

Passenger Focus

National Passenger Survey

**DETAILED TECHNICAL
SURVEY OVERVIEW**

**Autumn 2010
(Wave 23)**

Prepared for:

Passenger Focus
2nd Floor, One Drummond Gate
Pimlico
London SW1V 2QY

Prepared by:

bdr c continental
Kingsbourne House
229-231 High Holborn
London WC1V 7DA

Tel: 020 7490 5944

Fax: 020 7490 1174

Agency Contacts

Belinda Bailey
Greg Berry
Dave Chilvers
Rebecca Hunt

NATIONAL PASSENGER SURVEY

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1. Background

Passenger Focus (and before it OPRAF and the Strategic Rail Authority) set up the National Passenger Survey (NPS) in 1999. The aim of the NPS was to provide customer views on rail company performance on a consistent basis, so that comparisons could be made between the various companies. Over time, data from the NPS has been built into the franchising contracts with train companies, making the results an important commercial dimension of running a Train Operating Company (TOC). Given this, the sample design, fieldwork standards and accuracy of assigning journeys to specific TOCs are of the greatest importance. In addition, large enough sample sizes are required for each TOC to ensure that performance changes can be seen in the marketplace.

The first NPS was run in Autumn 1999 and it has been run twice a year since then. The first seven waves were undertaken by The Oxford Research Agency, until the contract was offered at competitive tender in Autumn 2002. In December 2002, Continental Research was appointed to run the survey from Spring 2003 until Spring 2007. In early 2007, Continental Research was reappointed to run the survey until Spring 2010 (subsequently extended to Spring 2011).

The questionnaire is fairly consistent from one wave to another, with some questions included in just Spring or Autumn waves to limit length. Questionnaire comprehension and completeness is tested regularly via qualitative research, the last such check being in 2007. This check produced a number of helpful suggestions regarding layout and style and confirmed that there were no key aspects of station and train performance that were not covered by NPS.

This document outlines the methodology used in the Autumn 2010 survey, the sixteenth undertaken by BDRG Continental and wave 23 in the overall series. The aim of this document is to provide information on all key aspects of methodology, including all area definitions used to generate analyses.

2. Sample design

2.1. Overview

NPS uses a two stage cluster sample design for each Train Operating Company. The first stage sampling unit is a train station and questionnaires are then distributed to passengers using that station on a particular day during a specified time period.

Stations are selected for each TOC using a pps (probability proportionate to size) basis, using the estimated number of passengers as the size measure. A large station may be selected several times. Days of the week and times of day are then assigned to each selected station, using profiles for different types of station. Finally, the sampling points are assigned to weeks at random during the survey period.

A completely new sampling plan is generated every two years, utilising data on passenger volumes provided by ORR. The Autumn 2010 wave was based on a new sampling plan, as described below.

2.2. Detailed sampling plan

The key principles of the sample design are as follows.

- The railway network is divided into basic building blocks. These are the current Train Operating Companies, but with virtually all TOCs now divided into subsets (called building blocks). The rationale for this approach is to enable existing, planned and also previous franchises to be measured by combining data from relevant building blocks – and increasingly to allow TOCs to align NPS results to business units monitored for other, mainly operational and financial metrics. This allows TOCs to compare e.g. actual punctuality measured by PPM with perceived punctuality measured by passengers for each of these individual business

units. Some building blocks are based on groups of stations but most are based on routes

- For the Autumn 2010 wave (wave 23), new building blocks were constructed as follows, in addition to those used in previous waves:
 - East Coast – now divided into four building blocks
 - Yorkshire
 - Scotland-NE
 - Retford plus
 - Other
 - Grand Central
 - The original route to/from Sunderland
 - The new West Yorkshire route to/from Bradford
 - London Overground
 - The new East London line (Dalston-West Croydon)
- There are now 80 building blocks which are the principal sampling units for the survey. The only TOCs which do not have building blocks are c2c (a fairly simple route structure) and most of the non-franchised TOCs covered in the survey (Heathrow Express, Heathrow Connect, First Hull Trains and Wrexham & Shropshire)
- Some of the building blocks are station based, some route based. For the station based blocks, the number of journeys for each station originally calculated for the TOC was assigned to that station in its building block. For route based building blocks, some stations appear in more than one building block. In these situations, passenger volumes were split between building blocks
- Stations were then selected probability proportional to this derived passenger volume figure for each building block. This means that the larger stations will be selected several times and very small stations will have a low probability of selection. When the sampling plan is updated, the small stations selected may therefore vary significantly from the previous plan, whereas the sample of larger stations will tend to be quite consistent
- First Hull Trains was included in the Autumn 2010 wave on a full basis, with a target sample size of 500

- Tyne & Wear Metro was included in the survey on an experimental basis with a target sample size of 250
- The sampling plan is completely updated every 2-3 years, with small modifications made to the existing plan in intervening periods

2.3. Assigning days of week and times of day to selected stations

A day of week is then assigned at random to each shift, in proportion to the day of week profile provided by the TOCs

