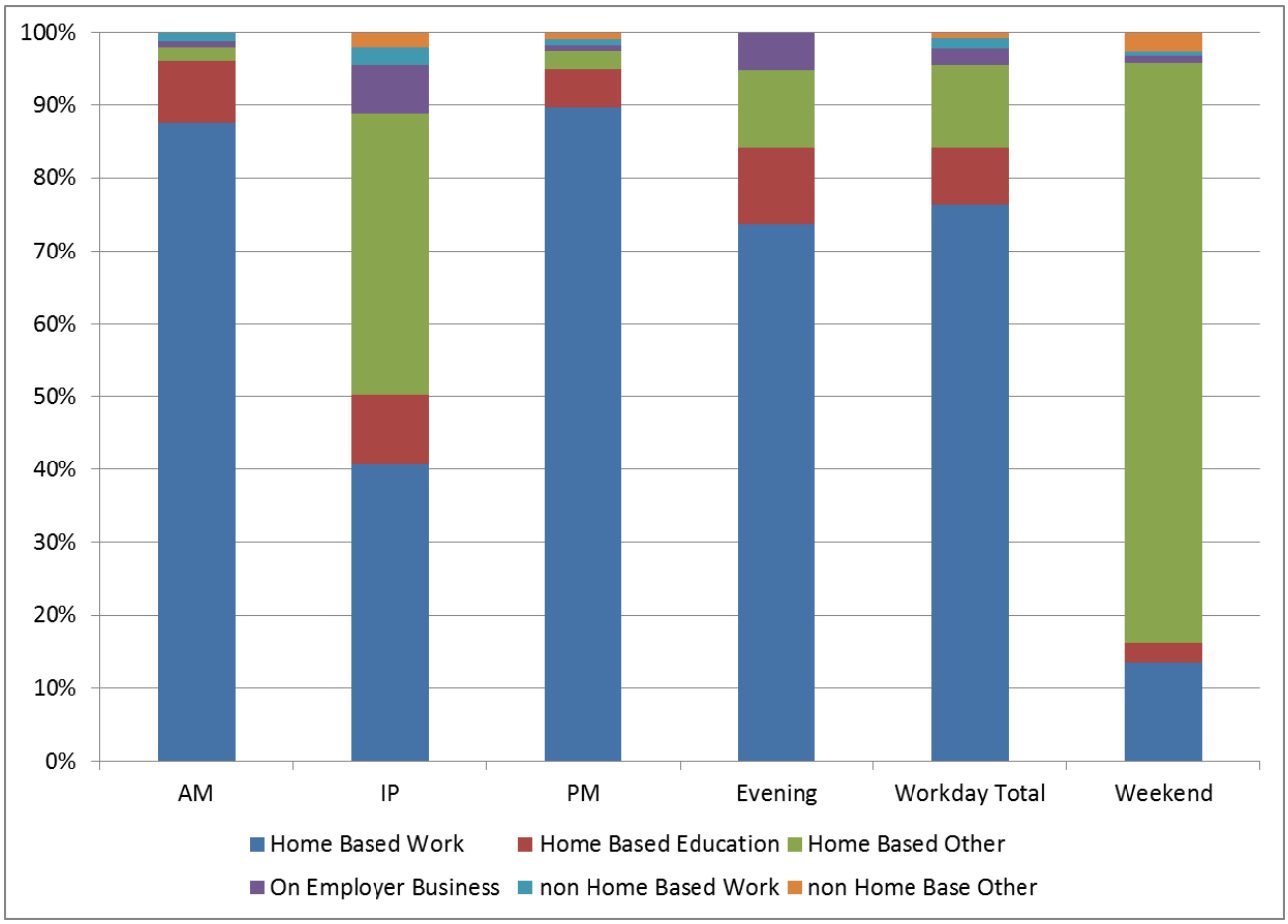


Figure 8: Trip purposes by time period (percentage of total)

Table 9 and **Figure 8** show the distribution of trips by purpose and time period (workdays only) as well as the daily distribution. The majority (95%) of trips are *home based* trips, with home-based work trips accounting for around 90% of trips during the AM and PM peak periods.

6.4 Access Mode

Table 7, Table 8 and **Figure 9** show trips by access mode to rail stations, by time periods, in both absolute and percentage terms.

Walking and car (either as passenger or as driver) are the major access modes for train journeys with an almost equal share between the two in the AM (45% each). Walking is a more significant access mode in the IP and accounts for 90% of all access legs in the PM peak, a function of most people who catch a train in the PM peak walking from work to Wellington station.

Table 10: Rail station access mode by time period (absolute)

	By bike	By bus	By motor vehicle, as a passenger	By motor vehicle, as the driver	By taxi	By train	Other	Walk	Grand Total
AM	300	1150	1950	6200	0	0	50	8050	17700
IP	350	1100	500	1500	0	100	0	6350	9950
PM	50	500	250	300	0	50	0	10450	11650
Evening	0	200	0	0	0	0	0	750	1000
Weekend	350	950	850	1100	100	0	50	5900	9300
Sum Weekday	700	2950	2700	8000	0	150	50	25600	40300
Weekly	4200	16650	15200	42200	200	750	350	139800	220100

Table 11: Rail station access mode by time period (percentage)

	By bike	By bus	By motor vehicle, as a passenger	By motor vehicle, as the driver	By taxi	By train	Other	Walk	Grand Total
AM	2%	6%	11%	35%	0%	0%	0%	46%	100%
IP	3%	11%	5%	15%	0%	1%	0%	64%	100%
PM	1%	4%	2%	3%	0%	0%	0%	90%	100%
Evening	0%	22%	0%	1%	0%	1%	0%	76%	100%
Weekend	4%	10%	9%	12%	1%	0%	0%	64%	100%
Sum Weekday	2%	7%	7%	20%	0%	0%	0%	64%	100%
Weekly	2%	8%	7%	19%	0%	0%	0%	64%	100%

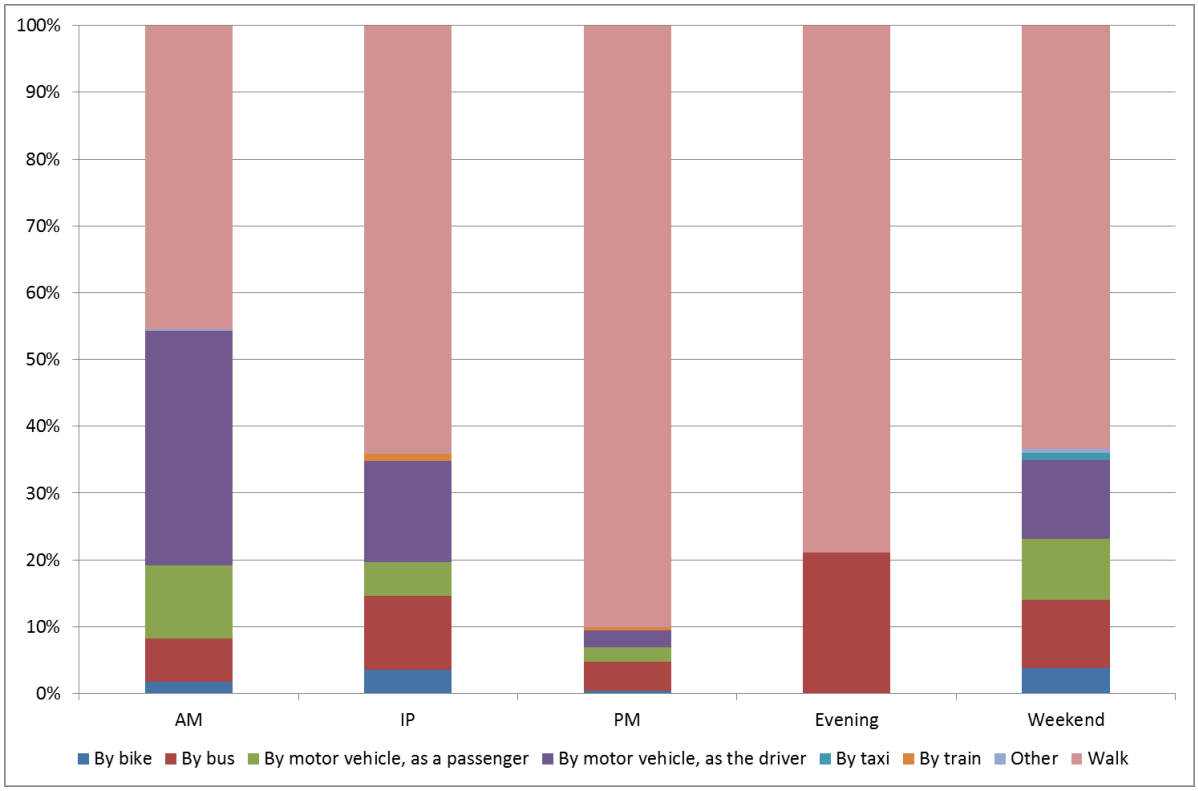


Figure 9: Rail station access mode by time period (percentage)

Access mode preference varies between the different lines. Figure 6 shows that when motor vehicle passengers / drivers are combined:

- Kapiti line car access (58%) is greater than walk access
- Hutt valley line car access (43%) and walk access (48%) modal split is similar
- Most people walk to the Johnsonville line (83%)

Based upon knowledge of walk-up station catchment areas (within 1km walk of the station) and characteristics of the different lines, these observations appear plausible.

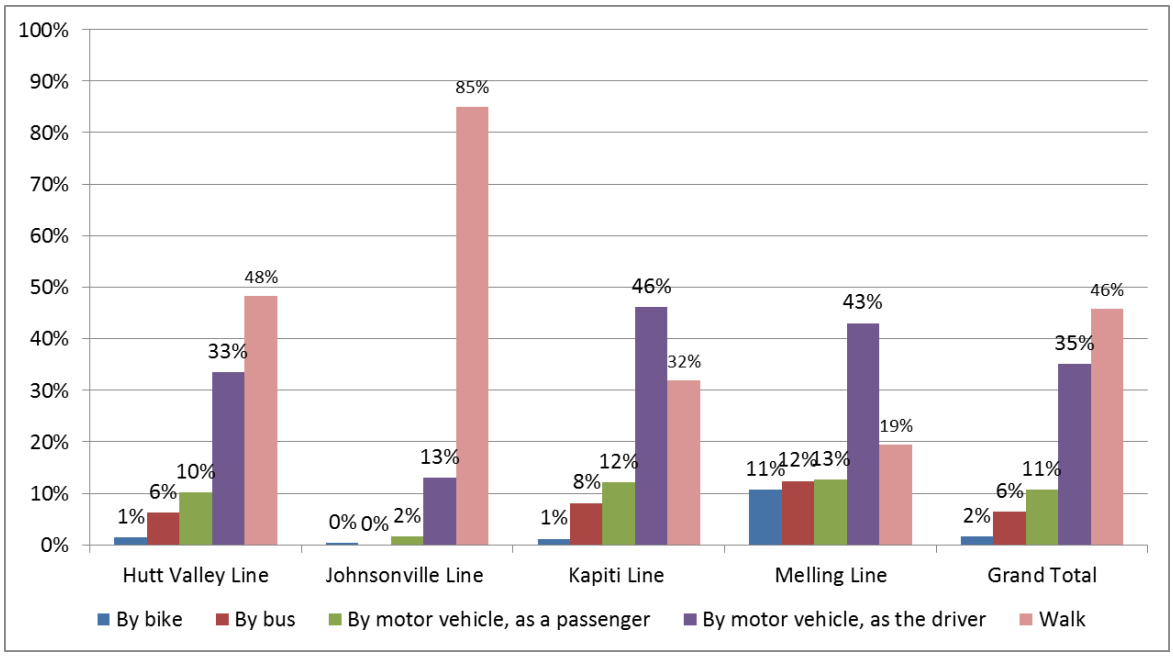


Figure 10: Access mode by line, AM, percentage (only modes with more than 1% share)

6.5 Egress Mode

Walking is the preferred mode for the onward trip from the rail station, with around 90% of people walking to their destination (mainly from Wellington station) during the morning peak. This percentage drops during the IP and especially PM peak as people return to the suburbs where some of them left the car at or near the railway station in the morning.

Table 12: Egress mode by time period

	By bike	By bus	By motor vehicle, as a passenger	By motor vehicle, as the driver	By taxi	By train	Other	Walk	Grand Total
AM	200	1150	300	550	0	100	0	15450	17700
IP	300	1300	500	1850	50	50	0	5950	9950
PM	100	900	1300	4050	0	0	50	5250	11650
Evening	0	0	100	250	0	0	0	600	1000
Weekend	300	1050	850	1150	50	50	50	5800	9300
Sum Weekday	600	3350	2200	6700	50	150	50	27250	40300
Weekly	3600	18850	12700	35800	350	850	350	147850	220100

Table 13: Egress mode by time period (percentage)

	By bike	By bus	By motor vehicle, as a passenger	By motor vehicle, as the driver	By taxi	By train	Other	Walk	Grand Total
AM	1%	6%	2%	3%	0%	1%	0%	87%	100%
IP	3%	13%	5%	19%	1%	1%	0%	60%	100%
PM	1%	8%	11%	35%	0%	0%	0%	45%	100%
Evening	0%	0%	10%	25%	0%	0%	0%	60%	100%
Weekend	3%	11%	9%	12%	1%	1%	1%	62%	100%
Sum Weekday	1%	8%	5%	17%	0%	0%	0%	68%	100%
Weekly	2%	9%	6%	16%	0%	0%	0%	67%	100%

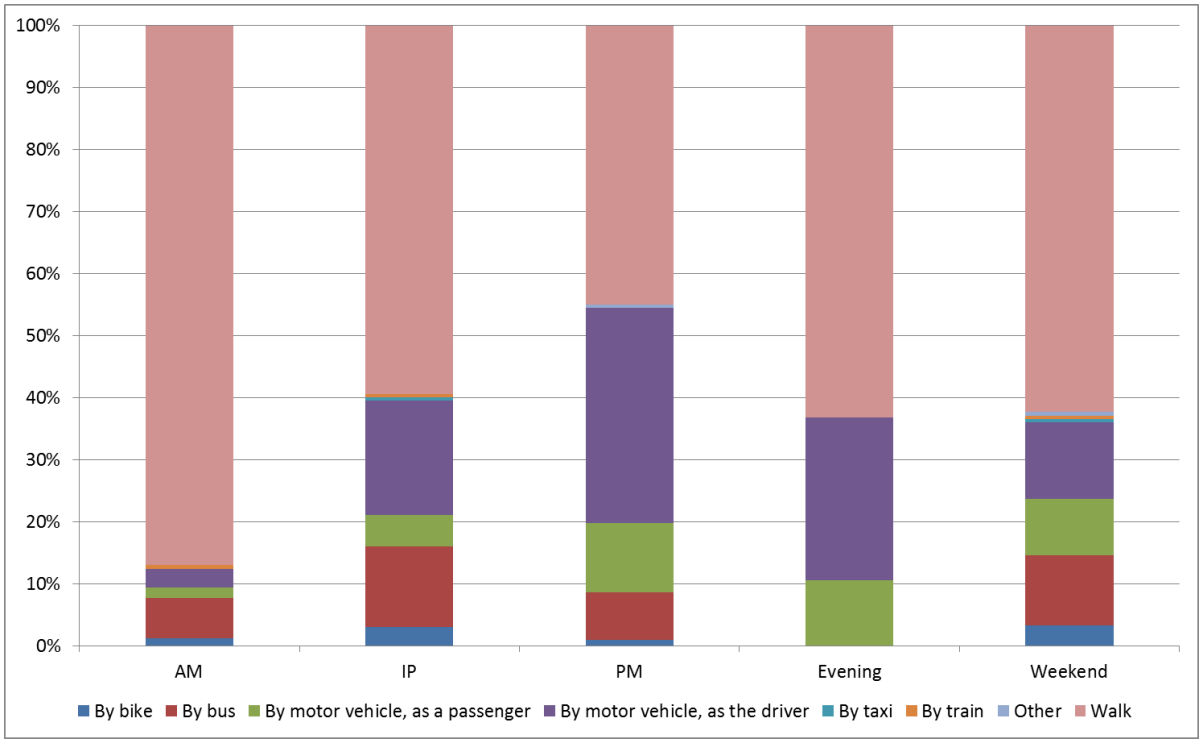


Figure 11: Rail egress mode by time period (percentage)

6.6 Car Availability

This question asks people whether a car was available to them as a means of travel instead of the train journey they made that day.

