

Tram Passenger Survey (TPS)

Autumn 2014

Technical report



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1. Background

Passenger Focus is the official, independent consumer organisation representing the interests of train, bus, coach and tram users across England outside London. A key part of the Passenger Focus mandate is to provide evidence-based research to support its stance on the views and priorities of passengers. To this end, Passenger Focus (and its predecessors) established:

- The National Rail Passenger Survey (NRPS) in 1999 – this twice-yearly survey (Spring and Autumn) provides data for each Train Operating Company on its passengers' perceptions in regard to key measures of station and train performance
- The Bus Passenger Survey (BPS) in 2009 – this annual Autumn survey (with a smaller project in the late Spring) provides data for a number of PTE, unitary and county council areas on passengers' perceptions in regard to key bus stop, bus vehicle and bus driver measures
- The Tram Passenger Survey (TPS) in 2013 – a pilot study was undertaken in Spring 2013, followed by two full Autumn waves in 2013 and 2014. The survey provides data for tram networks across Britain on passengers' perceptions in regard to tram journeys, vehicles and stops.

A number of different methodologies were tested in the initial TPS pilot. As well as the traditional paper self-completion approach used on NRPS and BPS, passengers were offered the choice of a paper self-completion questionnaire or providing an email address. Those providing email addresses were sent an invitation to participate in an online version of the survey one to two days following contact. The pilot demonstrated that the 'choice' option generated a similar final sample size to the traditional paper self-completion approach at similar cost, but in addition did reduce the age bias present in undertaking just a paper self-completion approach and furthermore did not significantly affect the results. As a result, TPS uses this combined approach.

2. Summary of approach

Our approach uses the TPS pilot and the Autumn 2013 wave as suitable templates; in particular the following are salient features of what we have used in TPS:

- The sampling unit is an individual tram service (e.g. the 06:15 from Birmingham Snow Hill on a specific Tuesday), in the same way that BPS sampling is based on bus services. (In NRPS, in contrast, most sampling is based on stations.)
 - This is a more cost effective sampling unit than a tram stop, as passenger numbers are greater for a service over a given time period than for most stops over the same period
- The sampling frame thus needed is the list of all tram services that run each week (which has been downloaded from the published timetables)
- The majority of the questions have been carried over from the TPS pilot and the Autumn 2013 wave, to enable a standard questionnaire to be used across all networks. As Transport for Greater Manchester (TfGM) already had its own passenger satisfaction survey previous to the establishment of the TPS, the questionnaire used for the Metrolink network was slightly longer as it included questions specific to the previous TfGM survey. (TfGM funded their additional questions.)

The standard questionnaire used for the Autumn 2014 survey is attached as an appendix.

A similar version of the questionnaire was used for the online sample. To ensure online respondents answered specifically about the journey they were taking when recruited by the interviewer, the date and time they were approached was inserted into the wording of the online questionnaire they completed.

As indicated above, all passengers were approached and asked if they would provide feedback about the specific journey they were undertaking. If willing, they were offered the choice between a paper self-completion questionnaire and providing their email address so that they could be sent a link to an online version of the questionnaire.

3. Sample

3.1 Route coverage

The Autumn 2014 TPS covered six different tram operators. Four of these have just one route, but the Sheffield network has three and Manchester has six. For cost and logistical reasons, the blue and purple routes in Sheffield were merged and so this wave covered twelve routes in total as follows:

- Blackpool
- Centro (Birmingham/Wolverhampton)
- Edinburgh
- Manchester – Altrincham
- Manchester – Ashton
- Manchester – Bury
- Manchester – East Didsbury
- Manchester – Eccles/Media City
- Manchester – Rochdale
- Nottingham
- Sheffield – Blue/Purple routes
- Sheffield – Yellow route.

Manchester Metrolink opened the new Airport line in November 2014, during the TPS fieldwork. It was not included in this research.

The sampling process described in section 3.3 below was applied in turn to each of these twelve routes and a separate sample selected for each. The routes were then weighted according to their relative volume of passenger journeys, so that when looking at aggregated results at ‘All Network’ level in the overall dataset, the routes with the largest numbers of passengers have the greatest weight.

3.2 Sample sizes

The sample sizes specified for each network are shown in the table overleaf. The sample sizes for Blackpool, Manchester and Centro were determined by boost funding

from those authorities; Edinburgh Trams funded the full cost of the research on their network, this being outside the statutory remit of Passenger Focus. These sample sizes were used to determine the number of shifts required for each network and the shift numbers used to determine which tram services should be sampled. The sampling process is discussed in detail in Section 3.3.

Network/route	Sample size required	Sample achieved
Blackpool	500	502
Centro	500	503
Edinburgh	500	596
Manchester – Altrincham	500	625
Manchester – Ashton	400	392
Manchester – Bury	500	512
Manchester – East Didsbury	400	469
Manchester – Eccles/MediaCity	400	413
Manchester – Rochdale	400	413
Nottingham	250	272
Sheffield – Blue/Purple routes	125	135
Sheffield – Yellow route	125	182

Within the Manchester sample we also applied a minimum quota of one hundred passenger journeys between tram stops located within the ‘City Zone’. These journeys both started and ended within a group of seven tram stops in the centre of Manchester.

3.3 Sampling process

As highlighted above, we have followed the sampling processes employed in previous waves (and similar to BPS), as follows:

- We downloaded the tram timetable for each route from the network’s website
- We generated lists of the tram services which run each day of the week including start point, start time, end point and end time
- We sorted these lists by direction, the seven days of the week and the start time of the service – this generated a list of the tram services in a week. As with NRPS and BPS, fieldworker shifts only operate between 6am and 10pm. There are very few public transport services prior to 6am and the additional costs –

hourly rates and transport to the start point – are not justified given the very small number of passengers. Although there are more journeys after 10pm, safety concerns rule out fieldworkers operating after this time – the only feasible option would be to ensure fieldworkers operate in pairs and again the cost of this and providing transport at the end of the shift is not justified given the relatively low number of passengers

- Excluding those services starting before 6am or after 10pm reduced the number of weekly services to those shown in the table below, distributed by peak (7.00am to 09.30am and 4.00pm to 6.30pm weekdays), off peak weekday and weekend:

Network/route	Number of peak services	Number of off peak weekday services	Number of weekend services
Blackpool	230	450	231
Centro	430	755	346
Edinburgh	370	835	401
Manchester – Altrincham	480	1090	463
Manchester – Ashton	260	544	298
Manchester – Bury	500	950	433
Manchester – East Didsbury	250	550	302
Manchester – Eccles/Media City	520	940	430
Manchester – Rochdale	250	550	302
Nottingham	505	953	463
Sheffield – Blue/Purple routes	450	850	415
Sheffield – Yellow route	350	645	297