- All shifts were allocated a three hour duration
- A time of day was then initially assigned, with probability proportional to passenger volumes. The day of week profiles were determined separately for city centre and other stations and separately for weekdays and weekends. The table below shows the time of day distributions that were initially used for this assignment

**Time of day profile of passenger journeys
(derived from Wave 9 NPS data)**

city centres	%	%	%
Time band	Weekday	Weekend	Total
06:00 – 10:00	8.02	0.33	8.35
10:01 – 13:00	19.48	15.88	35.36
13:01 – 16:00	22.01	5.91	27.91
16:01 – 19:00	25.32	0.37	25.69
19:01 – 22:00	2.52	0.16	2.68
Total	77.35	22.65	100.00

other stations			
Time band	Weekday	Weekend	Total
06:00 – 10:00	48.73	0.51	49.24
10:01 – 13:00	27.93	10.78	38.70
13:01 – 16:00	5.98	0.79	6.77
16:01 – 19:00	4.99	0.04	5.03
19:01 – 22:00	0.26	0.00	0.26
Total	87.88	12.12	100.00

In the Roberts-Miller Review of NPS undertaken in 2005/6, it was recommended that the time of day profiles were amended to more equalise the number of outward and return journeys. Ever since NPS started in 1999, this pattern of over representation of outward trips had been observed and initially the profile was around two thirds of reported journeys being outward journeys.

In Wave 9 – the second run by Continental – a number of shifts starting at 7 pm were introduced, as previously all shifts had been completed by that time. This made an impact into rebalancing outward and return journeys, reducing the former by around 4% and boosting return journeys.

	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16
OUTWARD	67	66	68	64	63	63	62	64	64	64	64
RETURN	28	28	29	33	34	34	34	32	33	33	33
ONE WAY TRIP ONLY	4	5	2	3	3	3	3	3	3	3	3
DON'T KNOW/ NO ANSWER	1	1	1	1	1	1	1	1	0	0	1

The consultants recommendation was to move more shifts from morning to evening peak to improve this rebalancing and this was recommended in our 2007 retendering document, with a suggestion to add 100 shifts in the evening period; this would have allowed analysis on the old basis (excluding these 100 shifts) and the new basis (incorporating them at the expense of 100 existing, morning shifts). This suggestion was deemed too expensive and a decision was made to move 100 shifts from the morning peak to the evening peak.

This change was incorporated into the allocation of shifts to time of day for Wave 17, with approximately 100 shifts moved from the original morning peak time generated by the above procedure to an evening peak time. The result has rebalanced outward and return journeys more, as shown by the table below, with outward journeys in Waves 17 onwards now representing 52-54% rather than the 62-64% in earlier waves.

	w12	w13	w14	w15	w16	w17	w18	w19	w20	w21	w22	W23
OUTWARD	62	64	63	64	64	52	53	54	54	54	54	53
RETURN	34	32	33	33	33	44	44	42	41	42	42	43
ONE WAY TRIP ONLY	3	3	3	3	3	3	3	3	4	3	3	3
DON'T KNOW/NO ANSWER	1	1	1	0	1	1	0	1	1	1	1	1

2.4. Sample size

Each TOC has a target sample size. Initially, this was set at 500 for each TOC. However, the sample size for all London and South East TOCs was raised to 1,000, to allow separate analysis of peak and off-peak journeys. The complex route structure for National Express East Anglia, South Eastern, Southern and South West Trains led to the sample sizes for each of these franchises being increased to 1,500.

All long distance services (GNER/East Coast, First Great Western, Midland Mainline, Virgin West Coast, Virgin CrossCountry and TransPennine Express) were increased to 1,000 sample size in 2001.

First ScotRail sample size was increased to 1,000 due to its complexity, whilst Island Line was reduced to 250 and then 100 due to its simplicity. Distribution of questionnaires at stations was found impractical for Island Line, due to the short time between ferry and train arrival/departure times, so questionnaires are handed out on the trains. A similar approach applies for Heathrow Connect, First Hull Trains, Grand Central and Wrexham & Shropshire, where the sample sizes are 500 reflecting a fairly simple operating structure for each.

Sample sizes for Arriva Trains Wales, First TransPennine Express and Northern Rail were set at 750, 1,000 and 1,000 respectively, reflecting the relative complexity of the routes making up these franchises.

Finally, sample sizes for First Great Western, National Express East Anglia, First Capital Connect and South West Trains were set at the sum of the sample sizes of their constituent parts (2750, 2000, 1500 and 1600 respectively) to enable TOC reports for each part of the new franchise to be produced and compared with earlier waves. For example, this was done for original FGW, FGWL, Wessex, Thameslink and WAGN.