Table 14: Access mode to rail station cross-tabulated against car availability (AM, Inter-peak, initial trips excluding return trips), average weekday and weekend

		By bike	By bus	By motor vehicle, as a passenger	By motor vehicle, as the driver	Walk	Grand Total
Weekday	No	200	1050	750	600	4400	7050
	Yes	250	650	1600	6700	6150	15450
Weekend	No	50	400	300	50	1800	2650
	Yes	150	150	350	850	1300	2850

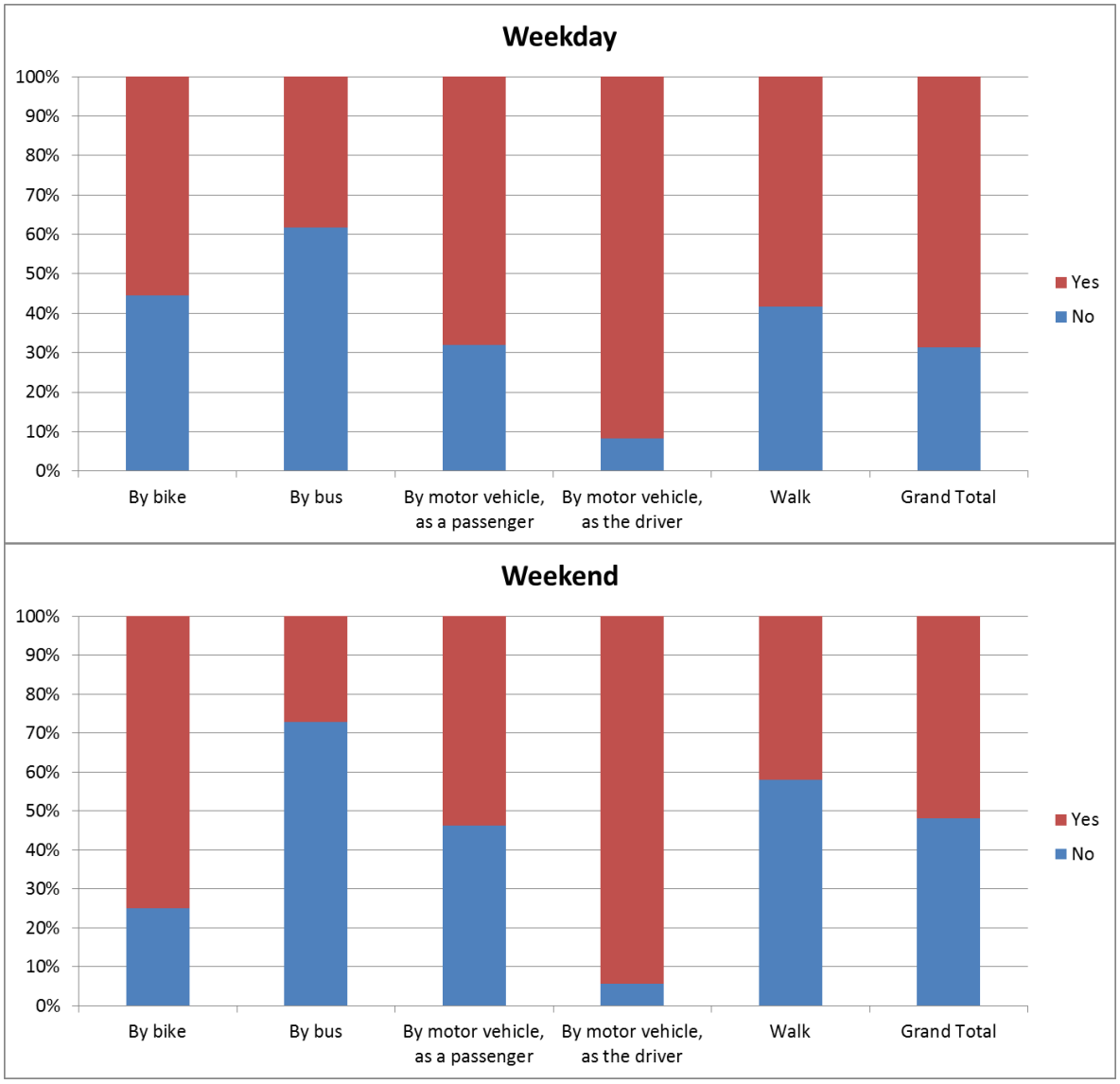


Figure 12: Car availability by station access mode (initial trips), percentage

For this analysis we are looking at initial trips (i.e. excluding return trips). As Table 10 and Figure 8 show, a car was available to the majority (~70%) of weekday rail passengers and about half of weekend rail passengers. The segment of rail users that have the lowest car availability were people who took the bus to the station (70% have no car access).

6.7 Bus Access and egress to rail station

Respondents that used the bus as access and/or egress mode to rail travel were also asked which ticket type they used to pay for bus trip(s).

Table 15: Bus access to rail station by ticket type

	Cash	HuttPlus	MANA Coachcard	Monthly pass	Other	Snapper	Supergold	Grand Total
AM	150	50	250	200	0	500	0	1150
IP	200	0	100	0	50	450	350	1100
PM	0	0	100	50	0	350	0	500
Evening	0	0	0	50	0	100	0	200
Weekend	200	0	0	0	0	450	250	950
Sum Weekday	350	50	450	300	50	1400	350	2950
Weekly	2150	250	2250	1500	250	7900	2250	16650

Table 16: Bus access to rail station by ticket type (percentage)

	Cash	HuttPlus	MANA Coachcard	Monthly pass	Other	Snapper	Supergold	Grand Total
AM	13%	4%	22%	17%	0%	43%	0%	100%
IP	18%	0%	9%	0%	5%	41%	32%	100%
PM	0%	0%	20%	10%	0%	70%	0%	100%
Evening	0%	0%	0%	25%	0%	50%	0%	100%
Weekend	21%	0%	0%	0%	0%	47%	26%	100%
Sum Weekday	12%	2%	15%	10%	2%	47%	12%	100%
Weekly	13%	2%	14%	9%	2%	47%	14%	100%

The results for trips to the station are summarised in **Table 15, Table 16** and **Figure 13**.

The share of Snapper as a payment method is largest in the afternoon, reflecting people returning to Wellington Station to catch the train home.

Monthly passes such as Hutt Plus (small additional charge compared to rail monthly pass) and the Kapiti plus (rail monthly allowing travel on bus feeder services) and MANA Coach card (access to Johnsonville station) are used to pay for around 50% of bus access trips in the AM peak, with Snapper accounting for the remaining 50%.

In the Inter-peak, around 80% of people pay for fares either by Snapper / Mana cash card or Supergold.

Cash is the method of payment for a relatively small number of rail access trips made by bus.

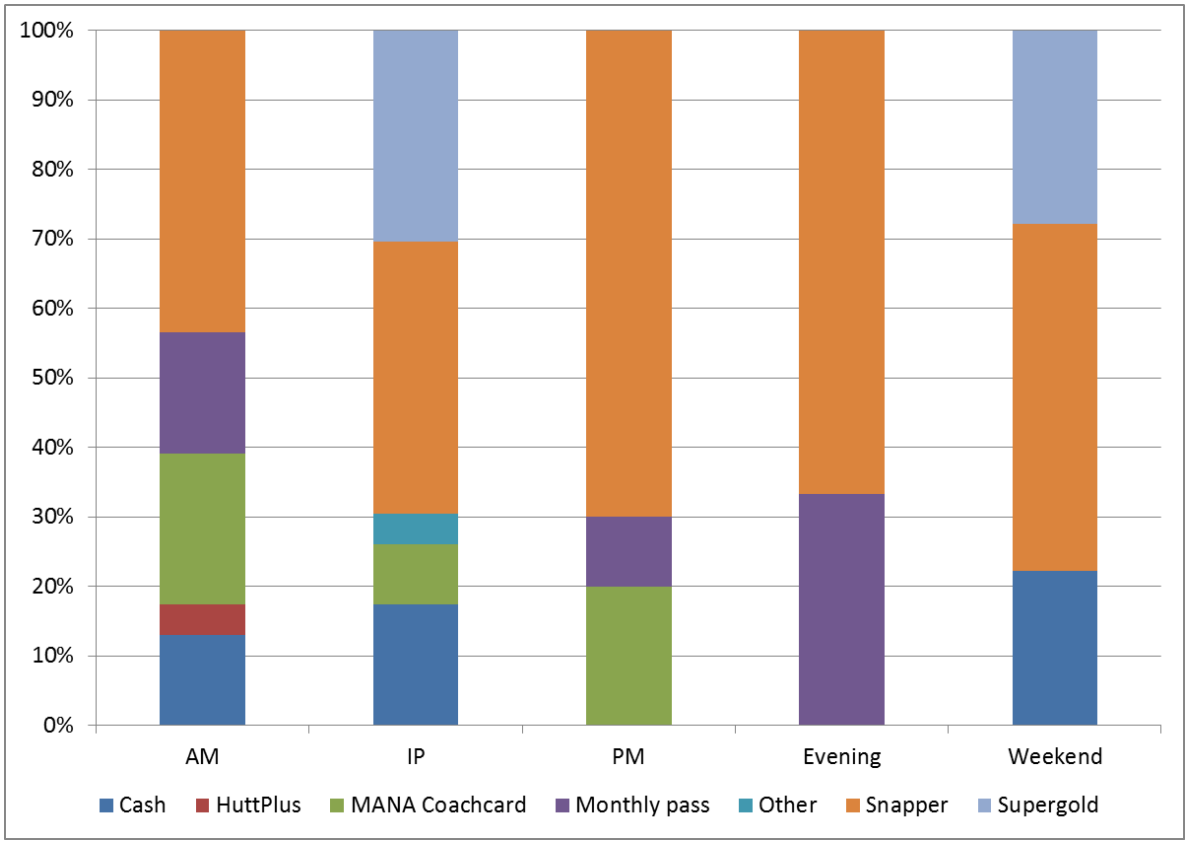


Figure 13: Method of payment for bus fare to rail station

Table 12 and **Figure 10** show payment method for the onward bus egress legs from the rail stations. In broad terms it reflects the access leg patterns, with monthly passes and Snapper the preferred payment method for the majority of rail egress legs in the PM peak, whilst Supergold is the payment method for around 40% of rail egress leg trips in the Inter-peak.

Table 17: Method of payment for bus egress legs from rail station

	Cash	MANA Coachcard	Monthly pass	Snapper	Supergold	Grand Total
AM	150	100	150	700	0	1150
IP	250	150	50	350	450	1300
PM	150	100	150	500	0	900
Evening	0	0	0	0	0	0
Weekend	250	0	0	500	250	1050
Sum Weekday	550	350	350	1550	450	3350
Weekly	3250	1750	1750	8750	2750	18850

Table 18: Method of payment for bus egress legs from rail station (percentage)

	Cash	MANA Coachcard	Monthly pass	Snapper	Supergold	Grand Total
AM	13%	9%	13%	61%	0%	100%
IP	19%	12%	4%	27%	35%	100%
PM	17%	11%	17%	56%	0%	100%
Evening	0%	0%	0%	0%	0%	0%
Weekend	24%	0%	0%	48%	24%	100%
Sum Weekday	16%	10%	10%	46%	13%	100%
Weekly	17%	9%	9%	46%	15%	100%

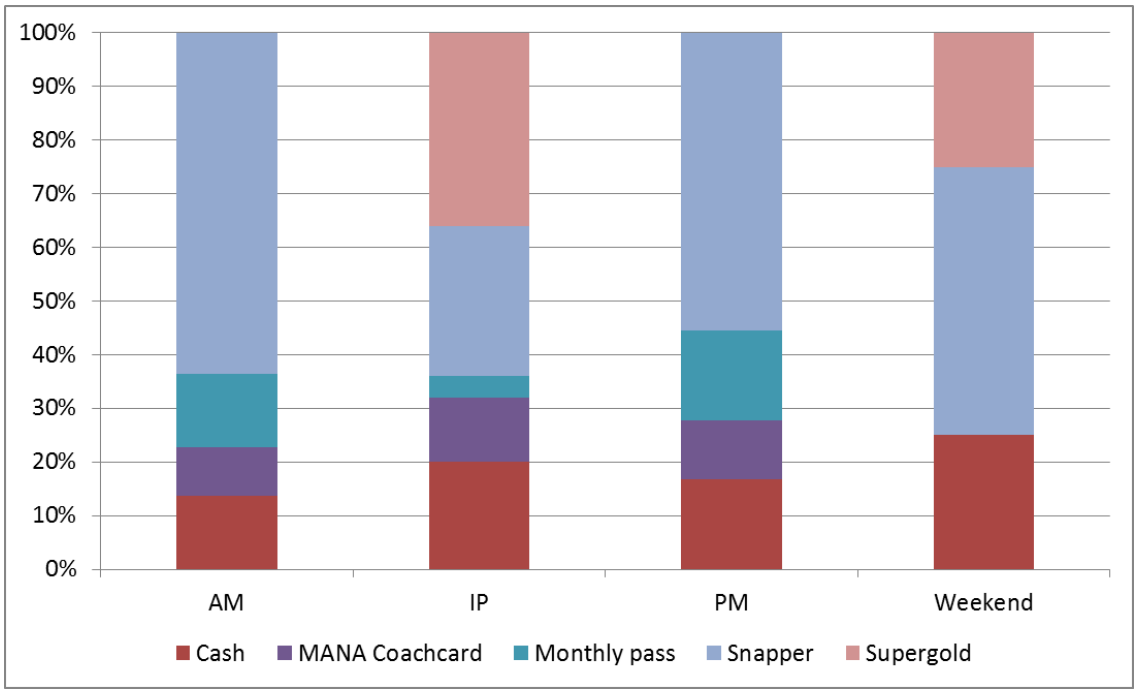


Figure 14: Proportion of bus egress leg from rail stations, by ticket product and time period

6.8 Car Parking

Respondents who indicated that they got to the station by motor vehicle (either as driver or as passenger) were also asked where that vehicle was parked.

The results are summarised in **Table 19, Table20** and **Figure 15**.

Table 19: Car access to rail stations (persons)

	I was dropped off	Parked at the station	Parked elsewhere	Grand Total
AM	1200	6150	750	8100
IP	250	800	600	1700
Weekend	450	850	250	1550

Table 20: Car access to rail stations (persons, percentage)

	I was dropped off	Parked at the station	Parked elsewhere	Grand Total
AM	15%	76%	9%	100%
IP	15%	48%	37%	100%
Weekend	28%	56%	15%	100%

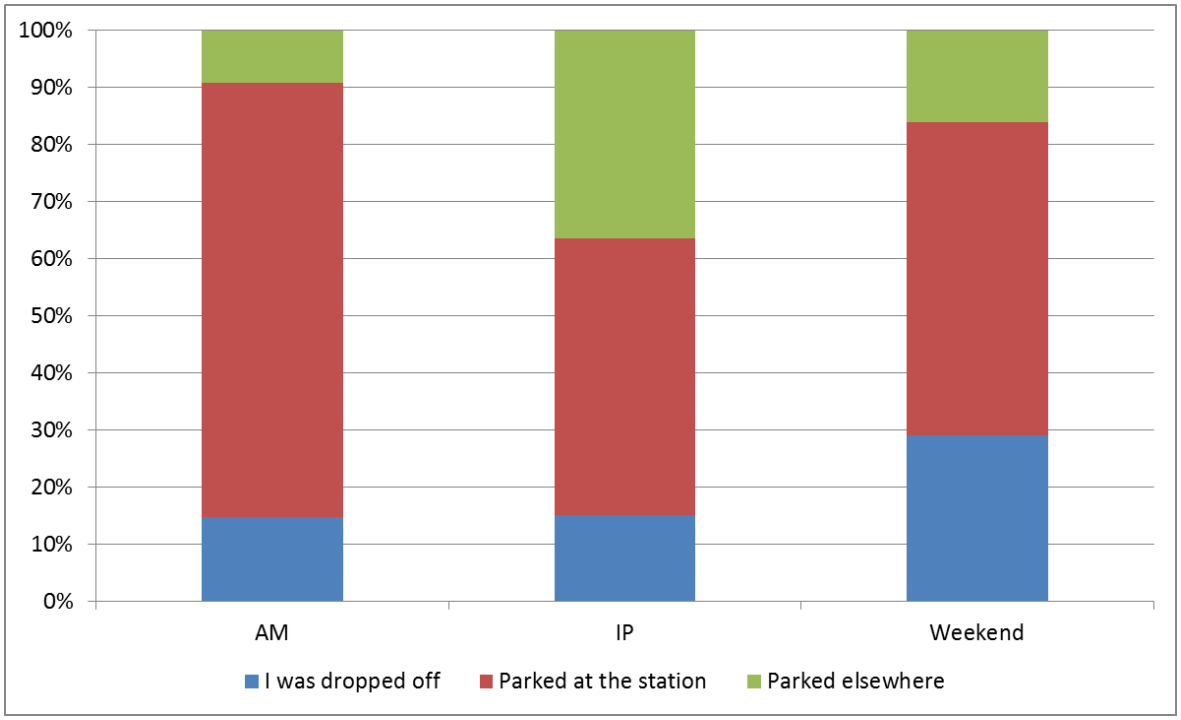


Figure 15: Car access to rail stations (persons)

Return trips are not included in this analysis. In the Inter-Peak the proportion of people who park elsewhere (not at the station directly) is much higher than in the AM peak, likely due to the car parks at the station already having filled up during the morning peak.