- During the sampling stage we took steps to minimise the level of weighting needed at the later analysis stage, to produce an accurate time of day profile. In the Autumn 2013 wave we took a random start point from the list of services, then selected every n^{th} journey from the same list based on the total number of records; the selected journeys then formed the start of a fieldworker shift. In Autumn 2014 we adapted this approach by taking into account the weights applied in the previous wave, to achieve a more accurate spread of shifts according to the different passenger volumes in different time segments (weekday peak, weekday off peak and weekend). Each journey in the sample

frame was allotted a 'passenger value' weight, based on the weight applied to each time segment within that tram network in Autumn 2013. For Edinburgh, where Autumn 2013 weights were not available, the passenger value was calculated using the average weight applied to each time segment across all networks. Selection of the sample was then made at intervals based on the passenger value rather than the total number of records, meaning that more services would be likely to be selected during busier times, to reflect passenger footfall throughout the day and week. The number of selected services is shown below:

Network/route	Number of peak shifts	Number of off peak weekday shifts	Number of weekend shifts
Blackpool	4	10	8
Centro	10	10	4
Edinburgh	9	9	4
Manchester – Altrincham	14	10	3
Manchester – Ashton	14	7	5
Manchester – Bury	14	12	5
Manchester – East Didsbury	12	5	2
Manchester – Eccles/Media City	10	9	5
Manchester – Rochdale	9	11	5
Nottingham	5	4	2
Sheffield – Blue/Purple routes	3	1	1
Sheffield – Yellow route	2	2	1

- We scheduled fieldworker shifts around the selected services: the time and day of the week that was selected dictated the beginning of the shift, and return journeys were made thereafter on the same vehicle for the duration of that shift. The three hour shift length allows for two return journeys in most shifts, adjusting as necessary to ensure this. A three hour shift length provides time for fieldworkers to encounter plenty of passengers for distributing questionnaires. A longer period than this can introduce more clustering – e.g. if a particular day is affected by service disruption

- Some selected services fell towards the end of the day, meaning that a full three hour shift would have run beyond 10pm, which is the usual latest reasonable time for our fieldworkers to finish work. We therefore:
 - moved half of those shifts selected to begin after 7pm so that they began at around 7pm and therefore covered the period up to 10pm
 - moved the other half so that they covered the same or a similar tram journey, starting at 6am.
- Another enhancement to the approach this wave relates to double trams. Some Metrolink tram services are doubled up with a second carriage during busy times to create extra capacity. In the previous wave this was accounted for by doubling the passenger counts where a double tram was encountered. In Autumn 2014 some shifts involving double trams were assigned two fieldworkers – one for each carriage. This has ensured that the views of passengers on busier services are better represented. Fieldwork was adjusted with the help of the network:
 - Shifts affected by double tram services were identified; there were 22 in total
 - Two thirds of the double tram shifts were assigned two fieldworkers. Only two thirds were so treated to avoid over-clustering the sample, while also gaining the benefit of some double tram shifts
 - To maintain the total number of interviewer shifts, the same number of shifts was then removed at random from the rest of the sample.
- On all networks, a small number of top up shifts were generated towards the end of fieldwork to ensure that targets had a good chance of being met
- Once travelling on the selected tram services, fieldworkers approached all passengers (except those apparently under 16 years of age) as soon as possible after they boarded, to offer them a paper questionnaire or the opportunity to provide an email address to which a link to an online version could be sent; thus all passengers over 16 had the opportunity to be included in the sample. (Interviewing those under 16 requires consent from a responsible adult.)

3.4 Weighting

Data has been weighted to correct for imbalance in response rate by age (and gender where necessary), using information from fieldworkers' observation of all passengers on board at a given point in time. This weighting has been applied for the three time periods (peak, off peak and weekend) for each of the twelve routes surveyed.

3.4.1 Passenger counts

Passenger counts were completed during each interviewer shift to establish a passenger profile with which to weight the data. They were conducted as follows:

- Passenger counts were undertaken twice during the shift to record passenger characteristics (gender and observable age). For Blackpool, Centro, Edinburgh, Nottingham and Sheffield the fieldworker was given times at which to start these counts:
 - After 20 minutes
 - After two hours 40 minutes
- In most cases this ensured one count on an outward journey and one count on an inward journey. For Manchester, due to the high number of shifts, interviewers were given times that ensured one outward and one inward count
- If necessary, these times were varied to ensure the time coincided with the fieldworker being on board the tram
- The data produced by the counts has been used to weight responses to a more representative gender and age profile. The passenger counts were used to compile the weighting matrix used at the data analysis stage (although estimates of passenger numbers were made at peak times where the tram was too busy to undertake a count – see Section 3.4.1 below for more details on this).

Of the total 524 planned passenger counts, 426 were completed. There were 98 passenger counts that were not completed:

- 42 of these were at off peak times and it was assumed the counts on these shifts would have been the same as the average for that route and time of day
- 56 of these were in peak hours when the tram was full and this prevented the fieldworker moving around the tram to effect the count; in these cases we could not assume that the count was the same as the average for the route. In autumn

2013 we investigated an appropriate assumption to use for these missing counts and found that using the crush capacity of the tram in place of missing counts was the best approach. This wave we verified that this was the most accurate approach to use by comparing two different approaches:

- Using the tram’s crush capacity
- Using the maximum number that had been recorded in peak time for that route.

3.4.2 Estimating passenger volumes

We used the two assumptions above to estimate the number of passengers on peak, off peak and weekend services, by multiplying the number of services in the daypart by the average number of passengers as counted by fieldworkers or as indicated by the operator for crush capacity.

(In the case of a double tram, the count would usually have been taken twice due to there being two fieldworkers present. Where the count was taken only once, this was doubled; similarly where the count was not undertaken at peak hours for a double tram, the estimated passenger numbers (either using maximum count, capacity or crush) were doubled.)

We compared these estimates to the average daypart profile used in the Autumn 2013 wave, shown in the following table:

	Peak passengers	Off peak weekday passengers	Weekend passengers
2013 profile	40%	40%	20%
2014 crush estimate	37%	40%	22%
2014 max count estimate	27%	53%	20%

Using the crush capacity to estimate the number of passengers when the tram is full provides a much closer correspondence to that used in the previous wave; using lower estimates of passenger numbers considerably understates the peak percentage.