2.5. Virtual TOCs

As well as providing data for existing TOCs, NPS also provides data for a number of “virtual” TOCs. For the Autumn 2010 Wave, these “virtual” TOCs were:

- the three constituent parts of Southern – Sussex Coast, Metro services and Gatwick Express (including the extended Gatwick Express service to Brighton)
- The three constituent parts of FGW – Long distance, Thames Valley and West
- A number of original TOCs which are now building blocks including Island Line, WAGN and Thameslink

Data is also produced for the six PTE areas in England and Scotland (Centro, West Yorkshire, South Yorkshire, Greater Manchester, Strathclyde and Nexus). Each PTE area except Nexus has a notional target sample of 500 interviews, although no boosts are undertaken to meet these notional targets. The Nexus area is so small that any journey starting in the Nexus area counts towards the PTE analysis and the target sample size is 250. The definition of which stations fall in each PTE area is at Appendix E. PTE data is unweighted, as there is no reliable universe data which can be set as targets.

2.6. Weighting

Although the sample is designed to generate the right number of responses from each type of station, differential response rates mean this does not exactly happen in practice. Furthermore, although the sample shifts are allocated to days and times to generate the “right” profile of passengers, weighting is employed to ensure that the estimates provide sound estimates that do relate to the TOC as a whole. Finally, the gradual increase in building blocks, often with differential sampling rates, means that weighting is required to correct deliberate sampling imbalances.

An extreme case of this is for SWT, where 1500 interviews are conducted on the mainline part of the franchise and 100 on the Island Line. This 15:1 ratio for sampling is then weighted to reflect a 200:1 ratio when weighting to the respective numbers of journeys, meaning that Island Line questionnaires are substantially downweighted in the results for the overall TOC. Similar considerations apply for other TOCs where building blocks have been used with the consequence that weighted and unweighted sample sizes by building block (and subsequently by station) show increasing divergence.

The questionnaires analysed for each TOC building block are weighted by station size stratum. The data for each TOC is then weighted by:

- weekday/weekend
- journey purpose (Commuter/Business/Leisure)

and grossed up to the estimated number of passenger journeys for that TOC building block. This means that the weighted data for a number of TOCs can be simply aggregated (e.g. to generate data for a virtual TOC or a TOC type).

All the data used in this weighting was updated in Summer 2010. Data from the DeltaRail system was used to estimate journeys starting from each station for each TOC, and was sent out by Passenger Focus for verification, along with the existing weights for journey purpose and day of week. TOCs updated these figures in some cases (for example the introduction of the high speed services for Southeastern resulted in new weightings by building block, day of week and journey purpose); Appendix E gives the resultant data used in the weighting regime for the main survey in Autumn 2010.

2.7. Questionnaire distribution

The key features of the way questionnaires are distributed are:

- Questionnaires are handed out evenly across an interviewing shift, to ensure as wide a spread of passenger types and journeys as possible
- Passengers are given a self completion questionnaire and a reply paid envelope
- The passenger's name and phone number are taken, for back checking purposes
- For the Spring 2003 wave onwards, the time of giving out the questionnaire was noted as well as the customer's gender and observable age
- Passengers were also asked the purpose of their journey, using the same codes as in the questionnaire itself
- On some shifts, only passengers for a selected TOC are given questionnaires. Apart from on these shifts, questionnaires are given to any passengers about to board a train
- Questionnaires are station specific, with the station name and the TOCs calling at the station pre-printed on the questionnaire (except for the questionnaires distributed on train, where the passenger is asked to tick the station where they board the train from a pre printed list)
- From the Spring 2003 wave onwards, all questionnaires have an 11 digit serial number pre-printed. The first four digits are a station code, the next four a shift code and the final three a sequence number
- This serial number is also printed on the bottom of the front page as a barcode, which is scanned when questionnaires arrive back in the office. This allows us to quickly identify the returns from each shift on a dynamic basis and enables us to quickly identify shifts with low or no returns
- From the Spring 2004 wave onwards, the station name is personalised throughout the questionnaire and all questionnaires are scanned rather than having data punched

All distribution of questionnaires occurs between 06:00 and 22:00, during a three hour shift. The number of questionnaires distributed depends upon the station, day of week and time of day and ranges from 75 at a busy city centre station on a weekday to 15 at a small rural station.

Prior to Wave 17, all interviewing shifts had been at one of the times 06:00-09:00, 07:00-10:00, 10:00-13:00, 13:00-16:00, 16:00-19:00 and 19:00-22:00. In Wave 17, again taking on board one of the recommendations in the NPS Review, all three hour time periods from 06:00-09:00 to 19:00-22:00 were used. This gives a better spread of journeys across the day and ensures more later evening journeys from 19:00 onwards (as these can now be picked up in shifts commencing 17:00, 18:00 and 19:00 rather than just those commencing at 19:00 as in previous waves). Some shift times at smaller stations are amended to coincide with train departures e.g. if there are only two or three trains per day.

Most shifts for the non franchised TOCs (Grand Central, Heathrow Connect, Heathrow Express, First Hull Trains and Wrexham & Shropshire) are conducted on train, as this is the only practical way of ensuring a sufficiently large sample of customers. Island Line shifts are also conducted on train, as the passenger numbers at each station are very low. In the Autumn 2010 wave, a few shifts for Heathrow Express were also conducted on train, as an increasing number of questionnaires were being rejected for being inter terminal transits only. Interviewing on train between Heathrow and London Paddington removes the possibility of giving a questionnaire to a passenger making an inter terminal transit.