Figure 16 to Figure 21 show detailed analysis for selected stations. Although relatively busy stations have been selected, the analysis is based on a relatively small sample so this should be accounted for when using the information. It is suggested that information be expressed in approximate terms or as a range, as opposed to exact numbers.

Melling is a good example of a station where the dedicated car parks fill up over the course of the morning: all respondents parked at the station and none elsewhere from 6:00am to 6:59am, but the proportion of people who parked elsewhere increases gradually and none of the respondents parked at the station after 9am.

Porirua on the other hand is an example of a station where people park at the station throughout the whole AM peak and there appears to be no parking capacity constraints.

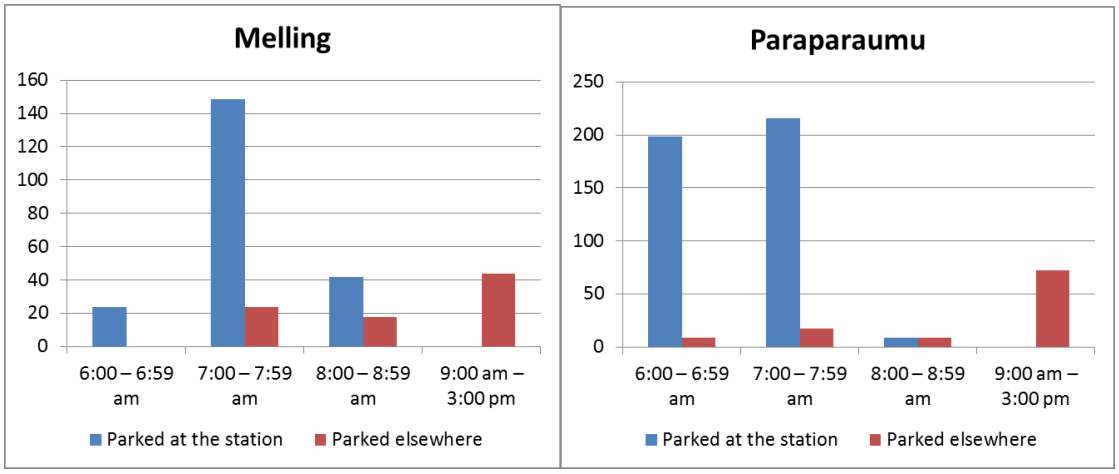


Figure 16: Car park location by time, Melling / Paraparaumu

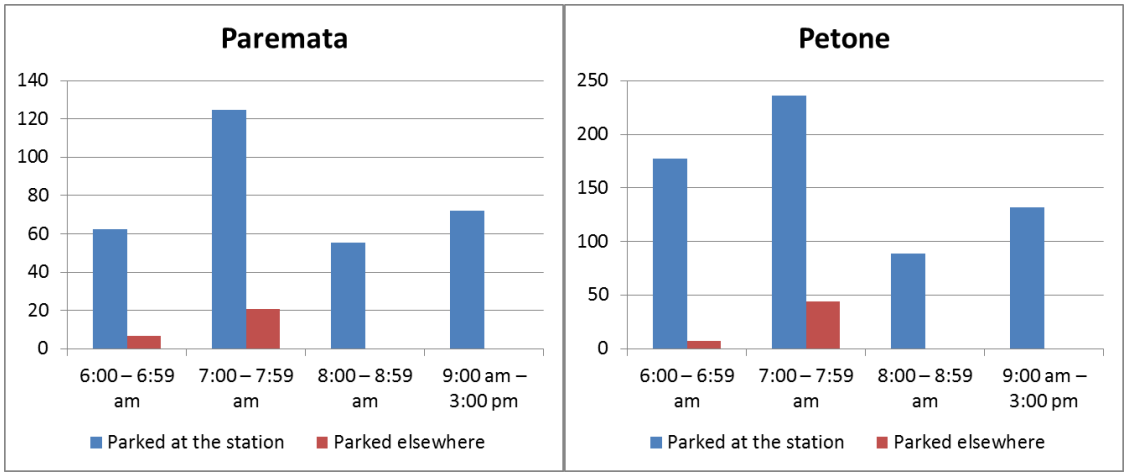


Figure 17: Car park location by time, Paremata / Petone

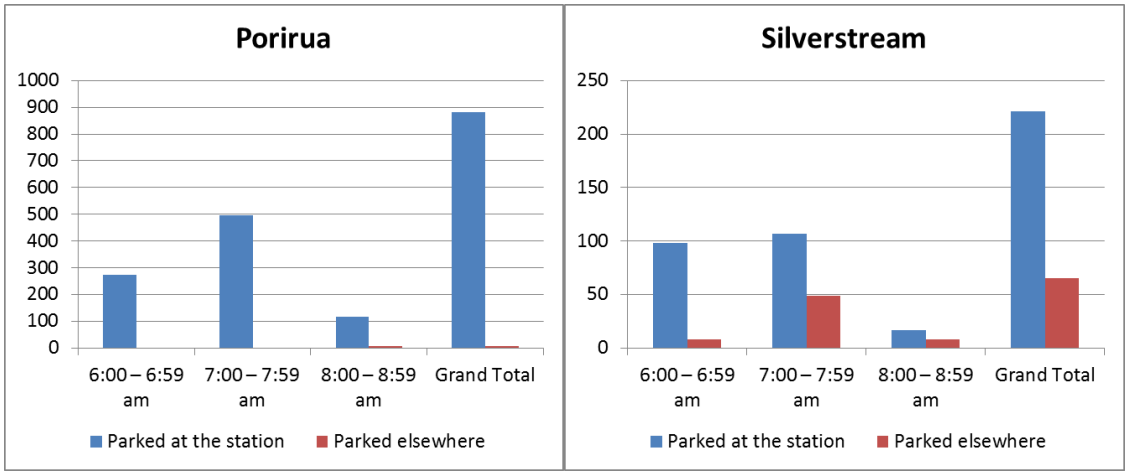


Figure 18: Car park location by time, Porirua / Silverstream

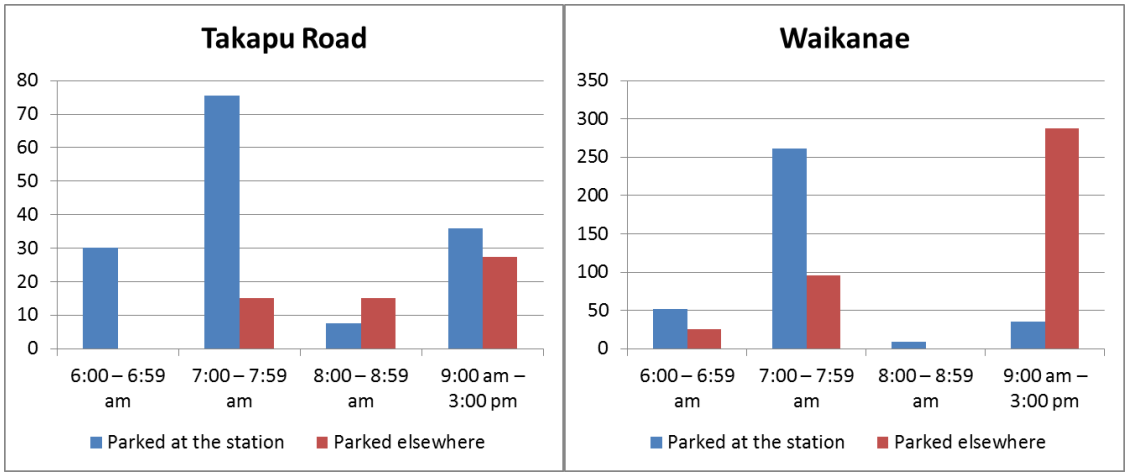


Figure 19: Car park location by time, Takapu Road / Waikanae

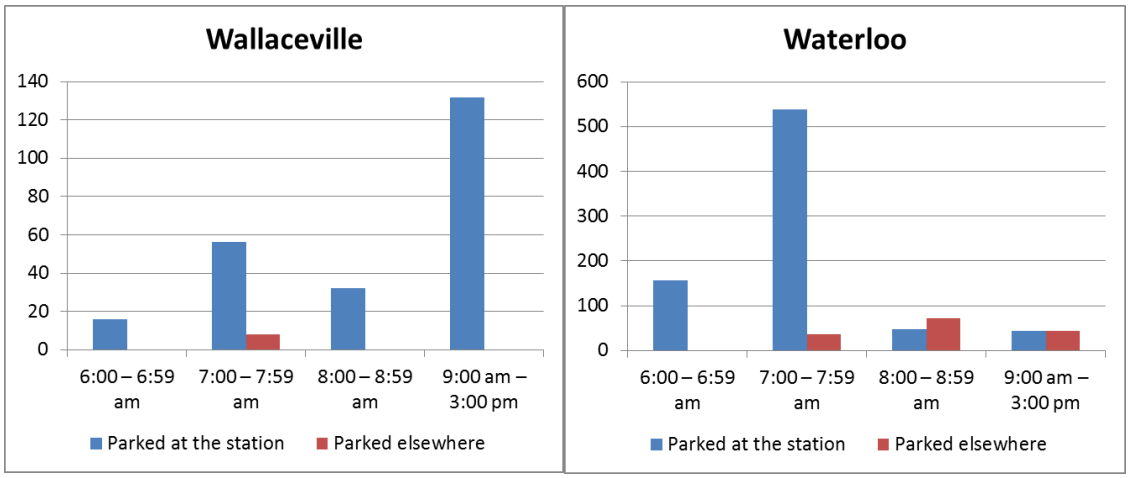


Figure 20: Car park location by time, Wallaceville / Waterloo

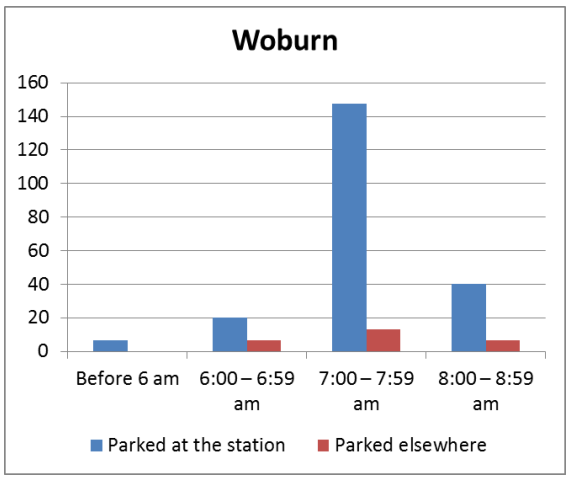


Figure 21: Car park location by time, Woburn

6.9 Rail ticket type by time period

An overview of the rail ticket type by time period is presented in **Table 21, Table 22** and **Figure 18**.

The information shows that the AM, PM peak and evening are dominated by Monthly Pass and to a lesser degree, 10-Trip Tickets.

During the Inter-Peak and Weekend, Cash payments and SuperGold pick up a greater share.

Table 21: Trips by ticket type and time period

	10-trip	Child concession	Concession	Day pass	Monthly pass	Other	Paid Cash for single trip at station	Paid Cash for single trip on train	SuperGold	Grand Total
AM	5700	0	100	0	11050	100	300	350	100	17700
IP	2600	100	0	450	2450	50	750	450	3100	9950
PM	3450	0	100	300	7400	0	200	200	0	11650
Evening	200	0	0	0	650	100	0	0	0	1000
Weekend	1950	0	0	650	2250	50	850	1200	2350	9300
Sum Weekday	13900	100	200	1400	23800	300	2100	2200	5550	49600
Weekly	73400	500	1000	8300	123500	1600	12200	13400	32450	266600

Table 22: Trips by ticket type and time period (percentage)

	10-trip	Child concession	Concession	Day pass	Monthly pass	Other	Paid Cash for single trip at station	Paid Cash for single trip on train	SuperGold	Grand Total
AM	32%	0%	1%	0%	62%	1%	2%	2%	1%	100%
IP	26%	1%	0%	5%	25%	1%	8%	5%	31%	100%
PM	30%	0%	1%	3%	64%	0%	2%	2%	0%	100%
Evening	20%	0%	0%	0%	65%	10%	0%	0%	0%	100%
Weekend	21%	0%	0%	7%	24%	1%	9%	13%	25%	100%
Sum Weekday	28%	0%	0%	3%	48%	1%	4%	4%	11%	100%
Weekly	28%	0%	0%	3%	46%	1%	5%	5%	12%	100%

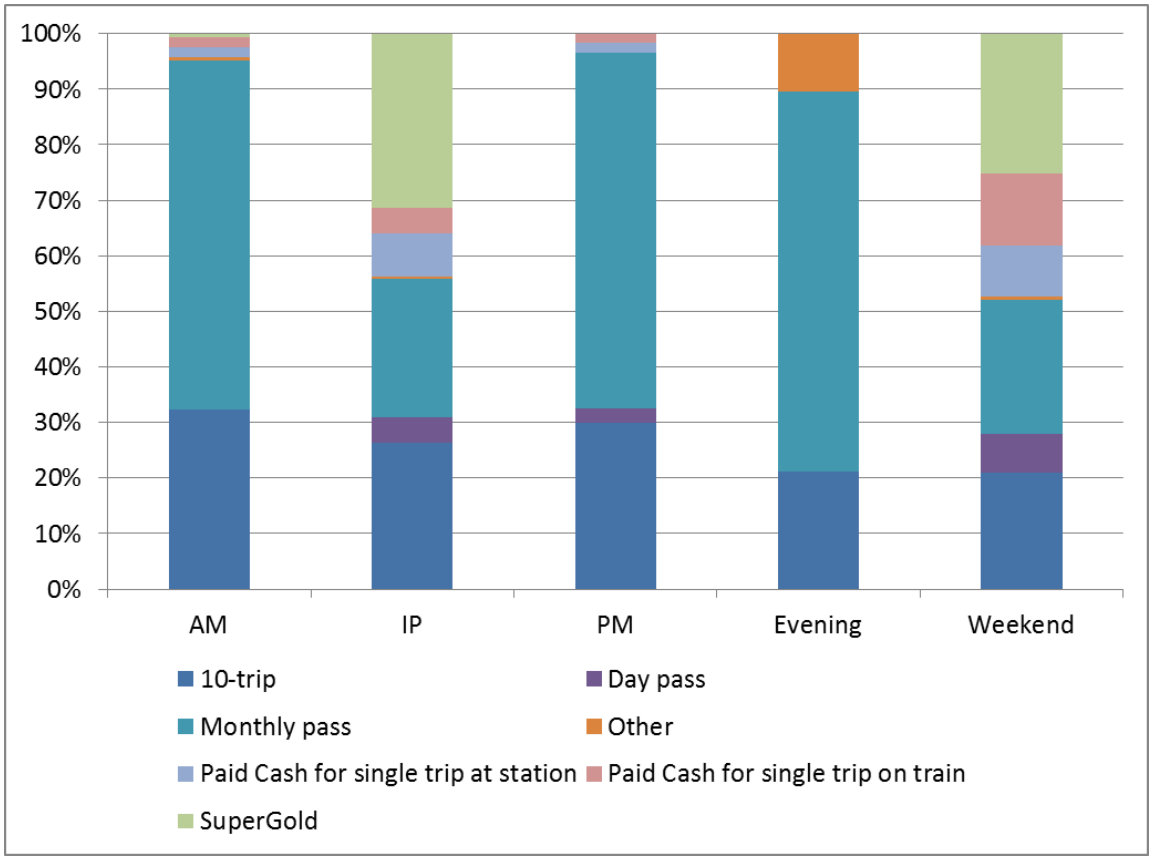


Figure 22: Trips by ticket type and time period (percentage)

6.10 Ticket type by line, AM peak

Analysing the ticket types used on the different lines during the AM-Peak, the data shows that the Johnsonville line has a different usage profile, with more people using cash or 10-trip tickets and fewer monthly passes as compared to the other lines.