This comparison led us to use the crush capacity to estimate passenger numbers at peak time. Applying this to each route and comparing passenger numbers to those produced by the Department for Transport (DfT) gives the following comparison:

Estimated numbers of passengers per annum

Network/route	DfT report ¹	Crush	Max count
Blackpool	4,300,000	2,677,846	1,532,583
Centro	4,700,000	3,272,533	2,105,177
Edinburgh	-	4,915,472	2,963,935
Manchester – Altrincham	29,200,000	7,125,337	2,789,359
Manchester – Ashton		1,640,226	1,226,514
Manchester – Bury		9,077,167	2,613,348
Manchester – East Didsbury		4,084,002	1,513,980
Manchester – Eccles/Media City		6,194,750	3,617,962
Manchester – Rochdale		3,739,984	1,446,384
Nottingham	7,900,000	6,821,815	1,483,232
Sheffield – Blue/Purple routes	12,600,000	2,816,060	2,816,060
Sheffield – Yellow route		4,822,673	2,403,341
Manchester total	29,200,000	31,861,464	13,207,547
Sheffield total	12,600,000	7,638,733	5,219,401

Note 1: All data in this column comes from the 2013/2014 DfT report on passenger numbers using tram systems. The DfT does not provide data at line level. The report can be found at <https://www.gov.uk/government/statistics/light-rail-and-tram-statistics-2013-to-2014>

The 2013/2014 DfT report does not provide passenger numbers for Edinburgh Trams because the network only opened in May 2014. Passenger estimates provided directly by Edinburgh Trams verify our approach.

The crush and maximum count passenger estimates for Sheffield Blue/Purple routes are identical because all passenger counts were completed during fieldwork.

For Manchester and Sheffield, each operator was able to supply passenger figures by line. For Manchester Metrolink we used passenger numbers for each line for the period

of December 2013 to November 2014 to derive the proportion of journeys on each line. For Sheffield Supertram we used average weekly patronage over a six month period for the same purpose. These proportions were used to split the DfT passenger estimates between the lines.

The comparison indicates that using the crush capacity figure to estimate passenger numbers when a tram is too crowded to count gives the best comparison with external sources. We have therefore used the crush capacity figure to estimate passenger volumes in peak time in situations where the fieldworker was unable to undertake the count.

3.4.3 Creating rim weights

Where the crush capacity figure was used to estimate the total number of passengers, the split between the three age groups and between males and females was based on the profile for other peak shifts on that route. In this way, an overall age and gender profile was derived for each route for each of the three time segments: weekday peak, weekday off peak and weekend. These profiles were aggregated, using the DfT passenger counts for each route, as defined above. This gives an overall total passenger number, split by age group and gender for each of the time segments for each route. Dividing this by the total passenger estimates across all six networks gives the following rim weights, which were applied to responses in the final dataset:

Table of rim weights used

Network/route	Time of day	16-25	26-59	60+	Male	Female
Blackpool	Peak	0.59%	0.74%	0.41%	0.89%	0.85%
Blackpool	Off peak weekday	0.32%	0.59%	1.28%	1.05%	1.13%
Blackpool	Weekend	0.67%	1.36%	0.80%	1.31%	1.52%
Centro	Peak	0.98%	1.20%	0.32%	1.30%	1.21%
Centro	Off peak weekday	1.26%	1.51%	1.25%	1.98%	2.04%
Centro	Weekend	0.39%	0.29%	0.17%	0.54%	0.31%
Edinburgh	Peak	1.05%	1.58%	0.38%	1.71%	1.30%
Edinburgh	Off peak weekday	0.67%	1.25%	0.46%	1.35%	1.03%
Edinburgh	Weekend	0.82%	1.08%	0.56%	1.29%	1.18%
Manchester – Altrincham	Peak	2.83%	3.67%	0.85%	4.00%	3.34%
Manchester – Altrincham	Off peak weekday	1.76%	2.29%	1.00%	2.73%	2.32%
Manchester – Altrincham	Weekend	0.42%	0.55%	0.31%	0.65%	0.62%
Manchester – Ashton	Peak	0.46%	0.65%	0.15%	0.66%	0.59%
Manchester – Ashton	Off peak weekday	0.34%	0.61%	0.28%	0.57%	0.66%
Manchester – Ashton	Weekend	0.14%	0.29%	0.08%	0.25%	0.26%
Manchester – Bury	Peak	1.77%	2.21%	0.53%	2.44%	2.08%
Manchester – Bury	Off peak weekday	1.24%	1.84%	0.82%	2.14%	1.76%
Manchester – Bury	Weekend	0.78%	1.45%	0.45%	1.41%	1.27%
Manchester – East Didsbury	Peak	1.01%	1.29%	0.29%	1.42%	1.17%
Manchester – East Didsbury	Off peak weekday	0.88%	1.31%	0.51%	1.50%	1.20%
Manchester – East Didsbury	Weekend	0.14%	0.22%	0.09%	0.21%	0.24%
Manchester – Eccles /Media City	Peak	0.98%	1.29%	0.21%	1.36%	1.12%
Manchester – Eccles /Media City	Off peak weekday	0.67%	1.41%	0.46%	1.29%	1.24%
Manchester – Eccles /Media City	Weekend	0.52%	0.91%	0.20%	0.86%	0.78%
Manchester – Rochdale	Peak	0.79%	1.01%	0.23%	1.10%	0.93%
Manchester – Rochdale	Off peak weekday	0.71%	1.08%	0.44%	1.16%	1.07%
Manchester – Rochdale	Weekend	0.45%	0.75%	0.24%	0.74%	0.69%
Nottingham	Peak	1.43%	2.61%	0.82%	2.33%	2.53%
Nottingham	Off peak weekday	0.79%	1.38%	1.03%	1.36%	1.83%
Nottingham	Weekend	0.48%	2.91%	0.96%	1.93%	2.43%
Sheffield – Blue/Purple routes	Peak	1.30%	1.14%	0.08%	0.89%	1.63%
Sheffield – Blue/Purple routes	Off peak weekday	1.89%	1.80%	2.31%	2.90%	3.10%
Sheffield – Blue/Purple routes	Weekend	0.49%	0.56%	0.23%	0.79%	0.49%
Sheffield – Yellow route	Peak	1.09%	1.56%	0.23%	1.36%	1.52%
Sheffield – Yellow route	Off peak weekday	1.49%	1.44%	1.44%	1.94%	2.42%
Sheffield – Yellow route	Weekend	1.06%	1.21%	0.48%	1.70%	1.06%

3.5 Response rates

Both NRPS and BPS have a bias in response, with younger passengers less likely to respond. This is more of an issue with BPS than NRPS and the observational counts were instituted to correct the response bias. In the pilot and first TPS wave, this bias persisted for those given paper questionnaires, but went in the opposite direction for those who provided email addresses. The combined approach enabled the age bias in the self-completion approach to be reduced (and was the reason for using this approach in this TPS wave).

To demonstrate the extent to which demographic bias exists in response for this wave of TPS, below we show the age and gender profile from:

- The responses from all methods of completion
- The weighted data, using the observational counts to generate this
- The ratio between the two (i.e the weight factors used to correct the age/gender profile).