2.8. Data verification

Many checks are undertaken on NPS data, before a questionnaire is allowed to pass through for analysis. Most of these revolve around checking that the journey claimed by the respondent is feasible.

The questionnaire now asks the respondent to record where they disembarked from the train they boarded when given the questionnaire (Q1b). The respondent is also asked to list any subsequent stations where they changed trains and their final destination (Q2b/c). There is a need to check that the first leg journey as recorded is feasible and also that the destination of this leg is served by the TOC the respondent claimed to use. We also code the origin and destination of the train the respondent uses, in addition to where they boarded and left that train. This is appended to the questionnaire data when the journey details are validated on Rail Planner.

When questionnaires are received back from respondents, these initial checks are carried out using the electronic railway timetable, from Rail Planner. The checks that are made are:

- Does a train leave the origin station at the time stated by the respondent?
- If so, is it a service of the TOC defined by the respondent?
- If so, does it call at the station written in at Q1b?
- If so, is this station different from the origin station?
- If so, accept the data. If not, set aside for further investigation
- Does the train terminate at a Central London station and if so, is this before 10:00 on a weekday? This question is used to define morning peak journeys in the London and South East sector.

The data entry system does not accept any journey that violates any of these tests. Such questionnaires set aside are investigated by the research executive team. From the Autumn 2004 Wave onwards, a question has been added to the questionnaire, to identify if any part of the first leg of the passenger journey was undertaken by replacement bus service, rather than by train.

All such journeys are eliminated from the database, so that all journeys monitored by NPS now include train only journeys, with no part by replacement bus service. However, the bus replacement journey data is stored and can be analysed outside of the main NPS database.

If a stated time is just a minute or two different from a journey which is valid in all other respects (correct TOC, destination called at by train, no other TOC runs a service near this time), then the journey time may be altered and the questionnaire accepted.

Once the questionnaire has been scanned, a set of reports highlighting potential errors and unusual incidences is produced, which act as final checks that journeys are valid. These Reports include identifying any questionnaires where:

- The origin and destination station are not valid for the TOC used
- The origin and destination station are the same
- The origin and destination of the train service itself are not valid for the TOC used

Where building blocks are station based, the journey can be assigned to a TOC building block by reference to the TOC and the station where the passenger boarded.

Where building blocks are route based, the assignment uses rules based upon the station of boarding and alighting and the origin and destination of the train. If all of these stations can only come from one building block, the assignment is made electronically; if the journey could have been assigned to more than one building block, an exception report is prepared as a prelude to manual assignment of the journey to a building block. The assignment of such journeys to building blocks is then made in conjunction with Passenger Focus.

2.9. Response rates

In the main Autumn 2010 survey (Wave 23):

- 108,115 questionnaires were distributed to fieldworkers
- 98,766 questionnaires were handed out to passengers
- 31,138 valid questionnaires were used in the NPS dataset (including both franchised and non franchised TOCs) – a response rate of 32%

Of the questionnaires returned but not used in the main analysis in Wave 23:

- 297 were received after the cut off date
- 1292 had no train time or destination entered on the questionnaire
- 557 had a train time inconsistent with the time of the shift
- 599 had time, date or journey issues meaning the journey could not be validated
- 358 were completely blank
- 18 did not answer the journey purpose question (and so could not be included as this is used as part of the weighting regime)
- 26 were for passengers using London Underground services
- 481 were for TOCs where there were validation problems and where we had already comfortably exceeded the target sample size

Adding the 3,628 questionnaires that were returned but not used increases the response rate of the Autumn 2010 survey to 35%.

These response rates are around 2% higher than the overall response rate that has been achieved in previous waves of NPS and this has reversed the small but steady decline over time previously noted. We believe this is due to a new incentive plan for field workers which rewards the best performers and allocates more shifts to those generating the highest response rates. It is planned to continue to develop this incentive scheme to further improve the cost effectiveness of the fieldwork operation.

3. Derivation of key factors affecting customer satisfaction

Before the first wave of NPS was undertaken in Autumn 1999, TORA undertook some preliminary research. The aim of this research was to identify all the issues that passengers felt important to them as part of their rail journeys, so that all such issues could be monitored in NPS.

This initial research comprised:

- a qualitative element (eight focus groups and seven depth interviews among disabled customers), to generate the list of dimensions passengers viewed as important to them
- a quantitative element (conjoint analysis) to rank these dimensions and identify the most important of them

From this initial research, a list of 25 key factors was derived, and these have been used in all 22 waves of NPS. Two additional measures, relating to personal security at the station and on the train, were added in Autumn 2002, bringing the total number of factors to 27.