Table 23: Ticket type by line, AM peak

	10-trip	Monthly pass	Other	Paid Cash for single trip at station	Paid Cash for single trip on train	Grand Total
Hutt & Melling Lines	2550	5500	100	150	100	8400
Johnsonville Line	950	1100	0	100	200	2350
Kapiti Line	1850	4000	0	50	50	5950
Grand Total	5700	11050	100	300	350	17700

Table 24: Ticket type by line, AM peak (percentage)

	10-trip	Monthly pass	Other	Paid Cash for single trip at station	Paid Cash for single trip on train	Grand Total
Hutt & Melling Lines	30%	65%	1%	2%	1%	100%
Johnsonville Line	40%	47%	0%	4%	9%	100%
Kapiti Line	31%	67%	0%	1%	1%	100%
Grand Total	32%	62%	1%	2%	2%	100%

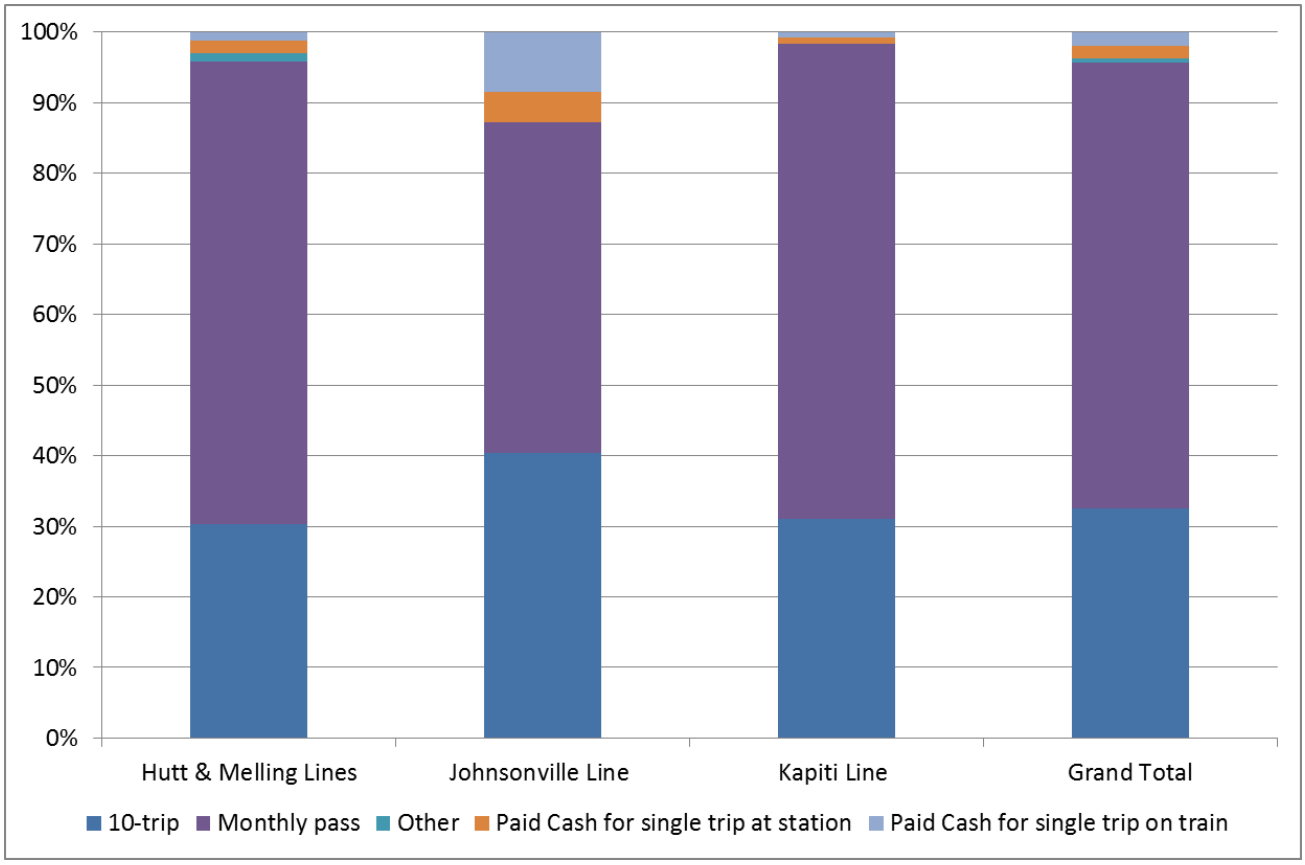


Figure 23: Ticket type by line, AM peak (percentage)

6.11 Rail ticket type by hour, AM only

Looking at the breakdown of rail ticket type by hour (AM only) shows some subtle differences between payment methods during the AM peak period.

Table 25: Method of payment by ticket type and hour, AM peak

	10-trip	Monthly pass	Paid Cash for single trip at station	Paid Cash for single trip on train	Grand Total
Before 6 am	0	150	0	0	200
6:00 – 6:59 am	1100	2450	50	0	3850
7:00 – 7:59 am	3400	6350	50	150	10000
8:00 – 8:59 am	1200	2100	200	150	3700
Grand Total	5700	11050	300	350	17700

Table 26: Method of payment by ticket type and hour, AM peak (percentage)

	10-trip	Monthly pass	Paid Cash for single trip at station	Paid Cash for single trip on train	Grand Total
Before 6 am	12%	88%	0%	0%	100%
6:00 – 6:59 am	28%	64%	1%	0%	100%
7:00 – 7:59 am	34%	64%	1%	2%	100%
8:00 – 8:59 am	33%	57%	6%	4%	100%
Grand Total	32%	62%	2%	2%	100%

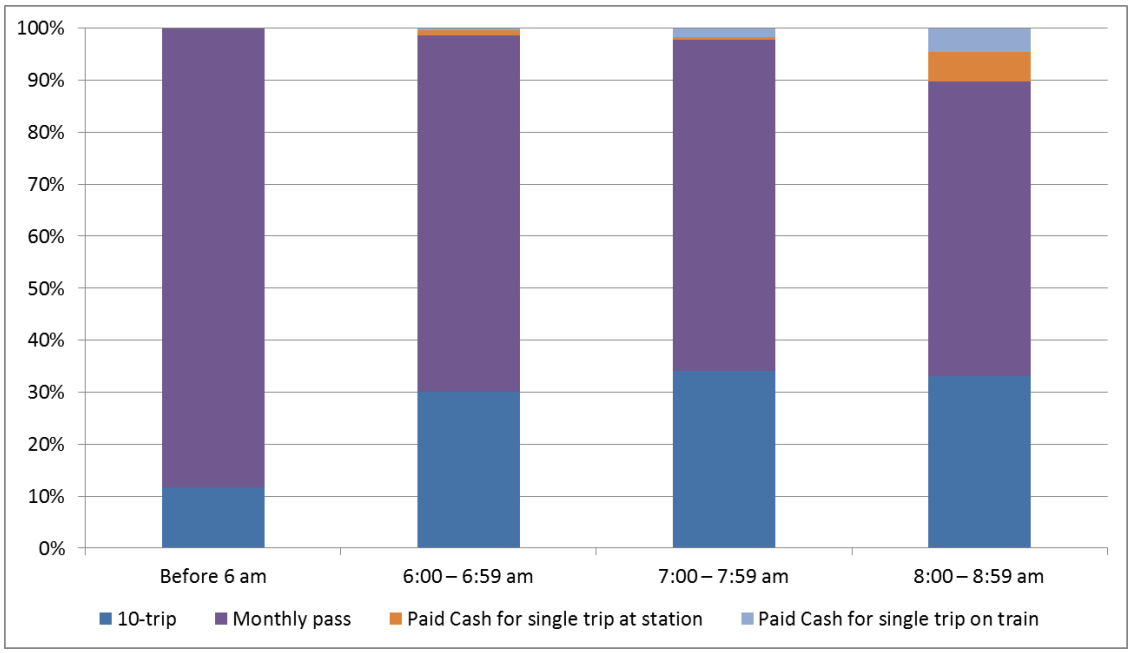


Figure 24: Method of payment by ticket type and hour, AM peak

Table 16 and **Figure 24** show that the number of people using cash to pay for fares increases from less than 1% of all trips prior to 8am, rising to about 10% of all trips in the hour from 8am to 9am.

The proportion of 10 trip tickets in relation to monthly pass usage appears to go up throughout the AM peak

The patterns are largely intuitive; as the AM peak progresses, the proportion of travellers who are regular commuters (who buy monthly passes) decreases slightly, whilst the proportion who are irregular commuters (10-trip tickets) or who use the train irregularly at peak times for other purposes (cash fares) increase slightly.

6.12 Number of Trips by Payment Method

Another interesting question in regard to payment method is: - How many trips per week are made for each payment method. For this survey question, respondents were asked not to include the return trips in their answer.

A relatively large number of respondents indicated that they'd make the same journey 8 or more times a week. For the purpose of this analysis it is assumed that these respondents misread the question and the numbers are equally split between 4 and 5 trips per week responses.

Only answers corresponding to an initial trip were used for this analysis.

Table 27: Number of weekly trips by payment method, AM peak

Number of trips per week	10-trip	Monthly pass	Paid Cash for single trip at station	Paid Cash for single trip on train	Grand Total
1	250	50	150	50	450
2	350	200	0	50	650
3	850	100	50	0	1000
4	1200	750	100	50	2150
5	2800	9650	50	200	12850
6	200	250	0	0	450
7	100	0	0	0	150
Grand Total	5700	11050	300	350	17700

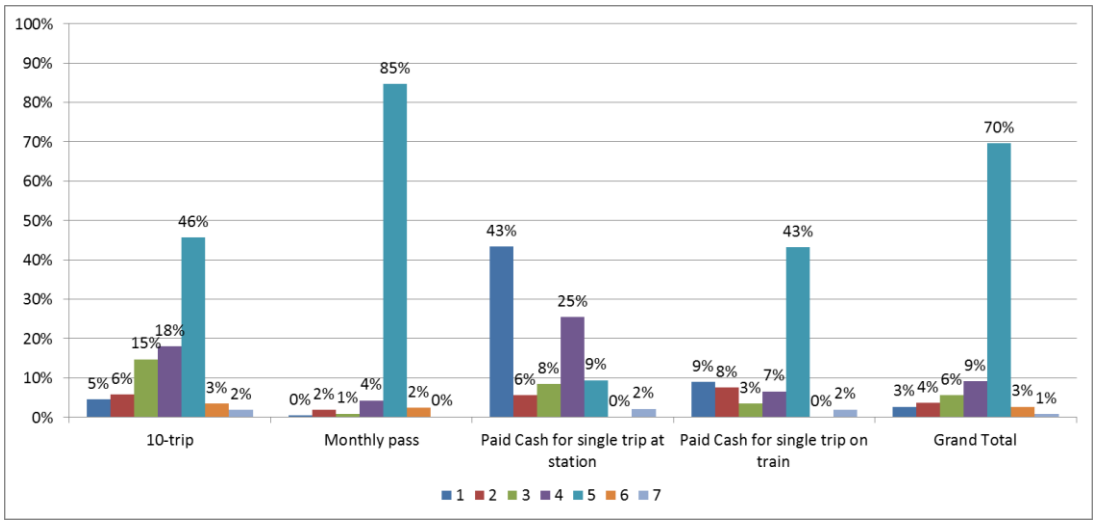


Figure 25: Number of weekly trips by payment method, AM, percentage

The analysis shows that in the AM peak, the majority of passengers surveyed make the same journey 5 times per week. When weighted across all ticket types, the average person surveyed makes the same rail trip 4.6 times per week.

Table 28: Number of weekly trips by payment method, IP

Number of trips per week	10-trip	Monthly pass	Paid Cash for single trip at station	Paid Cash for single trip on train	SuperGold	Grand Total
1	300	0	250	150	1150	1950
2	200	0	100	0	500	1000
3	250	0	50	0	150	500
4	250	150	0	100	50	600
5	100	550	50	0	100	850
6	50	150	0	0	50	250
7	0	50	0	0	0	50
Grand Total	1150	900	450	300	2000	5250

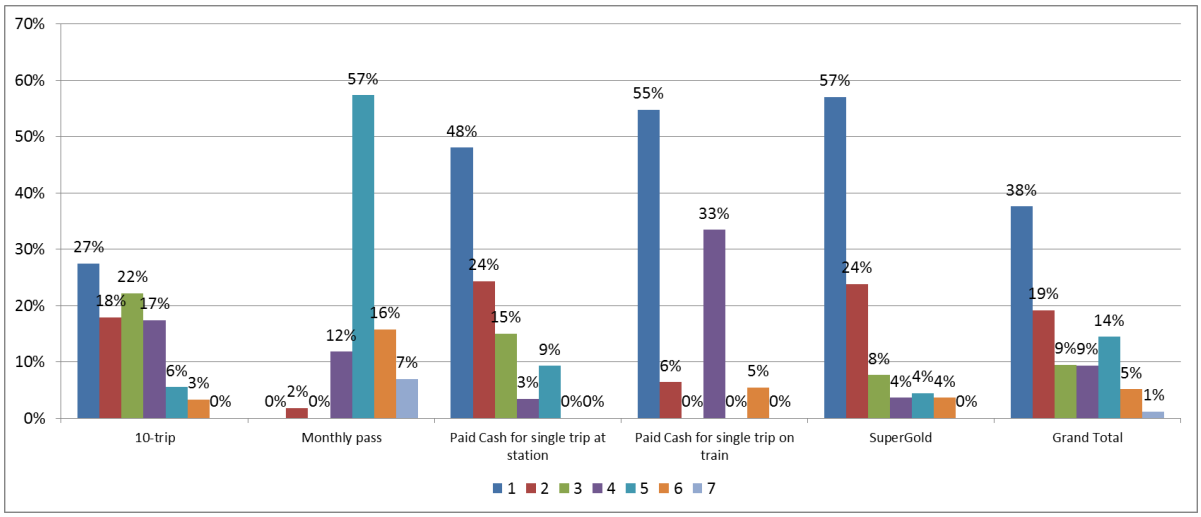


Figure 26: Number of weekly trips by payment method, IP, percentage

During the inter-peak there are far fewer regular travellers and more irregular travellers who may only make a particular journey once or twice a week. The average inter-peak rail user makes the same trip 2.6 times per week.

7. Annualisation

Around 13 Million trips were made by rail in the Wellington region during the 2016/2017 financial year.

In order to annualise the expanded survey data, we assumed a split of 70% Peak period trips, 25% Inter-peak and 5% Weekend trips, based on reported Metlink peak / off-peak patronage and Wellington Station guard counts.

The objective of the annualisation process is to provide a very high level overview of the data and to give an insight into the overall proportions of how people use the rail network

7.1 Annual Trips by Time Periods

Table 19 and Figure 27 provide an overview of how many rail trips were taken during the different time periods or during the weekend. The AM peak is the busiest period of when people travel, followed by the PM and IP peak. Less than 10% of all trips were taken during the weekend.

Table 29: Annual number of trips by time period, (millions)

	AM	IP	PM	Evening	Weekend	Total
Annual trips	5.5	3.0	3.6	0.3	0.7	13.0
% of total	42%	23%	28%	2%	5%	100%

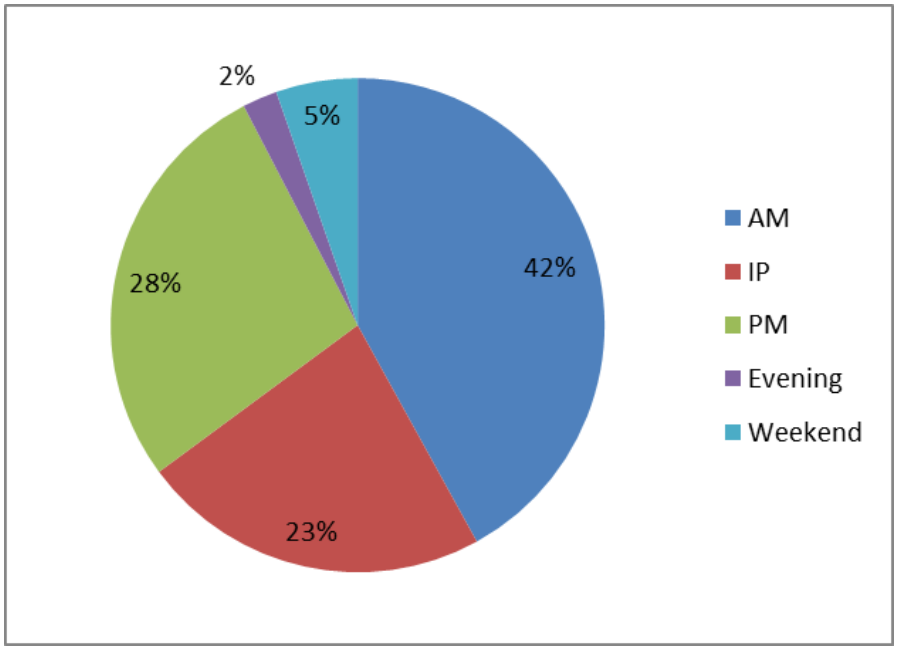


Figure 27: Annual number of trips by time period, percentage

7.2 Annual Trips by Rail-Trip Payment Method

Around half of all rail trips are made with a Monthly Pass and 30% paid for using a 10-trip ticket. Super Gold accounts for 10% of all rail fares paid and cash is around 7%.