The tables below show this data across all individual sampled routes:

Unweighted sample profile

Network/route	Total	Male	Female	16-25	26-59	60+
Blackpool	502	221	281	84	239	179
Centro	503	221	282	138	266	99
Edinburgh	596	337	259	86	434	76
Manchester – Altrincham	625	265	360	67	390	168
Manchester – Ashton	392	174	218	48	210	134
Manchester – Bury	512	215	297	83	271	158
Manchester – East Didsbury	469	187	282	59	304	106
Manchester – Eccles/Media City	413	177	236	63	243	107
Manchester – Rochdale	413	175	238	73	206	134
Nottingham	272	103	169	63	165	44
Sheffield – Blue/Purple routes	135	47	88	23	52	60
Sheffield – Yellow route	182	56	126	28	108	46
Total	5014	2178	2836	815	2888	1311

**Weighted sample profile
(excluding weighting by network/route)**

Network/route	Total	Male	Female	16-25	26-59	60+
Blackpool	502	242	260	117	201	186
Centro	503	260	243	179	205	118
Edinburgh	596	330	266	192	296	106
Manchester – Altrincham	625	337	287	229	297	98
Manchester – Ashton	392	193	199	123	204	65
Manchester – Bury	512	277	236	174	255	83
Manchester – East Didsbury	469	256	213	166	230	72
Manchester – Eccles/Media City	413	218	195	135	224	55
Manchester – Rochdale	413	217	196	142	206	67
Nottingham	272	123	149	59	151	62
Sheffield – Blue/Purple routes	135	63	72	51	48	36
Sheffield – Yellow route	182	91	91	66	77	39
Total	5014	2561	2452	1636	2360	1019

Weighting factors

Network/route	Total	Male	Female	16-25	26-59	60+
Blackpool	100%	110%	92%	140%	84%	104%
Centro	100%	117%	86%	130%	77%	119%
Edinburgh	100%	98%	103%	223%	68%	139%
Manchester – Altrincham	100%	127%	80%	341%	76%	59%
Manchester – Ashton	100%	111%	91%	256%	97%	49%
Manchester – Bury	100%	129%	79%	210%	94%	52%
Manchester – East Didsbury	100%	137%	76%	282%	76%	68%
Manchester – Eccles/Media City	100%	123%	83%	215%	92%	51%
Manchester – Rochdale	100%	124%	82%	195%	100%	50%
Nottingham	100%	119%	88%	94%	92%	140%
Sheffield – Blue/Purple routes	100%	135%	82%	221%	93%	60%
Sheffield – Yellow route	100%	162%	72%	236%	71%	85%
Total	100%	118%	86%	201%	82%	78%

As can be seen, the unweighted data typically under represents males and those aged 16-25 (as these have weighting factors above 100 per cent in all but one area) and over represents females and those aged 26-59 or 60+, even when adding in the data

from online interviews to that from paper questionnaires. These results mirror those found in the first wave of TPS, although at the total level the age and gender bias is less pronounced in this Autumn 2014 wave.

The profile of respondents by gender and age for each mode of interviewing is as expected, with more males and more younger people completing online relative to paper:

Gender	Online	Paper	Total
Male	56.1%	48.1%	51.1%
Female	43.9%	51.9%	48.9%
Total	100.0%	100.0%	100.0%

Age group	Online	Paper	Total
16-18	10.5%	6.9%	8.3%
19-25	32.5%	19.5%	24.4%
26-34	17.2%	14.6%	15.5%
35-44	13.0%	11.6%	12.1%
45-54	12.6%	14.6%	13.9%
55-59	3.5%	6.7%	5.5%
60-64	3.7%	7.3%	5.9%
65-69	3.7%	8.2%	6.5%
70-79	3.1%	8.4%	6.4%
80+	0.3%	2.2%	1.5%
Total	100.0%	100.0%	100.0%

The following table shows the numbers of questionnaires handed out and the numbers responding for each mode of data collection; it shows that the online response rate is as good as the paper self-completion response rate at the total level. The overall response rate has increased from 25 per cent in 2013 to 27 per cent in 2014. This will likely have been influenced by an improved overall paper response rate (only 23 per cent in 2013) and by the addition of Edinburgh Trams this wave.

Network/route	Handed out			Responded			Response rates		
	Online	Paper	Total	Online	Paper	Total	Online	Paper	Total
Blackpool	585	1073	1658	163	339	502	28%	32%	30%
Centro	581	1280	1861	127	376	503	22%	29%	27%
Edinburgh	174	1002	1176	65	531	596	37%	53%	51%
Manchester – Altrincham	919	1321	2240	267	358	625	29%	27%	28%
Manchester – Ashton	616	1296	1912	144	248	392	23%	19%	21%
Manchester – Bury	714	1642	2356	169	343	512	24%	21%	22%
Manchester – East Didsbury	615	1059	1674	186	283	469	30%	27%	28%
Manchester – Eccles/Media City	492	1052	1544	168	245	413	34%	23%	27%
Manchester – Rochdale	633	1585	2218	137	276	413	22%	17%	19%
Nottingham	456	526	982	118	154	272	26%	29%	28%
Sheffield – Blue/Purple routes	86	239	325	28	107	135	33%	45%	42%
Sheffield – Yellow route	244	400	644	61	121	182	25%	30%	28%
Total	6115	12475	18590	1633	3381	5014	27%	27%	27%

It is therefore clear that offering an online option increases the participation of males and younger people.

This is likely to be a key reason why the weighting factors applied to these groups have improved since the previous TPS wave. In the previous wave, improving the online uptake was identified as something that could:

- Increase response from younger people
- Improve the weighting efficiency
- Improve the overall response rate (as online had a higher response rate in the previous wave compared to paper).

In order to achieve a better online uptake we took the following steps:

- Provided fieldworkers with an even balance of paper questionnaires and email collection forms (in the Autumn 2013 wave the split was 60/40 paper/online). While interviewers were instructed to offer both equally, having a 50/50 split reinforced the importance of offering both options to respondents
- Sped up the process of sending out email invites
- Cut down the introduction of the online questionnaire, due to a high dropout observed in Autumn 2013.

As a result, both the proportion of respondents choosing the online option and the proportion of the total sample completed online have gone up since the previous wave:

- 33 per cent of those who agreed to take part chose to provide their email address (6115 email collection forms out of the total 18590 handed out). This compares to 23 per cent in 2013
- 33 per cent of the final total sample was completed online, compared to 27 per cent in 2013.