One element of the new contract awarded to Continental Research in December 2002 was a requirement to validate the list of dimensions used since Autumn 1999, and see if it was still relevant. There were two aspects to this:

- Are all the factors currently measured important to rail passengers in evaluating their journeys
- Are there any factors missing from the current list

Two approaches were used to answer this:

- Multivariate analysis was undertaken on all data from Waves 1 to 7, to see how much of the variation in overall journey satisfaction was explained by the 25 factors collected in each of those waves. The notion here was that if most of the variation in overall journey satisfaction was explained by these factors, there were unlikely to be any key missing factors. In the event, only around 65% of the total variation in overall journey satisfaction was accounted for, suggesting that other factors might be present
- Further qualitative research was therefore undertaken in May 2003, to try and identify any missing dimensions. Eight focus groups were undertaken, covering leisure, commuter and business travellers and covering both urban, suburban and rural locations. The key conclusion was that for frequent passengers, there were no measures on the following:
 - Presence of staff on the station
 - Presence of staff on the train
 - Cleanliness of the outside of the train
 - Cleanliness of the inside of the train

These factors have been incorporated into the questionnaire – the cleanliness questions from Autumn 2003 and the availability of staff from Spring 2004 (these availability questions were originally only asked of regular travellers on a route but this was changed to all respondents in the Spring 2004 survey).

Overall satisfaction with today's journey is also measured. The full list of 31 factors used is as shown overleaf. Multivariate analysis is now undertaken every wave – nationally, by TOC type and by individual TOC – to determine the relative importance of each factor in influencing overall trip satisfaction. The results from this multivariate analysis are shown at Appendix A.

In addition to these measures, the questionnaire monitors many other aspects of passenger journeys, and is shown at Appendix B. At stations in Wales, a Welsh version is offered to respondents.

Full List of 30 factors measured in NPS and used in the analysis:**12 STATION FACTORS:*****Ticket buying facilities*****Provision of information about train times / platforms**

The upkeep/ repair of the station buildings/ platforms

***Cleanliness of the station**

The facilities and services at the station

The attitudes and helpfulness of the staff

Connections with other forms of public transport

Facilities for car parking

***The overall station environment**

*Your personal security whilst using that station

How request to station staff was handled

Availability of staff at the station

18 TRAIN FACTORS:***The frequency of the trains on that route*****Punctuality / reliability (i.e. the train arriving / departing on time)*****The length of time the journey was scheduled to take (speed)****Connections with other train services*****The value for money for the price of your ticket*****Up keep and repair of the train**

*The provision of information during the journey

The helpfulness and attitude of staff on train

The space for luggage

The toilet facilities**Sufficient room for all the passengers to sit / stand*****The comfort of the seating area**

*The ease of being able to get on and off the train

*Your personal security whilst on board the train

Availability of staff on the train

Cleanliness of the train (not used in the multivariate analysis)

Cleanliness of the inside of the train**Cleanliness of the outside of the train**

*How well train company dealt with delays

All the dimensions are rated by respondents on five point verbal scales, either a satisfaction scale or a good/poor scale. There is a final option for did not use/no opinion. Those marked with an asterisk in the above list are the significant factors identified from the national multivariate analysis in Wave 22/23 combined. Those emboldened were identified as key from the initial conjoint analysis. As can be seen, there is considerable consistency in the key drivers of satisfaction, with punctuality being the most important driver of satisfaction.

From Wave 17 onwards, we have also identified key drivers of dissatisfaction. These are shown in the table below, for Wave 22/23 combined. As can be seen, how a train company dealt with delays is the key driver of dissatisfaction.

	NATIONAL
STATION FACTORS	
TICKET BUYING FACILITIES	0%
PROVISION OF INFORMATION ABOUT TRAIN TIMES/ PLATFORMS	0%
THE ATTITUDES AND HELPFULNESS OF THE STAFF	0%
FACILITIES FOR CAR PARKING	0%
THE AVAILABILITY OF STAFF AT THE STATION	0%
THE OVERALL STATION ENVIRONMENT	1%
YOUR PERSONAL SECURITY WHILST USING THAT STATION	0%
HOW REQUEST WAS HANDLED	2%
TRAIN FACTORS	
THE FREQUENCY OF THE TRAINS ON THAT ROUTE	2%
PUNCTUALITY/ RELIABILITY (I.E. THE TRAIN ARRIVING/ DEPARTING ON TIME)	19%
THE LENGTH OF TIME THE JOURNEY WAS SCHEDULED TO TAKE (SPEED)	6%
CONNECTIONS WITH OTHER TRAIN SERVICES	1%
THE VALUE FOR MONEY FOR THE PRICE OF YOUR TICKET	1%
UP KEEP AND REPAIR OF THE TRAIN	0%
THE PROVISION OF INFORMATION DURING THE JOURNEY	0%
THE HELPFULNESS AND ATTITUDE OF STAFF ON TRAIN	0%
THE SPACE FOR LUGGAGE	0%
SUFFICIENT ROOM FOR ALL THE PASSENGERS TO SIT/STAND	5%
THE COMFORT OF THE SEATING AREA	1%
THE EASE OF BEING ABLE TO GET ON AND OFF THE TRAIN	6%
YOUR PERSONAL SECURITY WHILST ON BOARD THE TRAIN	1%
THE AVAILABILITY OF THE STAFF ON THE TRAIN	0%
THE CLEANLINESS OF THE INSIDE OF THE TRAIN	1%
HOW TRAIN COMPANY DEALT WITH DELAYS	52%

4. Glossary of terms

Certain terms are used throughout the NPS and these are defined here, for convenience.