Table 30: Annual number of trips by payment type (000s)

	10-trip	Child concession	Concession	Day pass	Monthly pass	Other	Paid Cash for single trip at station	Paid Cash for single trip on train	SuperGold	Grand Total
Annual Trips (Thousand)	3808	35	60	268	6790	84	441	399	1116	13000
% of total	29%	0%	0%	2%	52%	1%	3%	3%	9%	100%

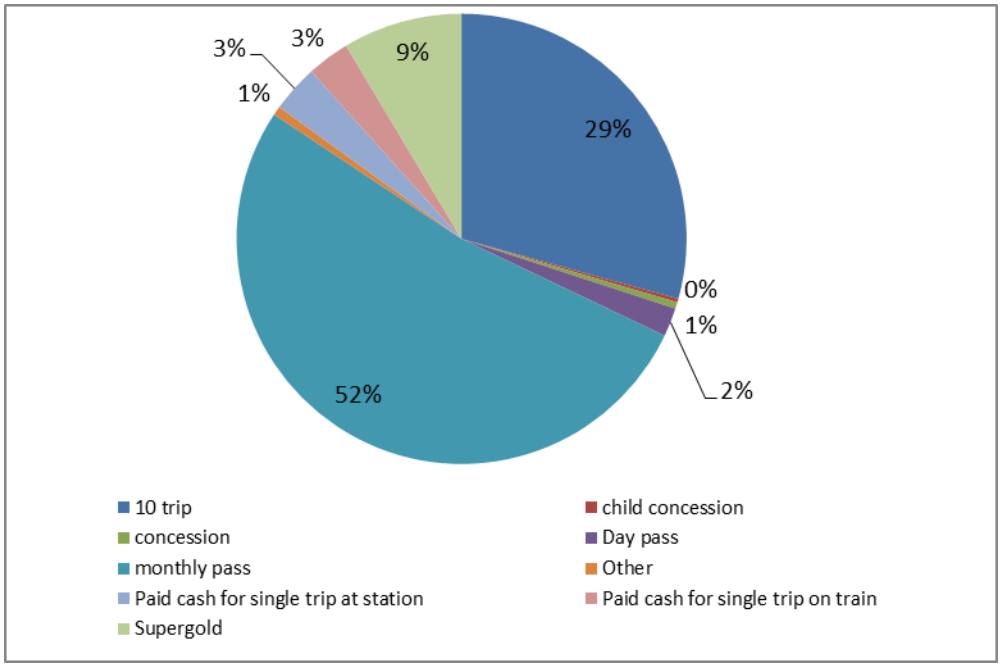


Figure 28: Annual number of trips by payment type, percentage

7.3 Annual Trips by Access Mode

Table 21 and Figure 29 show that around 2/3 of rail trips start with the user walking to the train station. Around 25% of people either drive or are driven in a private motor vehicle to the station and less than 10% use the bus.

Table 31: Annual number of trips by access mode

	By bike	By bus	By motor vehicle, as a passenger	By motor vehicle, as the driver	By taxi	By train	Other	Walk	Grand Total
Annual trips (Thousand)	226	969	899	2544	11	52	25	8269	12995
% of total	2%	7%	7%	20%	0%	0%	0%	64%	100%

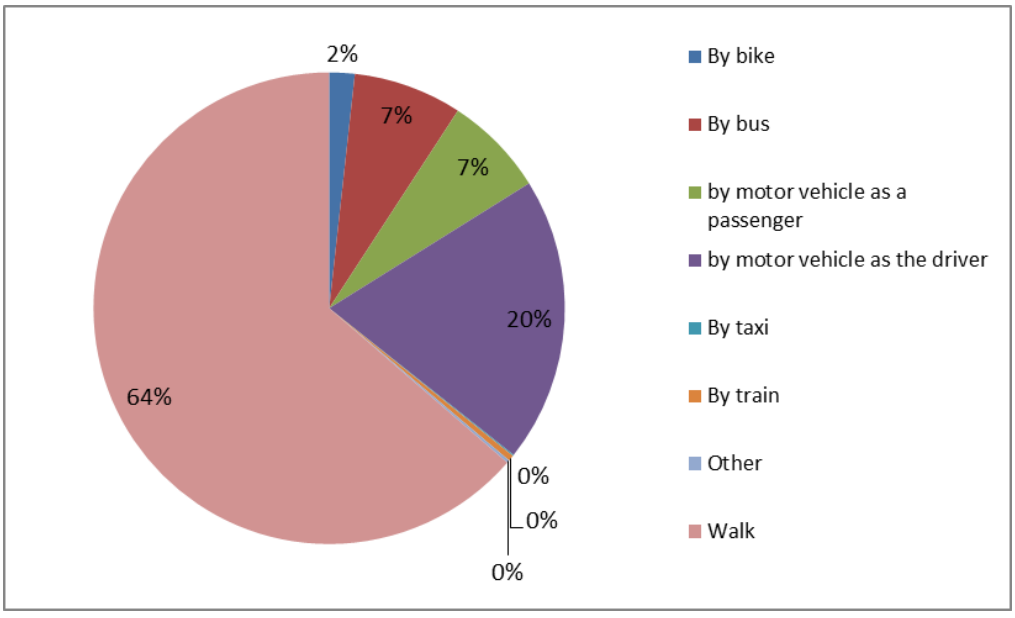


Figure 29: Annual number of trips by access mode, percentage.

7.4 Annual Trips by Trip Purpose

Table 23 and Figure 30 show that 70% of annual trips are Home based work trips, with Home based other (~17%) and Home based Education (~7% of trips)

Table 32: Annual number of trips by trip purpose

	Home Based Work	Home Based Education	Home Based Other	On Employer Business	non Home Based Work	non Home Base Other	Grand Total
Annual Trips (Thousand)	9492	989	1880	314	196	105	12978
% of total	73%	8%	14%	2%	2%	1%	100%

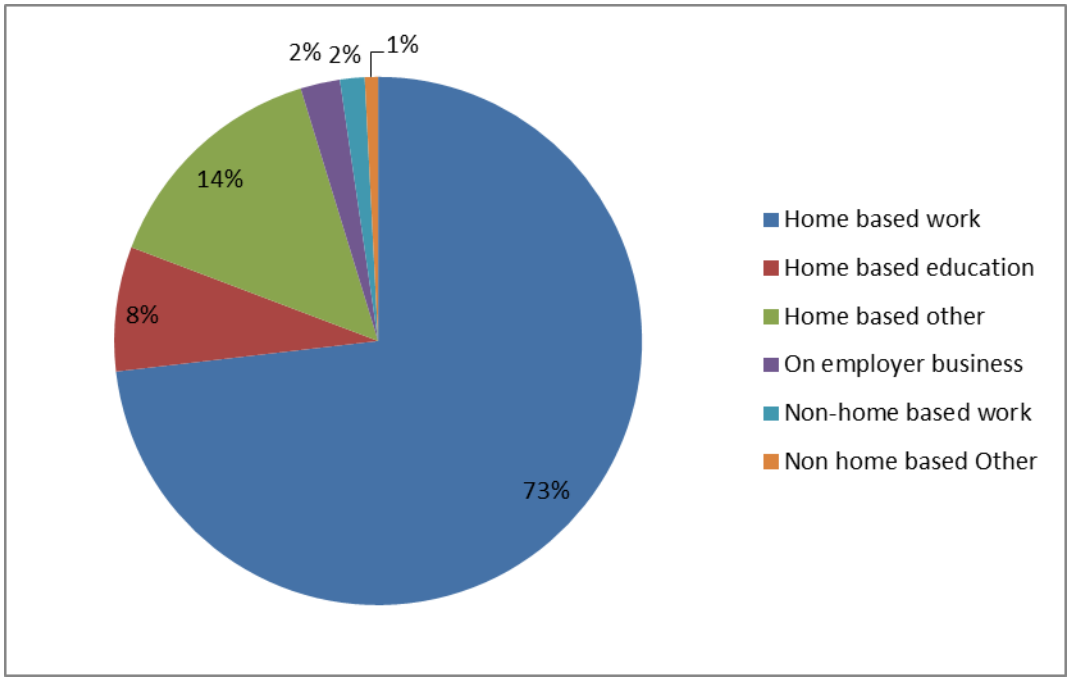


Figure 30: Annual number of trips by trip purpose, percentage

8. Summary and Next Steps

This report presents an overview of how and when people use the Wellington rail network; how they access the rail network and how they conclude their trips to their final destinations. The following are some of the findings from the rail survey analysis.

- The 2017 Rail Survey had a sample size of 2,531 passengers which was then expanded to 54,000 using passenger count data to provide a more accurate representation of the regional rail passenger population.
- Peak travel times account for over two thirds of weekly rail trips and in the weekend, 8% of rail trips.
- Over all lines, 90% of all AM peak trips are journeys to work and 7% are journeys to education or training.
- In types of trip, the Johnsonville line differed from other lines, 63% of AM trips were journeys to work and 30% to school.

- Most passengers access the AM rail services either by walking or by car (45% each). For the return pm journey to the station, 90% of passengers walk (mostly from work to the station).
- The proportion of passengers using cars to access the station differed between lines. For example, 13% of Johnsonville line passengers compared to the 46% of Kapiti line passengers used a car.
- Overall 6% of passengers used the bus during morning peak to access the train. The largest uptake in bus access was in the evening, 22%.
- Of those passengers using a vehicle to access the station, 76% of morning passengers used park and ride facilities at the station, interpeak it was 48% and weekend 56%.
- There were differences between the rail lines for park & ride facilities; Melling and Paraparumu filled up early during AM peak times. In contrast Porirua drivers were able to park throughout the AM peak with few parking constraints.
- The monthly pass is the preferred rail ticket for 62% of passengers, followed by ten trip tickets (32%) during all travel times. Cash and Supergold card usage increases during interpeak and weekend.
- Johnsonville line had a different usage profile during am peak; more passengers used ten trip tickets and cash compared to other lines.

One purpose of the rail analysis was to enable the reader to ask more detailed questions, which may lead to further analysis of the Rail Survey responses. Future questions may relate to:

- Ticketing – What's the usage frequency of the different tickets? How many trips get users out of a monthly pass? How do rail pass/10-trip/cash customers pay for access/egress bus trips? How does ticket type uptake vary by line?
- P&R - How do rail users get to the different stations?

Appendix 1

Wellington Rail Passenger Survey 2017
Research NZ (July 2017)

Overview

This report details the findings of a recent survey of Metlink train passengers, undertaken on behalf of the Greater Wellington Regional Council (GWRC). The objective of the survey was to collect travel information from peak, off-peak and weekend rail passengers on the Kapiti, Johnsonville, Hutt Valley/Melling and Wairarapa lines.

Between 13 and 25 June, Research New Zealand surveyors distributed information postcards to train passengers on the train station platforms during weekday morning peak-times and on the trains during weekday off-peak times and weekends. The postcards invited travellers to complete a short online survey about their train journey on the day they were given the card.

In total, 15,000 postcards were distributed and n=2,351 train travellers completed the survey by its close off date of 2 July 2017 – a survey completion rate of 15.7 percent. The number of postcards allocated to the different train lines and specific train platforms was determined by historic passenger volume data, as provided by GWRC.

The maximum margin of error (MoE) at the 95 percent confidence estimate for the achieved sample of n=2,351 respondents is ± 2.0 percent. MoE for key sub-groups of interest discussed in this report are as follows: weekday (n=2,096) and weekend travellers (n=255), ± 2.1 and 6.1 percent, respectively; weekday peak-time travellers (7:00 am to 9:am, n=1,483) ± 2.5 percent; and travellers enrolled in tertiary study (n=192) ± 7.1 percent.

This report is organised in five sections to provide the following different views of the data:

- Differences in the demographic and travel characteristics of weekday and weekend travellers.
- Breakdown of weekday traveller characteristics by rail line.
- Breakdown of weekend traveller characteristics by rail line.
- Summary findings for weekday peak-time travellers (7:00 am to 9:00 am).
- Summary findings for tertiary students.

At the end of this report, a more detailed description of the survey's methodology is also provided.

Key findings

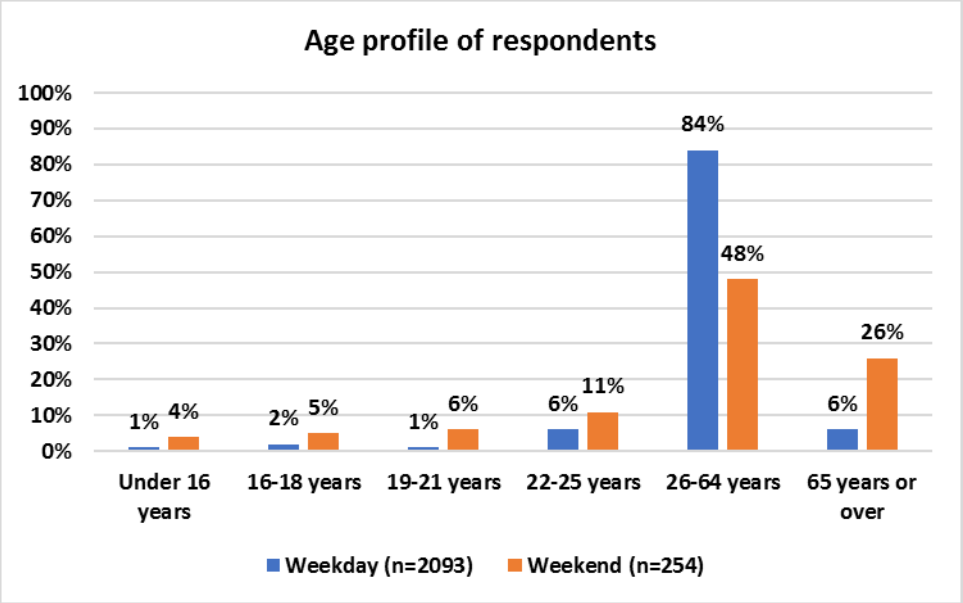
Differences between weekday and weekend travellers

The 2017 Train Survey findings show that there are a number of statistically significant demographic and travel characteristic differences between weekday versus weekend travellers.[3]

[3] Note that not all questions in the survey were mandatory. Therefore, in the following sections the base numbers in figures and tables may vary by two or three respondents at times. Where results are based on a sub-sample of respondents, this has been indicated in the footnotes under the relevant charts and tables.

Figure 1 shows that during weekdays, more than eight-in-ten travellers are of working age (aged 26 to 64 years of age), while other age groups are not strongly represented. This is in contrast to weekends, when just under half of travellers fall into the 26 to 64 years age group, while significantly greater proportions are aged over 65 years (26 percent), or under the age of 25 (also 26 percent).

Figure 1:

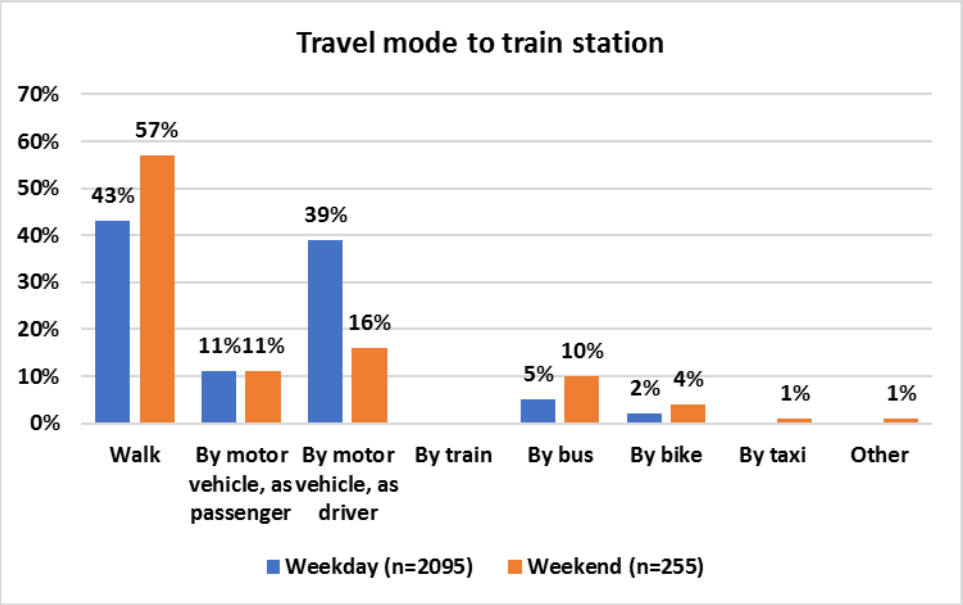


Travel modes used to get to train station

During weekdays, most travellers reported they had commenced their journey by walking to the train station (43 percent)), or by motor vehicle, either as a driver (39 percent) or as a passenger (11 percent). In contrast,

Figure 2 shows that a greater proportion of weekend travellers reported walking to the station (57 percent, compared with 43 percent of travellers during weekdays), while significantly fewer passengers travelled to the train by motor vehicle as a driver (16 percent, compared with 39 percent of weekday travellers). During the weekend, significantly more travellers also reported taking a bus to the train station (10 percent, compared with five percent of travellers on week days).