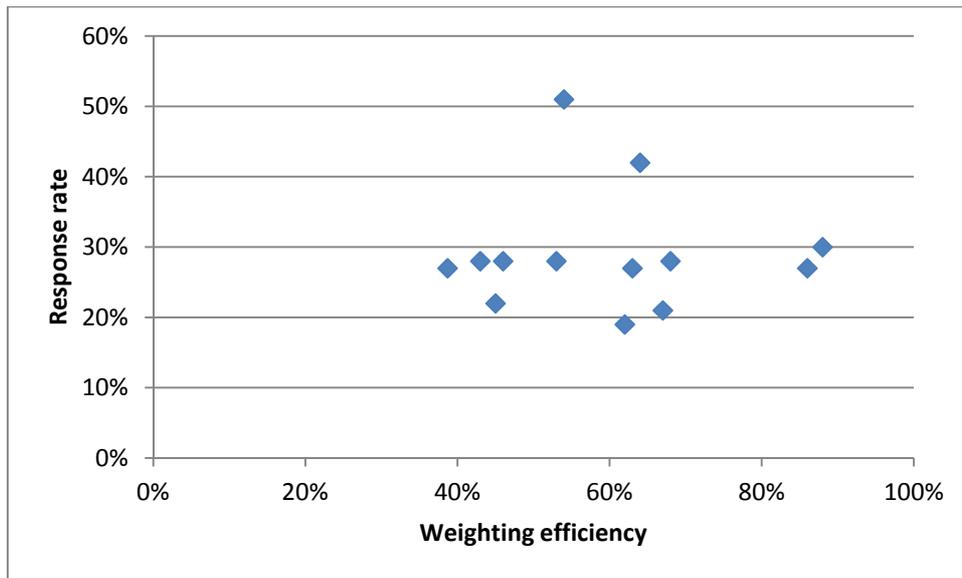
3.6 Weighting efficiency

The table below shows the weighting efficiency and response rates for each route:

Network/route	Sample	Weighting efficiency	Response rate
Blackpool	502	88%	30%
Centro	503	86%	27%
Edinburgh	596	54%	51%
Manchester – Altrincham	625	53%	28%
Manchester – Ashton	392	67%	21%
Manchester – Bury	512	45%	22%
Manchester – East Didsbury	469	43%	28%
Manchester – Eccles/Media City	413	63%	27%
Manchester – Rochdale	413	62%	19%
Nottingham	272	68%	28%
Sheffield – Blue/Purple routes	135	64%	42%
Sheffield – Yellow route	182	46%	28%
Total	5014	62%*	27%

*62 per cent is an average of the weighting efficiencies across all of the networks/routes. Overall, the weighting efficiency is only 39 per cent, but a substantial part of this is due to weighting each network/route to its annual passenger numbers. Ignoring this, the weighting efficiencies due to demographic and time of day weighting for each network range between 43 per cent and 88 per cent, with an average of 62 per cent, as shown in the table.

There is correlation between the weighting efficiency and the response rate:



The weighting efficiency is acceptable, and is similar to the previous wave of TPS despite attempts to improve it. We saw in the previous section that the age and gender bias is less pronounced than in Autumn 2013, which suggests that the time segment weights could be a contributing factor.

The table below shows the weighting factors (calculated in the same way as in the previous section) for each time segment in each network/route:

Weighting factors

Network/route	Peak	Off peak weekday	Weekend	Total
Blackpool	107%	79%	121%	100%
Centro	78%	119%	112%	100%
Edinburgh	88%	70%	247%	100%
Manchester – Altrincham	104%	90%	127%	100%
Manchester – Ashton	97%	105%	98%	100%
Manchester – Bury	83%	85%	252%	100%
Manchester – East Didsbury	76%	146%	91%	100%
Manchester – Eccles/Media City	91%	83%	185%	100%
Manchester – Rochdale	81%	90%	209%	100%
Nottingham	102%	58%	203%	100%
Sheffield – Blue/Purple routes	139%	86%	126%	100%
Sheffield – Yellow route	58%	103%	334%	100%
Total	86%	94%	164%	100%

As can be seen the unweighted data under-represents the weekend for most areas (weighting factors above 100 per cent) and over-represents the peak time for most areas. The opposite was the case in 2013.

In future waves of TPS we suggest trying to further improve the weighting efficiency by:

- Taking into account the weights from both the 2013 and 2014 waves when calculating the passenger value during the sampling stage. This should adjust for the imbalance in the time segment weighting factors seen above, and arrive at an optimal middle ground between the two waves' weights
- Taking further measures to try to increase the uptake of the online option. This should minimise any age and gender bias further.

4. Data differences by mode of completion

Those responding online have a younger age profile than those completing paper self-completion questionnaires as demonstrated in section three above. This is intentional, to help rebalance the age profile of those participating in TPS. Data collected by different methods can, however, generate different responses, and it is important to see if there is any mode effect in TPS.

From analysing the unweighted data tables, comparing online responses with those from the paper self-completion questionnaire, there are some differences which are significant. For example, the table below shows the results for overall journey satisfaction for each mode of completion. There are significant differences between paper and online for those who are 'satisfied' (either very satisfied or fairly satisfied) as well as for those who are 'very satisfied':

Mode	% satisfied	% very satisfied
Online	87%	48%
Paper	92%	58%
Total	91%	55%

However, younger people tend to be less satisfied with their overall journey experience, as shown by the unweighted data below:

Age group	% satisfied	% very satisfied
16-25	87%	40%
26-59	89%	49%
60+	96%	77%
Total	91%	55%

Given that satisfaction varies by age, and that the online sample has a different age profile from the paper self-completion sample, the question arises of whether there is a real mode effect, or whether the apparently lower satisfaction seen in the online sample comes entirely from the younger age profile.

To test this we have looked at the overall satisfaction levels by age for each mode of data collection, as shown in the table below:

Age group	Mode	% satisfied	% very satisfied
16-18	Online	83%	28%
	Paper	89%	39%
	Total	87%	35%
19-25	Online	82%	35%
	Paper	90%	47%
	Total	87%	42%
26-34	Online	82%	38%
	Paper	90%	50%
	Total	87%	45%
35-44	Online	90%	43%
	Paper	90%	47%
	Total	90%	45%
45-54	Online	90%	53%
	Paper	90%	53%
	Total	90%	53%
55-59	Online	85%	54%
	Paper	93%	60%
	Total	91%	58%
60-64	Online	92%	67%
	Paper	95%	68%
	Total	94%	68%
65-69	Online	95%	81%
	Paper	96%	78%
	Total	96%	79%
70-79	Online	99%	83%
	Paper	98%	83%
	Total	98%	83%
80+	Online	100%	75%
	Paper	97%	84%
	Total	98%	84%
Total	Online	87%	48%
	Paper	92%	58%
	Total	91%	55%

As can be seen in the table, within most age groups there is very little variation in satisfaction by mode of interviewing – notable differences only occur for 19-25, 26-34 and 55-59 year olds.