Central London stations are any of the following:

Blackfriars	Kings Cross	Paddington
Cannon Street	Liverpool Street	St Pancras
Charing Cross	London Bridge	Victoria
City Thameslink	Marylebone	Waterloo
Euston	Moorgate	Waterloo East
Fenchurch Street		

Journey purpose provides a categorisation of passenger journeys. Journeys are defined as Commuter, Business or Leisure, using the codes at Appendix E.

Peak journeys for journeys in London and the South East are defined as weekday journeys for which the train terminates (or passes through for First Capital Connect) at a Central London station before 10:00 or departs from a Central London Station between 16:00 and 19:00

Shift is a period during which a fieldworker distributes questionnaires to rail passengers

TOC is a Train Operating Company

TOC type classifies each TOC into one of three types, currently as follows:

London & South East	Long Distance	Regional
c2c	CrossCountry	Arriva Trains Wales
Chiltern Railways	East Coast	Merseyrail
First Capital Connect	East Midlands Trains	Northern Rail
First Great Western	First TransPennine Express	First ScotRail
London Midland	Virgin	
London Overground		
National Express East Anglia		
Southern		
Southeastern Trains		
South West Trains		

5. Deliverables

A wide range of reports are produced from the NPS data each wave. The key reports are defined below:

Report	Produced for
TOC Reports	Produced for each TOC, virtual TOC and PTE area and sent both electronically and hard copy
TOC tables	Data tables produced for each TOC and sent electronically
TOC demographic Report	A short electronic report which profiles passengers of the TOC
Consultees Report	Electronic and hard copy produced for all TOCs and a range of Consultees
Summary	A report providing trend data for each TOC by wave which is used to generate the Passenger Focus NPS report
BTP	An SPSS file produced for BTP covering the questions on security and the BTP
Best in class	A report which determines the best result for any TOC in each TOC type, which is used to set benchmarks
Multivariate analysis	Key drivers nationally, for each TOC type and each TOC
Field Report	A document detailing the field operation
Overview Report	This report, outlining the key elements of NPS

Other reports include large station reports, personal security at stations, a peak/off peak report and reports for each PTE area and reports for a number of virtual TOCs. The latter are amalgams of routes representing TOCs that used to exist or TOCs that are planned for the future. For the latter, these reports provide a performance history which can be used to benchmark the performance of the new TOC once it starts operations.

All reports are supplied electronically to Passenger Focus at the end of each wave. The TOC Reports and Consultees Report are mainly distributed electronically (but some are distributed in hard copy format to) a distribution list mandated by Passenger Focus.

In addition, access to the raw data itself and to the verbatim comments written in by respondents is available online. Please see the Passenger Focus website or at <http://www.npsreportal.org.uk/> for further details of this online system.

6. KPI's

The new contract from Autumn 2007 onwards suggested monitoring Key Performance Indicators. We have included here performance against the target sample sizes for each train company for the Autumn 2010 wave.

TOC	Target sample size	Achieved sample size
Arriva Trains Wales	750	776
c2c	1000	1084
Chiltern Railways	1000	1230
Crosscountry	1000	1433
East Coast	1000	1723
East Midlands Trains	1000	1108
First Capital Connect	1500	1618
First Great Western	2750	3374
First TransPennine Express	1000	1086
Grand Central*	500	681
Heathrow Connect*	500	526
Heathrow Express*	500	610
First Hull Trains*	500	701
London Midland	1000	1069
London Overground	750	750
Merseyrail	500	526
National Express East Anglia	2000	2073
Northern Rail	1000	1027
Scotrail	1000	1021
Southeastern	1500	1665
Southern	1500	2347
South West Trains	1600	2296
Tyne & Wear*	250	294
Virgin	1000	1350
Wrexham and Shropshire*	500	770
Total	25600	31138

TOCs marked * are non franchised operators included in NPS, but not part of many of the published results.

Target sample sizes were met for all TOCs in Wave 23.

Appendix A

Results of multivariate analysis – drivers of satisfaction

The % of variance shows how much of the variation in overall passenger satisfaction is explained by that factor. Data is analysed for the two waves in a year combined, to provide a larger sample size for this analysis at TOC level.

The analysis uses the % satisfied – overall and with each factor – as the input data. Although this has less variance than the full 1-5 scale, it is the % satisfaction that is the key metric and which forms the basis of TOC targets. It therefore makes more sense to base the key driver analysis on this measure rather than the full 1-5 scale.