Figure 2:



Frequency of taking the same train journey that week

Reflecting the high proportion of weekday travellers who reported their train journey was a commute to their usual workplace (88 percent), two-thirds (67 percent) reported they would make the same train journey five times that week (Table 1).[4] In contrast, more than half of weekend respondents (54 percent) said they would only make the same train journey once during the week they were surveyed.

Table 33:

Q2n. Over the current week, how many times will you make this journey by train? (not including the return journey)

Unweighted base =	Weekday 2096 %	Weekend 255 %
1	5	54
2	5	10
3	6	6
4	10	7
5	67	11
6	2	6
7	1	2
8+	5	4
Total	100	100

Total may not sum to 100% due to rounding.

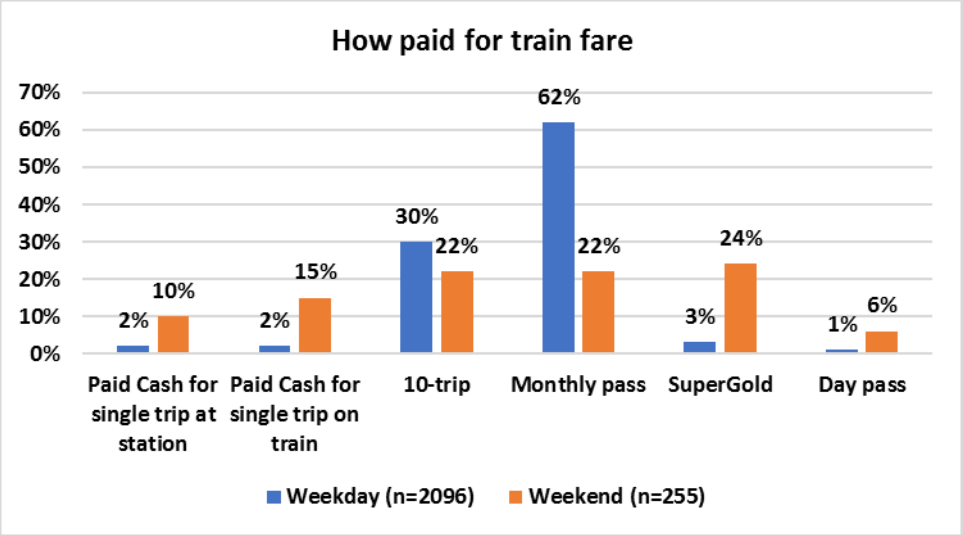
[4] Respondents were asked to exclude any return journeys when reporting the number of times they make the same train journey per week).

Payment of train fares

As shown in Figure 3, most weekday travellers reported paying for their fare with a monthly pass (62 percent), more distantly followed by '10-trip' ticket (30 percent); whereas weekend travellers were significantly less likely to report paying for their train trip by either mode. Reflecting the finding that more than one quarter of weekend passengers were aged 65 years plus, a significantly greater proportion of weekend passengers paid for their train fare with a SuperGold Card (24 percent).

When compared with weekday travellers, significantly greater proportions of weekend travellers reported paying their train fare by cash (25 percent), either as a single trip purchased on the train (15 percent) or at the station (10 percent). Six percent also reported they were travelling on a day pass (compared with just one percent of weekday travellers).

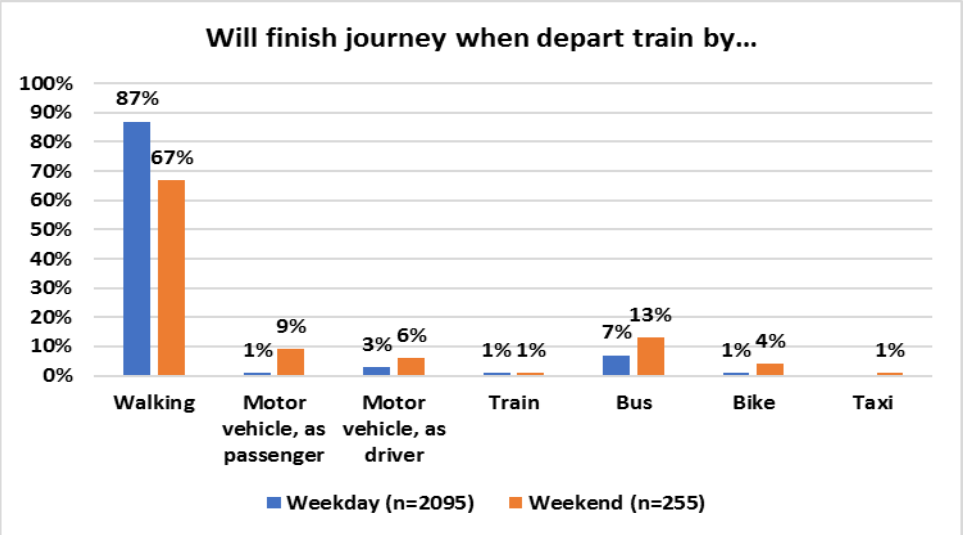
Figure 3:



Travel mode to destination after leaving the train

Figure 4 overleaf shows that during both weekdays and weekends, the major of travellers said would finish their journey after departing the train by walking (87 percent and 67 percent, respectively). However, compared to weekdays, weekend travellers were significantly more likely to report they would finish it by bus (13 percent), in a motor vehicle as a passenger or driver (15 percent), or by bike (four percent).

Figure 4:



Return train journey and availability of motor vehicles as alternative travel mode

As detailed in Table 2, 93 percent of weekday travellers, reported they would make a return trip by train on the same day as their initial journey, while significantly fewer weekend travellers reported that they would do so (67 percent).

Table 3 shows, that about three quarters of weekday passengers said a car was available to them as an alternative to taking the train for their journey, while a significantly smaller proportion of weekend travellers (52 percent) reported this was the case.

Table 34

Q3a. Will you or did you make a return trip by train later in the day - this is the day you received your survey card?

Unweighted base =	Weekday 2096 %	Weekend 255 %
Yes	93	67
No	7	33
Total	100	100

Total may not sum to 100% due to rounding.

Table 35:

Q4c. Was a car available to you as an alternative to taking the train for this journey?

Unweighted base =	Weekday 2083 %	Weekend 252 %
Yes	73	52
No	27	48
Total	100	100

Total may not sum to 100% due to rounding.

Weekday travellers – by Rail Line

The following tables (Table 4 through Table 10) provide the above results for weekday travellers, broken down by rail line. Within these tables, statistically significant differences for passengers on a particular line, when compared with all weekday travellers, are indicated by bold shading.

Key findings of note include:

Age

- Johnsonville Line passengers had an older profile overall, with 10 percent being aged 65 years or older, compared with six percent of all weekday passengers. Reflecting this finding, Johnsonville line passengers were also significantly less likely to be aged 26 to 64 years (78 percent), when compared with all weekday passengers (84 percent).

- Compared with all weekend travellers (six percent), Hutt Valley Line passengers were significantly less likely to report being aged 65 years or older (four percent).

Mode of travel to train

- As noted above, 43 percent of weekday travellers walked to the train station for their train journey, while 39 percent did so in a motor vehicle as the driver. Compared with all weekday travellers, Johnsonville passengers were significantly more likely to have walked to the train station (76 percent), while being less likely to have driven to the train station (20 percent).

- Kapiti and Melling Line passengers were significantly less likely than all weekday travellers to have walked to the train station (33 percent and 27 percent, respectively), while Kapiti Line passengers were the most likely group to have driven themselves to the train station (45 percent).

Number of journeys per week

- As noted above, two thirds of weekday passengers (67 percent) said they made the same journey five times a week. In contract to this, just 50 percent of Johnsonville Line passengers reported making the same journey five times week, whereas they were significantly more likely to report making their journey just once (nine percent, compared with five percent of all weekday travellers) or two times (12 percent, compared with five percent of all weekday travellers).

Paying of train fares

- The vast majority of weekday travellers reported they paid for their fare with a monthly pass (62 percent), or with a 10-trip ticket (30 percent). Compared with all weekday travellers, passengers on the Hutt Valley Line were significantly more likely to have paid their fare with a monthly pass (69 percent), while Melling and Johnsonville Line passengers were less likely to have done so (54 percent and 45 percent, respectively).

- In addition, Johnsonville Line passengers were more likely to have paid for their fair using a 10-trip ticket (41 percent, compared with 30 percent of all weekday travellers), or with a SuperGold Card (seven percent, compared with three percent of all weekday travellers.)

- As noted previously, the majority of weekday travellers (87 percent) reported they would finish their journey by walking when they got off the train. When compared with all weekday travellers, there were no statistically significant differences in relation to this finding, when viewed by different rail lines.

- While 93 percent of all weekday travellers said they would make a return trip later in the same day. At 95 percent, Hutt Valley Line passenger were significantly more likely to report this, while Johnsonville passengers were significantly less likely to do so (84 percent).

- About three-quarters of weekday travellers (73 percent) said a car was available to them as an alternative to taking the train. Except for Johnsonville Line passengers (66 percent of whom reported as much), there were no statistically significant differences in relation to this finding when viewed by rail line.

Table 36:

Q4a. Which age category are you in?

Unweighted base =	Total 2093* %	Hutt Valley Line 832 %	Johnsonville Line 259 %	Kapiti Line 828 %	Melling Line 147 %	Wairarapa Line 27** %
Under 16 years	1	1	2	1	1	4
16-18 years	2	2	3	2	1	7
19-21 years	1	1	1	2	1	7
22-25 years	6	7	5	5	5	4
26-64 years	84	86	78	84	87	70
65 years or over	6	4	10	7	5	7
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekday.
**Caution: low base number of respondents - results are indicative only.

Table 37:

Q2e. Which main travel mode did you use to get to the station for this train journey?

Unweighted base =	Total 2095* %	Hutt Valley Line 831 %	Johnsonville Line 260 %	Kapiti Line 829 %	Melling Line 147 %	Wairarapa Line 28** %
Walk	43	47	76	33	27	32
By motor vehicle, as a passenger	11	10	3	12	14	36
By motor vehicle, as the driver	39	37	20	45	47	29
By train	0	0	0	0	0	0
By bus	5	4	1	7	7	4
By bike	2	1	1	2	3	0
By taxi	0	0	0	0	1	0
Other	0	0	0	0	1	0
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekday.
**Caution: low base number of respondents - results are indicative only.

Table 38:

Q2n. Over the current week, how many times will you make this journey by train? (not including the return journey)

Unweighted base =	Total 2096* %	Hutt Valley Line 832 %	Johnsonville Line 260 %	Kapiti Line 829 %	Melling Line 147 %	Wairarapa Line 28** %
1	5	3	9	6	5	7
2	5	4	12	3	7	0
3	6	5	8	6	6	7
4	10	9	12	9	10	21
5	67	70	50	69	68	57
6	2	2	3	3	0	0
7	1	0	3	0	0	4
8+	5	6	4	5	3	4
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekday.
**Caution: low base number of respondents - results are indicative only.

Table 39:

Q2m. How did you pay for your train fare?

Unweighted base =	Total 2096* %	Hutt Valley Line 832 %	Johnsonville Line 260 %	Kapiti Line 829 %	Melling Line 147 %	Wairarapa Line 28** %
Paid Cash for single trip at station	2	1	3	1	3	4
Paid Cash for single trip on train	2	1	3	1	2	0
10-trip	30	27	41	29	37	39
Monthly pass	62	69	45	64	54	46
SuperGold	3	1	7	4	3	4
Child concession	0	0	0	0	1	0
Concession	0	0	0	0	0	4
Day pass	1	0	0	1	0	0
Other	0	0	0	0	1	4
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekday.
**Caution: low base number of respondents - results are indicative only.

Table 40:

Q2L. How will you finish your journey when you get off this train?

Unweighted base =	Total 2095* %	Hutt Valley Line 832 %	Johnsonville Line 260 %	Kapiti Line 829 %	Melling Line 146 %	Wairarapa Line 28** %
Walk	87	89	88	87	82	71
By motor vehicle, as a passenger	1	1	1	2	1	11
By motor vehicle, as the driver	3	2	2	3	4	14
By train	1	0	2	1	1	0
By bus	7	6	7	7	9	4
By bike	1	1	1	1	3	0
By taxi	0	0	0	0	0	0
Other	0	0	0	0	1	0
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekday.
**Caution: low base number of respondents - results are indicative only.

Table 41:

Q3a. Will you or did you make a return trip by train later in the day - this is the day you received your survey card?

Unweighted base =	Total 2096* %	Hutt Valley Line 832 %	Johnsonville Line 260 %	Kapiti Line 829 %	Melling Line 147 %	Wairarapa Line 28** %
Yes	93	95	84	95	89	93
No	7	5	16	5	11	7
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
* *Sub-sample based on those respondents who travelled on a weekday.
**Caution: low base number of respondents - results are indicative only.

Table 42:

Q4c. Was a car available to you as an alternative to taking the train for this journey?

Unweighted base =	Total 2083* %	Hutt Valley Line 831 %	Johnsonville Line 259 %	Kapiti Line 821 %	Melling Line 145 %	Wairarapa Line 27** %
Yes	73	74	66	74	79	67
No	27	26	34	26	21	33
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekday.
**Caution: low base number of respondents - results are indicative only.

Weekend travellers – by Rail Line

The following tables (Table 11 through Table 17) provide the same results for weekend travellers, as noted in the first section, but broken down by rail line. Within these tables, statistically significant differences for passengers on a particular line, when compared with all weekend travellers, are indicated by bold shading. However, due to the relatively smaller sample size of weekend travellers in general, there are few such differences.

Note that one weekend passenger claimed to have travelled on the Melling Line, even though that line does not operate on weekends. As it is not clear whether the person in question actually travelled on the Melling Line on a weekday, or some other line during the weekend, their data has been retained in overall results column for weekend passengers, but no results specifically for the Melling Line are shown in the following tables.

Table 43:

Q4a. Which age category are you in?

Unweighted base =	Total 254* %	Hutt Valley Line 55 %	Johnsonville Line 70 %	Kapiti Line 114 %	Wairarapa Line 14** %
Under 16 years	4	4	6	4	0
16-18 years	5	2	9	4	7
19-21 years	6	**0**	3	10	7
22-25 years	11	16	9	11	0
26-64 years	48	56	57	**37**	57
65 years or over	26	22	17	33	29
Total	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekend.
**Caution: low base number of respondents - results are indicative only.

Table 44:

Q2e. Which main travel mode did you use to get to the station for this train journey?

Unweighted base =	Total 255* %	Hutt Valley Line 55 %	Johnsonville Line 71 %	Kapiti Line 114 %	Wairarapa Line 14** %
Walk	57	58	**85**	**42**	36
By motor vehicle, as a passenger	11	9	6	15	14
By motor vehicle, as the driver	16	16	**7**	23	14
By train	0	0	0	0	0
By bus	10	11	**0**	14	29
By bike	4	2	3	4	7
By taxi	1	0	0	2	0
Other	1	4	0	0	0
Total	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekend.
**Caution: low base number of respondents - results are indicative only.

Table 45:

Q2n. Over the current week, how many times will you make this journey by train? (not including the return journey)

Unweighted base =	Total 255* %	Hutt Valley Line 55 %	Johnsonville Line 71 %	Kapiti Line 114 %	Wairarapa Line 14** %
1	54	56	42	60	57
2	10	7	13	10	14
3	6	11	8	2	7
4	7	5	8	8	0
5	11	7	17	10	7
6	6	4	8	4	14
7	2	7	0	2	0
8+	4	2	3	5	0
Total	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekend.
**Caution: low base number of respondents - results are indicative only.

Table 46:

Q2m. How did you pay for your train fare?

Unweighted base =	Total 255* %	Hutt Valley Line 55 %	Johnsonville Line 71 %	Kapiti Line 114 %	Wairarapa Line 14** %
Paid Cash for single trip at station	10	11	3	13	14
Paid Cash for single trip on train	15	4	24	15	7
10-trip	22	31	25	16	21
Monthly pass	22	20	30	19	21
SuperGold	24	22	17	30	29
Child concession	0	2	0	0	0
Concession	0	0	0	0	0
Day pass	6	11	1	6	7
Other	0	0	0	1	0
Total	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekend.
**Caution: low base number of respondents - results are indicative only.

Table 47:

Q2L. How will you finish your journey when you get off this train?

Unweighted base =	Total 255* %	Hutt Valley Line 55 %	Johnsonville Line 71 %	Kapiti Line 114 %	Wairarapa Line 14** %
Walk	67	82	76	57	43
By motor vehicle, as a passenger	9	0	0	17	21
By motor vehicle, as the driver	6	2	6	7	14
By train	1	4	0	0	0
By bus	13	7	15	13	21
By bike	4	2	3	5	0
By taxi	1	4	0	1	0
Other	0	0	0	0	0
Total	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekend.
**Caution: low base number of respondents - results are indicative only.

Table 48:

Q3a. Will you or did you make a return trip by train later in the day - this is the day you received your survey card?