To further explore whether there is a mode effect we have performed a key driver analysis on overall journey satisfaction, using gender, age, route and mode of interviewing as the potential drivers of satisfaction. The results of this analysis show, in the table below, that age, route and gender are significant drivers of overall journey satisfaction, but that mode of interviewing is not statistically significant. Age is by far the most significant driver of overall journey satisfaction.

Source	F
Age group	205.799
Route	21.860
Mode of interviewing	3.075
Gender	30.091

(We have repeated the same analysis for satisfaction with value for money and the same pattern emerged.)

From this analysis we can conclude that:

- Mode of interviewing might have an effect on the percentage of passengers who report that they are satisfied; however this effect is very small
- Other factors have a much greater effect on passenger satisfaction, particularly age
- The multi-modal data collection method remains valid. While mode of interviewing has a minor impact on satisfaction, this is offset by the benefit of reducing age and gender bias.

5. Key driver analysis

The 'Key Driver Analysis' looks at the relationship between overall journey satisfaction and the other 'ratings' measures which are covered in the survey. This gives a useful indication of where improvements to individual service aspects would be most influential in driving satisfaction up further in the future.

For TPS, the analysis uses Multiple Linear Regression and is performed in two stages. First, the drivers of satisfaction are identified. 'Satisfied' passengers are defined as those who are either very or fairly satisfied with their journey. The regression takes into account all five points of the satisfaction scale, and is run using scalar driver variables (sometimes called independent variables) – this means that moving any one point up the five point scale is assumed to have the same impact.

Once the drivers of satisfaction have been determined, the 'non-satisfied' (very dissatisfied, fairly dissatisfied and neither/nor respondents) are removed, and a new regression analysis is run to determine which factors drive people to be very satisfied (rather than either fairly or very satisfied), again using scalar driver variables.

The two parts of the analysis therefore indicate, firstly, which service aspects should be improved in order to provide an adequate overall journey experience (i.e. one which is at least satisfactory) and secondly, which service aspects should be improved in order to provide a genuinely good experience.

Appendix – Typical Questionnaire



Tram Passenger Survey (Centro)

Shift

D	D	M	M	Y	Y
				1	4

Date

Passenger Focus is the official, independent consumer organisation that represents Train, Bus and Tram passengers.

To help us represent the views of passengers in your area we would appreciate a little of your time to complete this questionnaire about your journey on Midland Metro today as part of our national Tram Passenger Survey. Tram companies, local authorities and Government pay close attention to the survey's results and the survey provides the evidence for us to seek improvements on your behalf.

To find out more about our work please visit www.passengerfocus.org.uk. You can also follow us on Twitter @passengerfocus

Please fill in the questionnaire after you have completed your journey with Midland Metro.

Please tick only one box per question, unless that question requests otherwise.

After completing the questionnaire, please return it using the postage paid envelope provided.

1. About your journey on Midland Metro

Q1a. At which stop did you board this tram?

Q1b. At which stop did you leave this tram?

Q2. Please fill in the time that you boarded the tram today:

		Hour			Mins	(Please use 24 hour clock e.g. 5.25pm should be written as 17:25)
--	--	------	--	--	------	-------------------------------------------------------------------

Q3a. What type of ticket or pass did you use for this journey on Midland Metro? (Please tick one box only)

<u>Season Ticket/Midland Metro Card/Student</u>		<u>A free pass or free journey</u>	
1 day.....	<input type="checkbox"/>	Elderly person's pass.....	<input type="checkbox"/>
3 day/weekend.....	<input type="checkbox"/>	Disabled person's pass.....	<input type="checkbox"/>
5 days/1 week.....	<input type="checkbox"/>	Complimentary/free ticket.....	<input type="checkbox"/>
10 days/2 weeks.....	<input type="checkbox"/>		
4 weeks/1 month.....	<input type="checkbox"/>	<u>Other ticket</u>	
Quarterly/3 months.....	<input type="checkbox"/>	Park and Ride.....	<input type="checkbox"/>
1 year.....	<input type="checkbox"/>	Family/Group ticket.....	<input type="checkbox"/>
Other time period (please write in)	<input type="checkbox"/>	Other.....	<input type="checkbox"/>
<u>Single/return ticket</u>			
Single ticket.....	<input type="checkbox"/>		
Return ticket.....	<input type="checkbox"/>		

Q3b. What modes of transport does your ticket allow you to travel on?

Metro only.....	<input type="checkbox"/>	Bus and Metro.....	<input type="checkbox"/>
Train and Metro.....	<input type="checkbox"/>	Train, Bus and Metro.....	<input type="checkbox"/>

1001001

- Q4. In what format was your ticket?**
- A standard paper ticket/pass An m-ticket (sent to your mobile phone) ...
A photo card ticket/pass Other format
A plastic card you touched
on to the fare machine
- Q5. How did you buy that ticket or pass?**
- From Conductor From a local shop or post office
Direct from Network West Midlands
(website/ phone) You had a free pass
Travel shop Direct debit through work/college
Rail/bus company Other
- Q6. What is the main purpose of your journey on Midland Metro today?**
- Travelling to/from work Health visit (Doctor/hospital/ dentist)
Travelling to/from education
(e.g. college, school) Shopping trip
On company business
(or own if self-employed) Visiting friends or relatives
On personal business
(job interview, bank, post office) Leisure trip (e.g. day out)
Other
- Q7. Were you on your outward or return journey when you were given a questionnaire?**
- Outward One way trip only
Return
- Q8. Were you travelling with...? (Please tick all that apply)**
- Children in a buggy or pushchair A carer
Children (under 12) who were walking Lots of bags or luggage
A wheelchair/mobility scooter None of these
- Q9. How did you get to the Midland Metro stop where you boarded this tram today?**
- On foot/walked Bus
Cycled Train
Car - dropped off Tram
Car - and used Park and Ride Other
Car - parked elsewhere
- Q10. Which means of transport did you use when you got off this tram today?**
- On foot/walked Bus
Cycled Train
Car - picked up Tram
Car - and used Park and Ride Other
Car - parked elsewhere
- Q11. What was the main reason you chose to take Midland Metro for this journey?
(Please tick one box only)**
- Cheaper than the car Quicker than other transport
Cheaper than other transport Best way to get where I am going
More convenient than the car
(e.g. parking) Tram more comfortable than
other transport
Didn't have the option of travelling
by another means For the experience of riding the tram
Other (please write in)
- Q12. What was the weather like when you made your journey, was it?**
- Dry Foggy
Light rain Snow
Heavy rain Icy

2. About the tram stop where you boarded this Midland Metro tram

Q13. Thinking about the tram stop itself, how satisfied were you with the following?

	Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied	Don't know/no opinion
Its distance from your journey start e.g. home, shops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The convenience/accessibility of its location.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Its general condition/standard of maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Its freedom from graffiti/vandalism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Its freedom from litter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Behaviour of fellow passengers waiting at the stop .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The information provided at the tram stop.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your personal safety whilst at the tram stop.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q14. Overall, how satisfied were you with the tram stop?

Very satisfied.....	<input type="checkbox"/>	Fairly dissatisfied	<input type="checkbox"/>
Fairly satisfied.....	<input type="checkbox"/>	Very dissatisfied	<input type="checkbox"/>
Neither satisfied nor dissatisfied.....	<input type="checkbox"/>	Don't know/No opinion	<input type="checkbox"/>

3. Waiting for the tram

Q15. Approximately, how long did you wait for your tram?

(Please write in the time in minutes)

Q16a. Did you check any of the following to find out when the tram was meant to arrive?

(Please tick all that apply)

Before leaving for the tram stop	At the tram stop
Leaflet/paper timetable	Electronic display at the stop
Online tram times	Information posters at the stop.....
Live tram locator/timings (e.g. via mobile app/web)	Online tram times
Disruption updates (e.g. on Twitter/Facebook).....	Live tram locator/timings (e.g. via mobile app/web)
Other	Disruption updates (e.g. on Twitter/Facebook).....
	Other

Q16b. If you did not check to find out when the tram was meant to arrive, why was this?

(Please tick all that apply)

Knew the trams ran frequently on this route	Didn't have time
Already knew arrival times.....	Did not know when the tram was meant to arrive
Could not find the information	Other.....

Q17. Approximately how long did you expect to wait for the tram?

(Please write in the time in minutes)

Q18a. Thinking about the time you waited for the tram today, was it...

Much longer than expected	A little less time than you expected
A little longer than you expected	Much less time than you expected.....
About the length of time you expected....	

Q18b. Were you able to board the first tram you wanted to travel on?

Yes.....	<input type="checkbox"/>	No	<input type="checkbox"/>
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Q19. How satisfied were you with each of the following?

	Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied	Don't know/no opinion
The length of time you had to wait for the tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The punctuality of the tram.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. On the tram

Q20. Thinking about when the tram arrived, please indicate how satisfied you were with the following:

	Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied	Don't know/no opinion
Route/destination information on the outside of the tram.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The cleanliness and condition of the outside of the tram.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The ease of getting on to and off of the tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of time it took to board the tram.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q21. Thinking about whilst you were on the tram, please indicate how satisfied you were with the following:

	Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied	Don't know/no opinion
The cleanliness and condition of the inside of the tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The information provided inside the tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient room for all the passengers to sit/stand ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The comfort of the seats.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The amount of personal space you had around you	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provision of grab rails to hold on to when standing/ moving about the tram.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The temperature inside the tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your personal security whilst on the tram.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The amount of time the journey took	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoothness/freedom from jolting during the journey.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q22. Did you get a seat on the tram?

Yes – for all of the journey	<input type="checkbox"/>	No – but you were happy to stand	<input type="checkbox"/>
Yes – for part of the journey.....	<input type="checkbox"/>	No – but you would have liked a seat	<input type="checkbox"/>

Q23a. Did other passengers' behaviour give you cause to worry or make you feel uncomfortable during your journey?

Yes.....	<input type="checkbox"/>	No	<input type="checkbox"/>
----------	--------------------------	----------	--------------------------

Q23b. *If yes: Which of the following were the reason(s) for this? (Please tick all that apply)*

- | | | | |
|---------------------------------------------------------|--------------------------|----------------------------------------|--------------------------|
| Passengers drinking/under the influence of alcohol..... | <input type="checkbox"/> | Passengers not paying their fares..... | <input type="checkbox"/> |
| Passengers taking/under the influence of drugs..... | <input type="checkbox"/> | Feet on seats..... | <input type="checkbox"/> |
| Abusive or threatening behaviour..... | <input type="checkbox"/> | Music being played loudly..... | <input type="checkbox"/> |
| Rowdy behaviour..... | <input type="checkbox"/> | Smoking..... | <input type="checkbox"/> |
| Passengers not moving out of priority seats..... | <input type="checkbox"/> | Graffiti or vandalism..... | <input type="checkbox"/> |
| | | Loud use of mobile phones..... | <input type="checkbox"/> |
| | | Other (please write in) | <input type="text"/> |

Q23c. *If yes: What local area was the tram travelling through or at which stop was it when you were worried or concerned?*

Q24a. *Was your journey with Midland Metro today delayed at all?*

- Yes..... No.....

Q24b. *If yes: Why was this? (Please tick all that apply)*

- | | | | |
|-------------------------------------------|--------------------------|--------------------------------------------------------|--------------------------|
| Due to a signal/ points failure..... | <input type="checkbox"/> | Time it took passengers to board/ pay for tickets..... | <input type="checkbox"/> |
| Road congestion/traffic jam..... | <input type="checkbox"/> | Had to use bus replacement service..... | <input type="checkbox"/> |
| Due to a tram failure..... | <input type="checkbox"/> | Other (please write in) | <input type="text"/> |
| Planned engineering works..... | <input type="checkbox"/> | No reason given..... | <input type="checkbox"/> |
| Poor weather conditions..... | <input type="checkbox"/> | Don't know..... | <input type="checkbox"/> |
| The tram waiting too long at stops..... | <input type="checkbox"/> | | |
| The tram waiting too long at signals..... | <input type="checkbox"/> | | |

Q25. *If yes: By approximately how long was your journey today delayed?*

(Please write in the time in minutes)

Q26. *Were any of these items of information present on the tram?*

- | | Yes | No | Don't know |
|------------------------------------------------------------|--------------------------|--------------------------|--------------------------|
| A map of the tram route/journey times..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Audio announcements e.g. saying the next tram stop..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| An electronic display e.g. showing the next tram stop..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Information about tickets/fares..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A time table..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Details of how to make a complaint, if you had one..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Q27. *Thinking about any Midland Metro staff you encountered on your journey, please indicate how satisfied you were with each of the following:*

- | | Very satisfied | Fairly satisfied | Neither satisfied nor dissatisfied | Fairly dissatisfied | Very dissatisfied | Don't know/no opinion |
|--------------------------------------------------------------------------------------|--------------------------|--------------------------|------------------------------------|--------------------------|--------------------------|--------------------------|
| The appearance of any staff..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Any greeting/welcome you got from the staff..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The helpfulness and attitude of the staff..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The safety of the driving (i.e. appropriateness of speed, driver concentrating)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5. Your overall opinion of the Midland Metro journey you made when given this questionnaire

Q28. Overall, taking everything into account from start to end of this journey, how satisfied were you with your journey on Midland Metro today?