Just under half of the variation in overall passenger satisfaction is explained by the rating on punctuality/reliability, making this by far the most important driver of overall satisfaction. Just over half of the variation in overall dissatisfaction is explained by dissatisfaction in how the train company handled any delays, making this by far the most important driver of trip dissatisfaction.

Train factors remain far more important drivers of passenger satisfaction than station factors.

Where a figure is shown as 0%, this means the factor is a significant driver of overall satisfaction but the percentage is below 0.5% (but still above zero).

Where no figure is shown, this means the factor is not a significant driver of overall trip satisfaction.

Drivers of satisfaction – W22/23 combined

	NATIONAL
STATION FACTORS	
TICKET BUYING FACILITIES	0%
PROVISION OF INFORMATION ABOUT TRAIN TIMES/ PLATFORMS	2%
THE UPKEEP/ REPAIR OF THE STATION BUILDINGS/ PLATFORMS	
CLEANLINESS OF THE STATION	0%
THE FACILITIES AND SERVICES AT THE STATION	
THE ATTITUDES AND HELPFULNESS OF THE STAFF	
CONNECTIONS WITH OTHER FORMS OF PUBLIC TRANSPORT E.G. BUS	
FACILITIES FOR CAR PARKING	
THE AVAILABILITY OF STAFF AT THE STATION	
THE OVERALL STATION ENVIRONMENT	4%
YOUR PERSONAL SECURITY WHILST USING THAT STATION	0%
HOW REQUEST WAS HANDLED	
TRAIN FACTORS	
THE FREQUENCY OF THE TRAINS ON THAT ROUTE	6%
PUNCTUALITY/ RELIABILITY (I.E. THE TRAIN ARRIVING/ DEPARTING ON TIME)	44%
THE LENGTH OF TIME THE JOURNEY WAS SCHEDULED TO TAKE (SPEED)	10%
CONNECTIONS WITH OTHER TRAIN SERVICES	
THE VALUE FOR MONEY FOR THE PRICE OF YOUR TICKET	4%
UP KEEP AND REPAIR OF THE TRAIN	0%
THE PROVISION OF INFORMATION DURING THE JOURNEY	1%
THE HELPFULNESS AND ATTITUDE OF STAFF ON TRAIN	
THE SPACE FOR LUGGAGE	
THE TOILET FACILITES	0%
SUFFICIENT ROOM FOR ALL THE PASSENGERS TO SIT/STAND	5%
THE COMFORT OF THE SEATING AREA	4%
THE EASE OF BEING ABLE TO GET ON AND OFF THE TRAIN	6%
YOUR PERSONAL SECURITY WHILST ON BOARD THE TRAIN	1%
THE AVAILABILITY OF THE STAFF ON THE TRAIN	
THE CLEANLINESS OF THE INSIDE OF THE TRAIN	9%
THE CLEANLINESS OF THE OUTSIDE OF THE TRAIN	1%
HOW TRAIN COMPANY DEALT WITH DELAYS	1%

Drivers of dissatisfaction – W22/23 combined

	NATIONAL
STATION FACTORS	
TICKET BUYING FACILITIES	0%
PROVISION OF INFORMATION ABOUT TRAIN TIMES/ PLATFORMS	0%
THE UPKEEP/ REPAIR OF THE STATION BUILDINGS/ PLATFORMS	
CLEANLINESS OF THE STATION	
THE FACILITIES AND SERVICES AT THE STATION	
THE ATTITUDES AND HELPFULNESS OF THE STAFF	0%
CONNECTIONS WITH OTHER FORMS OF PUBLIC TRANSPORT E.G. BU	
FACILITIES FOR CAR PARKING	0%
THE AVAILABILITY OF STAFF AT THE STATION	0%
THE OVERALL STATION ENVIRONMENT	1%
YOUR PERSONAL SECURITY WHILST USING THAT STATION	0%
HOW REQUEST WAS HANDLED	2%
TRAIN FACTORS	
THE FREQUENCY OF THE TRAINS ON THAT ROUTE	2%
PUNCTUALITY/ RELIABILITY (I.E. THE TRAIN ARRIVING/ DEPARTING O	19%
THE LENGTH OF TIME THE JOURNEY WAS SCHEDULED TO TAKE (SPEED)	6%
CONNECTIONS WITH OTHER TRAIN SERVICES	1%
THE VALUE FOR MONEY FOR THE PRICE OF YOUR TICKET	1%
UP KEEP AND REPAIR OF THE TRAIN	0%
THE PROVISION OF INFORMATION DURING THE JOURNEY	0%
THE HELPFULNESS AND ATTITUDE OF STAFF ON TRAIN	0%
THE SPACE FOR LUGGAGE	0%
THE TOILET FACILITES	
SUFFICIENT ROOM FOR ALL THE PASSENGERS TO SIT/STAND	5%
THE COMFORT OF THE SEATING AREA	1%
THE EASE OF BEING ABLE TO GET ON AND OFF THE TRAIN	6%
YOUR PERSONAL SECURITY WHILST ON BOARD THE TRAIN	1%
THE AVAILABILITY OF THE STAFF ON THE TRAIN	0%
THE CLEANLINESS OF THE INSIDE OF THE TRAIN	1%
THE CLEANLINESS OF THE OUTSIDE OF THE TRAIN	
HOW TRAIN COMPANY DEALT WITH DELAYS	52%