	Total	Hutt Valley Line	Johnsonville Line	Kapiti Line	Wairarapa Line
Unweighted base =	255*	55	71	114	14**
	%	%	%	%	%
Yes	67	82	62	67	43
No	33	18	38	33	57
Total	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents...
**Caution: low base number of respondents - results are indicative only.

Table 49:

Q4c. Was a car available to you as an alternative to taking the train for this journey?

	Total	Hutt Valley Line	Johnsonville Line	Kapiti Line	Wairarapa Line
Unweighted base =	252*	55	69	113	14**
	%	%	%	%	%
Yes	52	44	55	52	57
No	48	56	45	48	43
Total	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who travelled on a weekend.
**Caution: low base number of respondents - results are indicative only.

Summary findings for weekday peak-time (7:00 am to 9:00 am) travellers

This section provides summary results for weekday peak-time (7:00 am to 9:00 am) travellers.

Mode of travel to train

As shown in Figure 5 and Table 18, most peak-time travellers, walked (44 percent), or drove a motor vehicle to the station (39 percent).

- Compared with all peak-time travellers (44 percent), passengers on the Johnsonville line were significantly more likely to report walking to the station (79 percent).

- Kapiti and Melling Line passengers were significantly more likely to report they drove a motor vehicle to the station (45 percent and 49 percent, respectively, when compared with all peak-time travellers (39 percent).

Of the sub-sample of travellers who reported travelling by motor vehicle to the station, either as a driver or passenger (n=741), just under three quarters (73%) left their vehicle parked at the station, while 12 percent parked elsewhere and 15 percent said they were dropped off by someone (Table 19).

- Melling Line passengers were significantly less likely to have left their vehicle parked at the station (61 percent), while being more likely to have parked elsewhere (23 percent).

Figure 5:

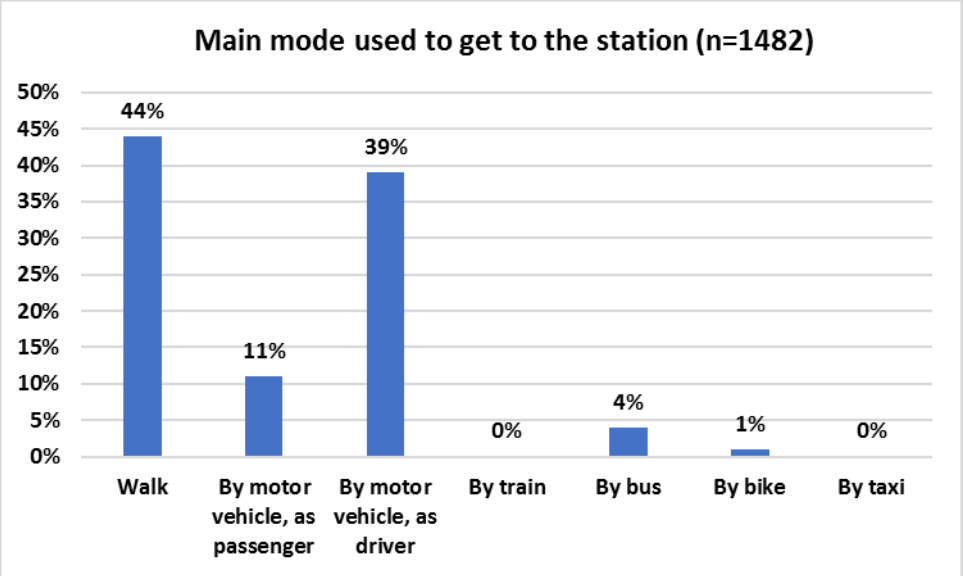


Table 50:

Q2e. Which main travel mode did you use to get to the station for this train journey?

Unweighted base =	Total 1482* %	Hutt Valley Line 593 %	Johnsonville Line 182 %	Kapiti Line 577 %	Melling Line 114 %	Wairarapa Line 16** %
Walk	44	48	79	33	26	19
By motor vehicle, as a passenger	11	10	2	13	17	44
By motor vehicle, as the driver	39	37	19	45	49	38
By train	0	0	0	0	0	0
By bus	4	3	0	6	3	0
By bike	1	1	1	2	4	0
By taxi	0	0	0	0	1	0
Other	0	0	0	1	1	0
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays.
**Caution: low base number of respondents - results are indicative only.

Table 51:

Q2f. The motor vehicle you travelled in to the station - where is it now?

Unweighted base =	Total 741* %	Hutt Valley Line 278 %	Johnsonville Line 38 %	Kapiti Line 337 %	Melling Line 75 %	Wairarapa Line 13** %
Parked at the station	73	75	71	75	61	77
Parked elsewhere	12	11	24	9	23	0
I was dropped off	15	14	5	16	16	23
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays, and who travelled to the train station by motor vehicle.
**Caution: low base number of respondents - results are indicative only.

Paying of train fares

Two-thirds of peak-time travellers reported paying for their train fare with a monthly pass (67 percent), while 31 percent said they paid with a 10-trip ticket. Just two percent reported paying by cash, and none reported paying by SuperGold Card or a concession fare (Figure 6 and Table 20).

- Compared with all peak-time travellers, passengers on the Johnsonville line were significantly less likely to be travelling on a monthly pass (53 percent), while being more likely to have used a 10-trip ticket to pay for their journey (43 percent).

Figure 6:

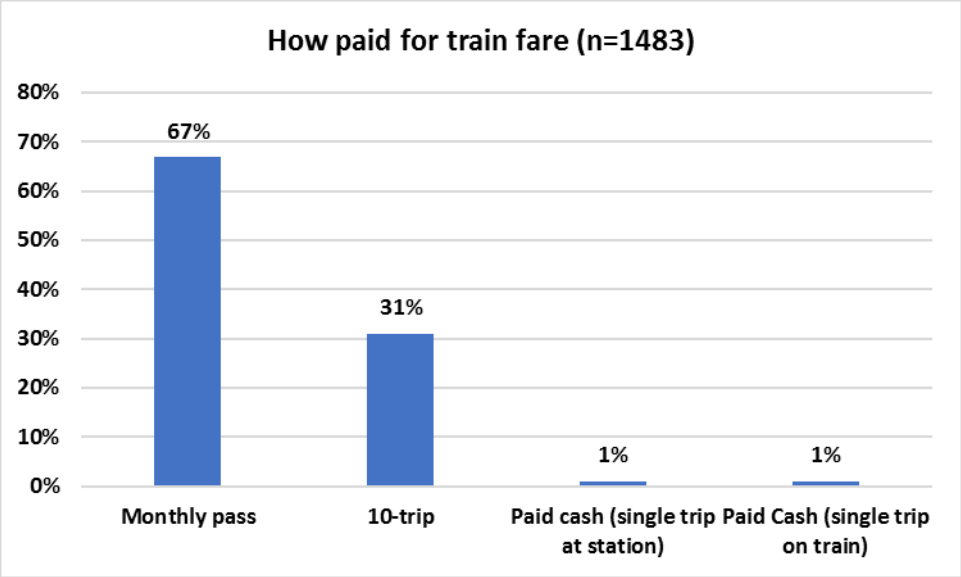


Table 52:

Q2m. How did you pay for your train fare?

Unweighted base =	Total 1483* %	Hutt Valley Line 594 %	Johnsonville Line 182 %	Kapiti Line 577 %	Melling Line 114 %	Wairarapa Line 16** %
Paid Cash for single trip at station	1	1	2	1	3	6
Paid Cash for single trip on train	1	2	2	1	0	0
10-trip	31	27	43	29	39	44
Monthly pass	67	70	53	69	58	44
SuperGold	0	0	0	0	0	0
Child concession	0	0	0	0	0	0
Concession	0	0	0	0	0	0
Day pass	0	0	0	0	0	0
Other	0	0	0	0	1	6
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays.
**Caution: low base number of respondents - results are indicative only.

Number of journeys per week

Seven-in-ten peak-time travellers (71 percent) reported they would make the same journey, excluding return trips, five times a week (Table 21), though Johnsonville passengers were less likely to report this was the case (60 percent).

Table 53:

Q2n. Over the current week, how many times will you make this journey by train? (not including the return journey)

Unweighted base =	Total 1483* %	Hutt Valley Line 594 %	Johnsonville Line 182 %	Kapiti Line 577 %	Melling Line 114 %	Wairarapa Line 16** %
1	3	2	5	2	4	12
2	3	3	6	2	4	0
3	6	6	7	6	6	6
4	10	9	13	9	11	25
5	71	72	60	74	71	50
6	2	2	2	3	0	0
7	0	0	2	0	0	0
8+	5	6	5	4	4	6
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays.
**Caution: low base number of respondents - results are indicative only.

Mode of travel after train journey

Ninety percent of peak-time travellers said they would finish their journey when they got off the train by walking (Table 22), while Johnsonville passengers were more likely to report they would do so (94 percent).

Table 54:

Q2L. How will you finish your journey when you get off this train?

Unweighted base =	Total 1482* %	Hutt Valley Line 594 %	Johnsonville Line 182 %	Kapiti Line 577 %	Melling Line 113 %	Wairarapa Line 16** %
Walk	90	91	94	89	84	75
By motor vehicle, as a passenger	1	1	0	2	0	6
By motor vehicle, as the driver	2	2	2	2	3	19
By train	1	0	1	1	1	0
By bus	5	5	3	6	8	0
By bike	1	1	1	1	4	0
By taxi	0	0	0	0	0	0
Other	0	0	0	0	1	0
Total	100	100	100	100	100	100

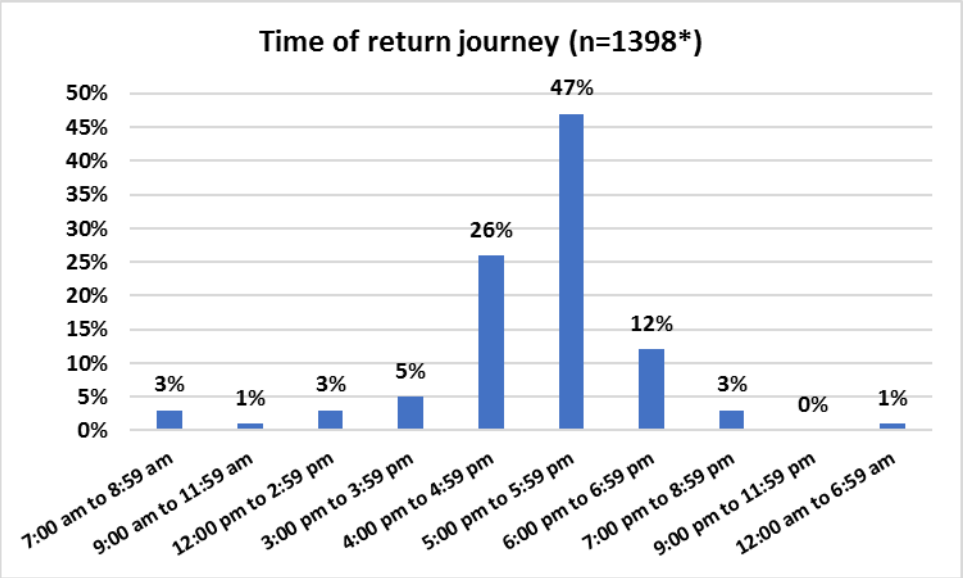
Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays.
**Caution: low base number of respondents - results are indicative only.

Return journey the same day

The vast majority of peak-time travellers reported they would make a return trip by train later in the day (94 percent). However, at 86 percent Johnsonville passengers were less likely to report this (Table 23).

Figure 7 and Table 24 provide a breakdown of the time of respondents' reported return train journey.

Figure 7:



*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays and said they would make a return trip by train later in the day.
^ Despite trains not running at that time, 16 respondents reported their return train journey would be between 1:00 and 4:57 am.

Table 55:

Q3a. Will you or did you make a return trip by train later in the day - this is the day you received your survey card?

Unweighted base =	Total 1483* %	Hutt Valley Line 594 %	Johnsonville Line 182 %	Kapiti Line 577 %	Melling Line 114 %	Wairarapa Line 16** %
Yes	94	96	86	96	90	94
No	6	4	14	4	10	6
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays. **Caution: low base number of respondents - results are indicative only.

Table 56:

Return Time

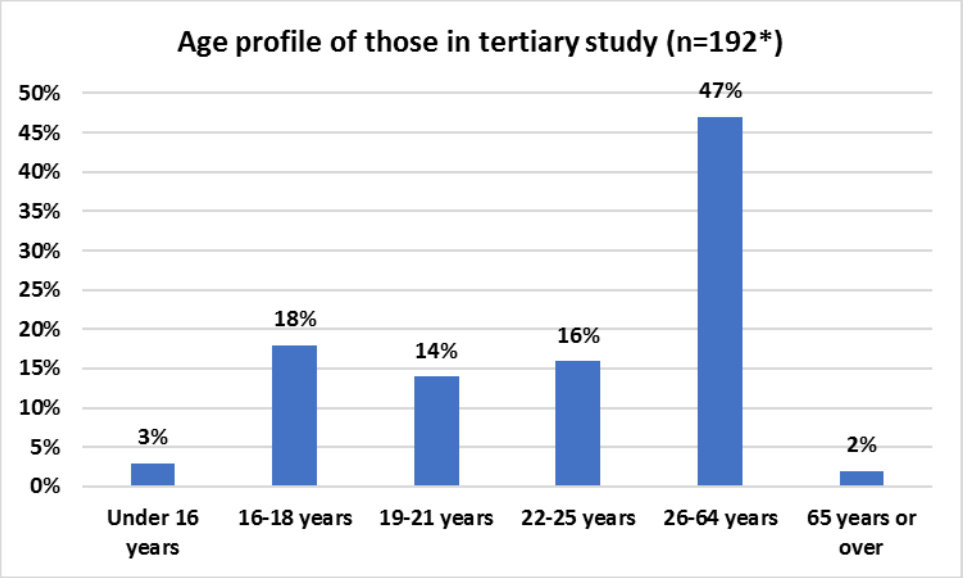
Unweighted base =	Total 1398* %	Hutt Valley Line 570 %	Johnsonville Line 157 %	Kapiti Line 553 %	Melling Line 103 %	Wairarapa Line 15** %
12:00 am to 6:59 am^	1	1	1	1	1	7
7:00 am to 8:59 am	3	4	3	3	3	7
9:00 am to 11:59 am	1	1	1	0	1	0
12:00 pm to 2:59 pm	3	3	4	2	3	7
3:00 pm to 3:59 pm	5	4	4	5	5	0
4:00 pm to 4:59 pm	26	26	14	27	27	40
5:00 pm to 5:59 pm	47	47	48	46	49	33
6:00 pm to 6:59 pm	12	12	20	10	12	7
7:00 pm to 8:59 pm	3	2	5	4	0	0
9:00 pm to 11:59 pm	0	0	0	0	0	0
Total	100	100	100	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported travelling peak-time (7:00 to 9:00 am) weekdays and said they would make a return trip by train later in the day.
**Caution: low base number of respondents - results are indicative only.
^ Despite trains not running at that time, 16 respondents reported their return train journey would be between 1:00 and 4:57 am.

Summary findings tertiary students

The following section provides an overview of the survey results among the sub-sample of respondents who reported they were enrolled in tertiary study or training. As shown in Figure 8, half of those undertaking tertiary study reported being aged 26 years or older.

Figure 8:

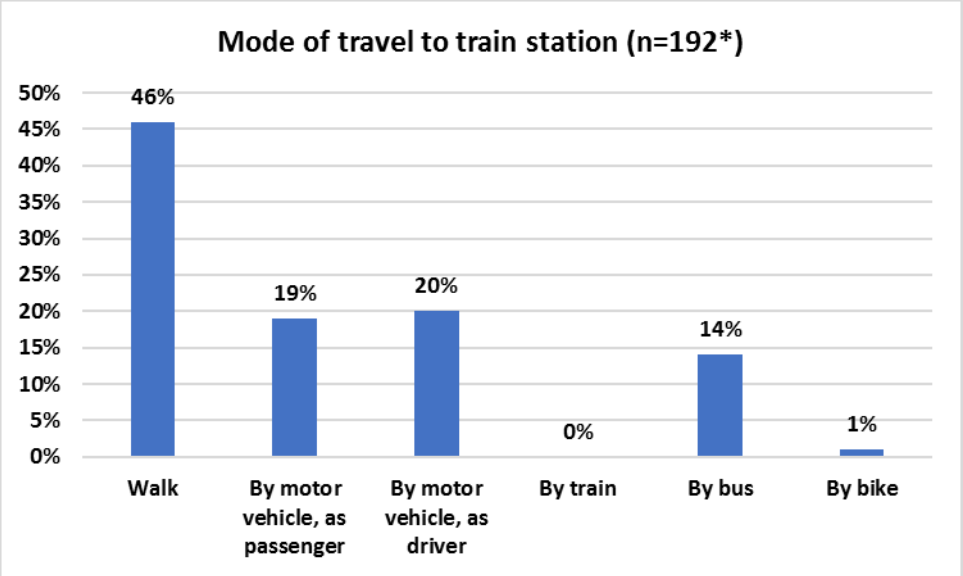


*Sub-sample based on those respondents who reported they were enrolled in tertiary study or training.