- | | | | |
|------------------------------------------|--------------------------|----------------------------|--------------------------|
| Very satisfied | <input type="checkbox"/> | Fairly dissatisfied..... | <input type="checkbox"/> |
| Fairly satisfied | <input type="checkbox"/> | Very dissatisfied..... | <input type="checkbox"/> |
| Neither satisfied nor dissatisfied | <input type="checkbox"/> | Don't know/No opinion..... | <input type="checkbox"/> |

Q29. If something could have been improved on your journey on Midland Metro today, what would it have been?

Q30. How satisfied were you with the value for money of your journey on Midland Metro?

- | | | | |
|------------------------------------------|--------------------------|----------------------------|--------------------------|
| Very satisfied | <input type="checkbox"/> | Fairly dissatisfied..... | <input type="checkbox"/> |
| Fairly satisfied | <input type="checkbox"/> | Very dissatisfied..... | <input type="checkbox"/> |
| Neither satisfied nor dissatisfied | <input type="checkbox"/> | Don't know/No opinion..... | <input type="checkbox"/> |

Q31. What had the biggest influence on the 'value for money' rating you gave in the previous question?

- | | | | |
|------------------------------------------------------------|--------------------------|----------------------------------------------------------|--------------------------|
| The cost for the distance travelled | <input type="checkbox"/> | Comfort/journey quality for the fare paid..... | <input type="checkbox"/> |
| The cost of the tram versus other modes of transport..... | <input type="checkbox"/> | A reason not mentioned above (please write in box) | <input type="checkbox"/> |
| The fare in comparison to the cost of everyday items | <input type="checkbox"/> | | |

6. Your opinion of trams generally

Q32a. How would you rate Midland Metro services for the following:

- | | Very good | Good | Neither good nor poor | Poor | Very poor | Don't know/no opinion |
|-------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Ease of getting to local amenities (e.g. shops, hospitals, leisure facilities)..... | <input type="checkbox"/> |
| Connection with other forms of public transport (e.g. trains/buses) | <input type="checkbox"/> |

Q32b. And how satisfied are you overall with Midland Metro services for the following:

- | | Very satisfied | Fairly satisfied | Neither satisfied nor dissatisfied | Fairly dissatisfied | Very dissatisfied | Don't know/no opinion |
|-------------------------------------------|--------------------------|--------------------------|------------------------------------|--------------------------|--------------------------|--------------------------|
| Ease of buying your ticket | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Punctuality (running on time) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Frequency (how often the trams run) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Range of tickets available..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Q33. If you needed information about your local tram services, e.g. times, fares, where would you obtain that information? (Please tick all that apply)

- | | | | |
|-----------------------------------------------|--------------------------|---------------------------------|--------------------------|
| Phone: Centro | <input type="checkbox"/> | Ask friend/relative | <input type="checkbox"/> |
| Phone: Traveline | <input type="checkbox"/> | From a Park and Ride kiosk..... | <input type="checkbox"/> |
| Internet: Centro website | <input type="checkbox"/> | Smartphone app..... | <input type="checkbox"/> |
| Internet: The Metro website | <input type="checkbox"/> | Ask tram staff..... | <input type="checkbox"/> |
| Internet: Network West Midlands website | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Internet: Other travel website | <input type="checkbox"/> | Not sure | <input type="checkbox"/> |
| Travel shop | <input type="checkbox"/> | | |

Q34. How often do you typically travel by Midland Metro? (Please tick the closest to your frequency of tram use)

- | | | | |
|-----------------------------|--------------------------|-------------------------------|--------------------------|
| 5 or more days a week | <input type="checkbox"/> | Once a month | <input type="checkbox"/> |
| 3 or 4 days a week..... | <input type="checkbox"/> | Less frequently | <input type="checkbox"/> |
| Once or twice a week..... | <input type="checkbox"/> | This is the first time I have | |
| Once a fortnight..... | <input type="checkbox"/> | used Midland Metro..... | <input type="checkbox"/> |

Q35. If you have used Midland Metro before, how typical would you say today's experience was? Was it...

- | | | | |
|---------------------------------|--------------------------|---------------------------------|--------------------------|
| Much better than usual..... | <input type="checkbox"/> | A little worse than usual | <input type="checkbox"/> |
| A little better than usual..... | <input type="checkbox"/> | Much worse than usual..... | <input type="checkbox"/> |
| About the same as usual | <input type="checkbox"/> | | |

Q36. Have any of the following frequently stopped you making journeys by tram? (Please tick all that apply)

- | | | | |
|----------------------------------------------------|--------------------------|-------------------------------------------------------------|--------------------------|
| The places you can reach
by Midland Metro | <input type="checkbox"/> | How long journeys take
when going by Midland Metro | <input type="checkbox"/> |
| The frequency of trams in the area | <input type="checkbox"/> | The comfort of the trams..... | <input type="checkbox"/> |
| The reliability of the trams..... | <input type="checkbox"/> | The level of crowding on the trams..... | <input type="checkbox"/> |
| The cost of using Midland Metro | <input type="checkbox"/> | A concern for your personal
safety on Midland Metro..... | <input type="checkbox"/> |
| Understanding the fares..... | <input type="checkbox"/> | Tram network improvement works..... | <input type="checkbox"/> |
| Understanding the ticket machines | <input type="checkbox"/> | | |

7. About you

QA. Are you...?

- | | | | |
|------------|--------------------------|-------------|--------------------------|
| Male | <input type="checkbox"/> | Female..... | <input type="checkbox"/> |
|------------|--------------------------|-------------|--------------------------|

QB. In which age group are you?

- | | | | |
|-------------|--------------------------|-------------|--------------------------|
| 16-18 | <input type="checkbox"/> | 55-59 | <input type="checkbox"/> |
| 19-25 | <input type="checkbox"/> | 60-64 | <input type="checkbox"/> |
| 26-34 | <input type="checkbox"/> | 65-69 | <input type="checkbox"/> |
| 35-44 | <input type="checkbox"/> | 70-79 | <input type="checkbox"/> |
| 45-54 | <input type="checkbox"/> | 80+..... | <input type="checkbox"/> |

QC. Are you...?

- | | | | |
|-----------------------------------------|--------------------------|------------------------|--------------------------|
| Working full time (30+ hours)..... | <input type="checkbox"/> | Retired | <input type="checkbox"/> |
| Working part time (under 30 hours)..... | <input type="checkbox"/> | Full time student..... | <input type="checkbox"/> |
| Not working – seeking work..... | <input type="checkbox"/> | Other | <input type="checkbox"/> |