Mode of travel to train station and frequency of taking same journey per week

Figure 9 shows that just under half of respondents who were enrolled in tertiary study reported walking to the train station the day of their journey (46 percent), while equal proportions travelled by motor vehicle either as a passenger (19 percent) or driver (20 percent). One in seven said they travelled to the station by bus (14 percent).

Figure 9:



*Sub-sample based on those respondents who reported they were enrolled in tertiary study or training.

Compared with peak-time travellers, a significantly smaller proportion of tertiary students reported making the same train journey five or more times per week (57 percent, compared with 71 percent of peak-time travellers – see Table 21 above).

Table 57:

Q2n. Over the current week, how many times will you make this journey by train? (not including the return journey)

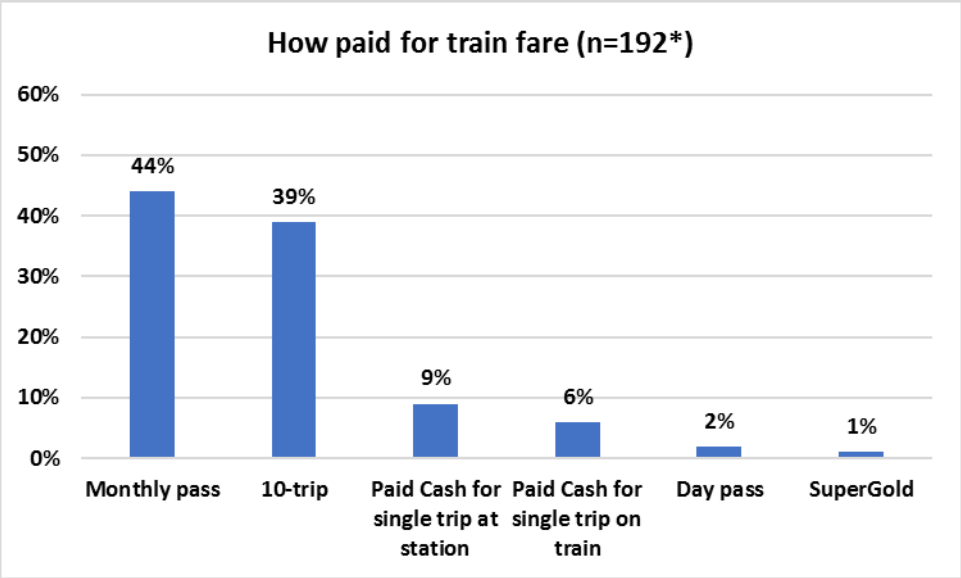
Unweighted base =	Tertiary study 192* %
1	16
2	7
3	9
4	11
5	41
6	7
7	2
8+	7
Total	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported they were enrolled in tertiary study or training.

Payment of train fare

Less than half of those in tertiary study reported paying for their train fare by using a monthly pass (44 percent), while four-in-ten were travelling on a 10-trip ticket (Figure 10). Fifteen percent said they paid cash for a single trip at the station or on the train.

Figure 10:

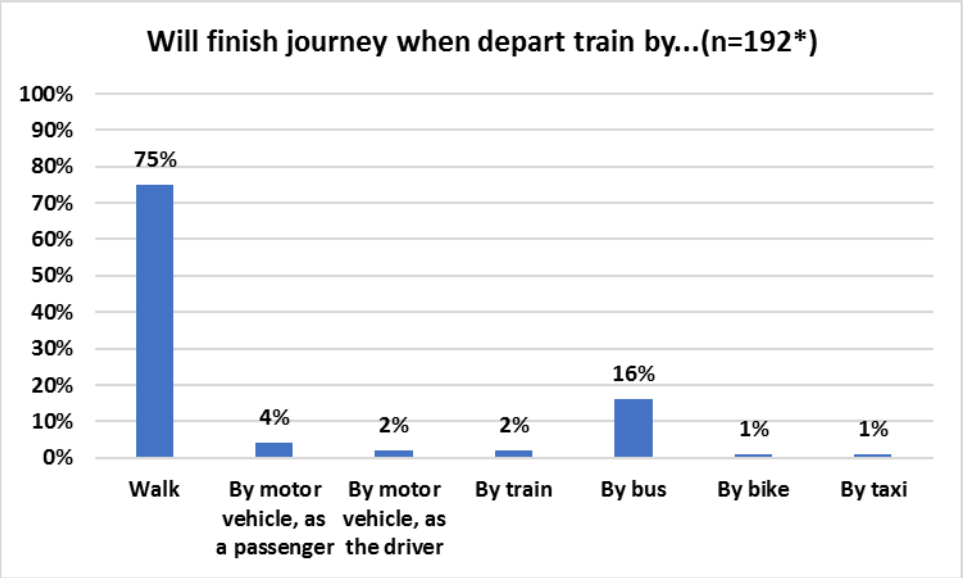


*Sub-sample based on those respondents who reported they were enrolled in tertiary study or training.

Mode of travel after disembarking the train

Three quarters of travellers who were enrolled for tertiary study reported they would finish their journey when they got off the train by walking, while 16 percent would travel to their final destination by bus (Figure 11).

Figure 11:



*Sub-sample based on those respondents who reported they were enrolled in tertiary study or training.

Return train journeys and availability of motor vehicle as alternative travel mode

As detailed in Table 26, 83 percent of travellers who were also enrolled in tertiary study, reported they would make a return trip by train on the same day as their initial journey. Table 27 shows, that less than half of those enrolled in tertiary study said a car was available to them as an alternative to taking the train for their journey (46 percent).

Table 58:

Q3a. Will you or did you make a return trip by train later in the day - this is the day you received your survey card?

Unweighted base =	Total 192* %
Yes	83
No	17
Total	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported they were enrolled in tertiary study or training.

Table 59:

Q4c. Was a car available to you as an alternative to taking the train for this journey?

Unweighted base =	Total 190* %
Yes	46
No	54
Total	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who reported they were enrolled in tertiary study or training.

2017 Train Survey Methodology

The objective of GWRC's 2017 Train survey was to collect travel information from peak, off-peak and weekend rail passengers on the Kapiti, Johnsonville, Hutt Valley/Melling and Wairarapa lines.

Between 13 and 25 June, Research New Zealand surveyors distributed information postcards to train passengers on the train station platforms during weekday morning peak-times and on the trains during weekday off-peak-times and weekends. The postcards invited prospective respondents to complete a short online survey about their train journey that day.

The online survey was hosted by Research New Zealand on a secure encrypted website. To facilitate completion of the survey, each postcard included the survey's URL and a unique login ID number. Once logged into the survey, respondents were asked to provide information in relation to the following information areas:

- Day and time of their initial train journey.
- The locations of travellers' journey origins and destinations (e.g. home street name and suburb, workplace street name and suburb, etc.).
- Travellers' modes of travel to and from train station and frequency of taking the same journey per week.
- Train and bus journey payment modes.
- The availability of motor vehicles as an alternative to taking the train, and use of train station parking.
- Time of same day return journeys by train.
- Basic respondent demographic characteristics (age, gender and enrolment in tertiary study).

An example invitation postcard and copy of the survey questionnaire are appended at the end of this section.

In total, 15,000 postcards were distributed, and n=2,351 train travellers completed the survey by its close off date of 2 July 2017 – a survey completion rate of 15.7 percent. The number of postcards allocated to the different train lines and specific train platforms was determined by historic passenger volume data, as provided by GWRC. In addition to distributing invitation postcards, surveying on the Wairarapa line also involved completing passenger counts.[5]

The maximum margin of error (MoE) at the 95 percent confidence estimate for the achieved sample of n=2,351 respondents is ± 2.0 percent. MoEs for key sub-groups of interest discussed in this report are as follows: weekday (n=2,096) and weekend travellers (n=255), ± 2.1 and 6.1 percent, respectively; weekday peak-time travellers (7:00 am to 9:am, n=1,483) ± 2.5 percent; and travellers enrolled in tertiary study (n=192) ± 7.1 percent.

[5] At the time of surveying, inbound passengers from the Wairarapa were bused over the Rimutakas, before boarding trains at Upper Hutt Station due to rail line maintenance. Outbound passengers travelled by train between Wellington Station and Upper Hutt Station, after which they were transported to the Wairarapa by bus.

After the surveying was completed, Research New Zealand geocoded each respondent's self-reported origin and destination locations, using the street name and suburb information, where this was provided, and provided GWRC with an anonymised survey dataset.[6]

Below is a breakdown of the different days Research New Zealand's surveyors distributed survey postcards to rail passengers.

Table 60:

Rail line and stations	Date	Day	Time	Surveyor tasks	total surveyors
Hutt Valley: Upper Hutt – Taita	15-Jun-17	Thursday	6.20-9.00 am	On station platforms handing out survey cards	20
	15-Jun-17	Thursday	10.00-3.00 pm	Travel on trains hand out survey cards	4
	17 & 18 June	Saturday/Sunday	10.00-3.00 pm	Travel on trains hand out survey cards	4
Wingate to Wellington	20-Jun-17	Tuesday	6.30-9.00 am	On platforms handing out survey cards	22
Kapiti line: Waikanae – Paremata	14-Jun-17	Wednesday	6.00-8.30 am	On platforms handing out survey cards	20
	14-Jun-17	Wednesday	10.00-3.00 pm	Travel on trains hand out survey cards	4
	17 & 18 June	Saturday/Sunday	10.00-3.00 pm	Travel on trains hand out survey cards	4
Porirua to Wellington	21-Jun-17	Wednesday	6.00-8.30 am	On platforms handing out survey cards	18
Johnsonville Line: All stations	13-Jun-17	Tuesday	6.30-9.00 am	On platforms handing out survey cards	18
	13-Jun-17	Tuesday	10.00-3.00 pm	Travel on trains hand out survey cards	4
	17 & 18 June	Saturday/Sunday	10.00-3.00 pm	Travel on trains hand out survey cards	4
Melling Line: all stations	19-Jun-17	Monday	6.30-9.00 am	On platforms handing out survey cards	10
	19-Jun-17	Monday	10.00-3.00 pm	Travel on trains hand out survey cards	2
Wairarapa: UH to Wellington	19-Jun-17	Monday	6.50-9.00 am	Travel on trains hand out survey cards & count passengers	6
	19-Jun-17	Monday	10.00-3.00 pm		2
	17 & 18 June	Saturday/Sunday	10.00-3.00 pm		4
Wellington Station	17 & 18 June*	Saturday/Sunday	10.00-3.00 pm	On station platforms handing out cards	4
Redo					
Wellington Station	24 & 25 June	Saturday/Sunday	10.00-3.00 pm	On station platforms handing out cards	4
Wairarapa Line	24-Jun	Saturday	10.00-3.00 pm	Travel on trains	2

*Surveyors were asked to leave train station by TransDev staff, requiring a repeate of weekend Wellington Station surveying the following weekend.

6 Note: As detailed demographic information about Greater Wellington rail passengers travelling on the different rail lines during peak, off-peak and weekend periods is not known, the survey data has not been weighted.

Example survey invitation postcard

Front:

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

research
NEW ZEALAND

We invite you to take part in a survey about your train journey today. Understanding the journeys people make each day is important for establishing patterns of travel, and helps us to plan for the future.

Complete the survey by **1 July 2017** and be in the draw to win one of the twenty grocery voucher prizes – each worth $100. For your chance to win, go to the following website and enter ID: «**IDNO**»

1 **gwtrains.researchnz.com OR scan** 2 **this QR Code and enter ID: «IDNO»**

BY SHARING DETAILS OF YOUR JOURNEY YOU COULD WIN $100 IN GROCERIES

Greater Wellington Regional Council has commissioned Research New Zealand to undertake this research. All information provided will remain strictly confidential.

The survey should take around 5 to 6 minutes to complete. If you have any questions please contact Research New Zealand on FREEPHONE 0800 500 168 or GWTrains@researchnz.com

Thank you in advance for your time and participation.
Greater Wellington Regional Council

Back:

Rail Passenger Survey 2017

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

«ARNO»

2017 Train Survey Questionnaire

Note: Instructions for questions are included in the [] brackets.

Welcome to the Rail passenger survey – thanks for taking the time to tell us where and when you travel. Understanding the journeys people make each day is important for establishing patterns of travel, and helps us to plan for the future.

Complete the survey and enter your email to be in the draw to win one of the twenty grocery voucher prizes – each worth $100. All information provided will remain strictly confidential.

Thank you

Q1 **Please enter the ID number located on your survey card?** ☐☐☐☐☐☐☐☐

The following questions refer to your train travel on the day you received your survey card.

Q2a Which day and what time was it when you first travelled by train? [compulsory]

Either Weekday or Weekend [Tick box for Weekday/Weekend) with list of times opening up below]

For weekday:
☐ Before 6 am

☐ 6:00 – 6:59 am

☐ 7:00 – 7:59 am

☐ 8:00 – 8:59 am

☐ 9:00 am – 3 pm

☐ After 3pm

For weekend:
☐ Before 9am
☐ 9 – 3pm
☐ After 3pm

Q2b At w**hich rail line and station did you start your train journey?** [compulsory]

☐ Hutt Valley Line (Upper Hutt - Wellington)

☐ Johnsonville Line (Johnsonville – Wellington)

☐ Kapiti Line (Waikanae – Wellington)

☐ Melling Line (Melling wellington)

☐ Wairarapa Line (Masterton – Wellington]

See list of stations.

Q2ac (if weekend Q2a ask, else skip) **For this train trip, did you travel with friends and/or family?** [single response]

☐ As a couple

☐ A family group

☐ A group of friends

☐ Other

☐ No, was travelling alone

Q2c Where did you come from before catching this train? [single answer]

☐ Home ☐ Usual workplace ☐ On Employer Business ☐ School

☐ Polytechnic or University or training ☐ Other (e.g. shopping, social, sport, recreation)

Q2d Where is that place? Please provide a street and suburb

STREET NAME _____

SUBURB_____

Q2e Which main travel mode did you use to get to the station for this train journey? [single answer]

☐ Walk

☐ By motor vehicle, as a passenger

☐ By motor vehicle, as the driver

☐ By train

☐ By bus

☐ By bike

☐ By taxi

☐ Other

[If respondent ticked either of the motor vehicle choices in Q2e, else skip]

Q2f The motor vehicle you travelled you travelled in to the station – where is it now?

☐ Parked at the station ☐ Parked on a nearby street ☐ I was dropped off

If respondent ticked bus in question Q2e, else skip to Q2i

For your bus trip(s) <u>to the train</u>

Q2g Which ticket did you use for this bus trip(s)? [single answer]

☐ Cash ☐ Snapper ☐ MANA Coachcard ☐ HuttPlus ☐ KapitiPlus

☐ Monthly pass ☐ SuperGold ☐ A to B card ☐ Day pass ☐ WairarapaPlus ☐ Other

Q2h During an average working week, approximately how many times will you make this bus trip?

☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7
☐ 8+

Q2j This first train trip is part of your journey to what destination? [single answer]

☐ Home ☐ Usual workplace ☐ On Employer Business ☐ School

☐ Polytechnic or University or training ☐ Other (e.g. shopping, social, sport, recreation)

Q2k Where is that place? Please provide a street and suburb

STREET NAME _____

SUBURB_____

Q2L How will you finish your journey when you get off this train? [single answer]

☐ Walk
☐ By motor vehicle, as a passenger
☐ By motor vehicle, as the driver
☐ By train
☐ By bus
☐ By bike
☐ By taxi
☐ Other

Q2m How did you pay for your train fare? [single answer, compulsory]

☐ Paid Cash for single trip at station ☐ Paid Cash for single trip on train ☐ 10-trip ☐ Monthly pass ☐ SuperGold ☐ Child concession ☐ Concession ☐ Day pass ☐ Other

Q2n During an average working week, approximately how many times will you make this this journey by train? (not including the return journey) [compulsory]

☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7
☐ 8+

Q3a Will you or did you make a return trip by train later in the day - this is the day you received your survey card?

☐ Yes ☐ No

If yes, what time did/will you make that train journey? ____:____ pm or am *(hours/ minute)* [Respondent must enter time and pm or am]

Q4a Which age category are you in?

☐ Under 16 years ☐ 16-18 years ☐ 19-21 years

☐ 22-25 years ☐ 26-64 years ☐ 65 years or over

Q4b Are you currently enrolled in tertiary study or training?

☐ Yes Part-time study ☐ Yes Full-time study ☐ No

Q4c Was a car available to you as an alternative to taking the train for this journey?

☐ Yes ☐ No

Q5a Thank you very much for providing this travel information. Please enter your email address and first name if you would like to be in the draw for a grocery voucher prize.

Email: _____

First name: _____