Appendix B

Questionnaire (Autumn 2010) – See separate file

Appendix C

Definition of PTE areas

Stations in area: Greater Manchester PTE

ALTRINCHAM	HAG FOLD	ROSE HILL MARPLE	
APPLEY BRIDGE	HALE	RYDER BROW	
ARDWICK	HALL I' TH' WOOD	SALFORD CENTRAL	
ASHBURYS	HATTERSLEY	SALFORD CRESCENT	
ASHTON-UNDER-LYNE	HAZEL GROVE	SHAW AND CROMPTON	
ATHERTON	HEALD GREEN	SMITHY BRIDGE	
BELLE VUE	HEATON CHAPEL	STALYBRIDGE	
BLACKROD	HINDLEY	STOCKPORT	
BOLTON	HOLLINWOOD	STRINES	
BRAMHALL	HORWICH PARKWAY	SWINTON (YORKSHIRE)	
BREDBURY	HUMPHREY PARK	TRAFFORD PARK	
BRINNINGTON	HYDE CENTRAL	URMSTON	
BROADBOTTOM	HYDE NORTH	WALKDEN	
BROMLEY CROSS	INCE (MANCHESTER)	WESTHOUGHTON	
BRYN	IRLAM	WIGAN NORTH WESTERN	
BURNAGE	KEARSLEY	WIGAN WALLGATE	
CASTLETON	LEVENSHULME	WOODLEY	
CHASSEN ROAD	LITTLEBOROUGH	WOODSMOOR	
CHEADLE HULME	MANCHESTER AIRPORT		
CLIFTON	MANCHESTER OXFORD ROAD		
DAISY HILL	MANCHESTER PICCADILLY		
DAVENPORT	MANCHESTER VICTORIA		
DEAN LANE	MARPLE		
DEANSGATE	MAULDETH ROAD		
DENTON	MIDDLEWOOD		
DERKER	MILLS HILL		
DINTING	MILNROW		
DISLEY	MOORSIDE		
EAST DIDSBURY	MOSES GATE		
ECCLES	MOSSLEY (GREATER MANCHESTER)		
FAILSWORTH	MOSTON		
FAIRFIELD	NAVIGATION ROAD		
FARNWORTH	NEW HEY		
FLIXTON	NEW MILLS NEWTOWN		
FLOWERY FIELD	NEWTON FOR HYDE		
GATHURST	OLDHAM MUMPS		
GATLEY	OLDHAM WERNETH		
GLAZEBROOK	ORRELL		
GLOSSOP	PATRICROFT		
GODLEY	PEMBERTON		
GORTON	REDDISH NORTH		
GREENFIELD	REDDISH SOUTH		
GUIDE BRIDGE	ROCHDALE		
HADFIELD	ROMILEY		

Stations in area: Strathclyde PTE

AIRBLES	CLYDEBANK	HAMILTON WEST	NITSHILL
AIRDRIE	COATBRIDGE CENTRAL	HARTWOOD	PAISLEY CANAL
ALEXANDRA PARADE	COATBRIDGE SUNNYSIDE	HAWKHEAD	PAISLEY GILMOUR St
ALEXANDRIA	COATDYKE	HELENSBURGH CENTRAL	PAISLEY ST JAMES
ANDERSTON	CORKERHILL	HIGH STREET GLASGOW	PARTICK
ANNIESLAND	CRAIGENDORAN	HILLFOOT	PATTERTON
ARDROSSAN HARBOUR	CROFTFOOT	HILLINGTON EAST	POLLOKSHAWES EAST
ARDROSSAN SOUTH BEACH	CROOKSTON	HILLINGTON WEST	POLLOKSHAWES WEST
ARDROSSAN TOWN	CROSSHILL	HOLYTOWN	POLLOKSHIELDS EAST
ARGYLE STREET	CROSSMYLOOF	HOW WOOD	POLLOKSHIELDS WEST
ASHFIELD	CROY	HYNDLAND	PORT GLASGOW
AUCHINLECK	CUMBERNAULD	IBM	POSSILPARK & PARKHOUSE
AYR	DALMARNOCK	INVERKIP	PRESTWICK AIRPORT
BAILLIESTON	DALMUIR	IRVINE	PRESTWICK TOWN
BALLOCH	DALREOCH	JOHNSTONE	PRIESTHILL AND DARNLEY
BARASSIE	DALRY	JORDANHILL	QUEENS PARK (GLASGOW)
BARGEDDIE	DRUMCHAPEL	KENNISHEAD	RENTON
BARRHEAD	DRUMFROCHAR	KILMARNOCK	RUTHERGLEN
BARRHILL	DRUMGELLOCH	KILMAURS	SALTCOATS
BEARSDEN	DRUMRY	KILPATRICK	SCOTSTOUNHILL
BELLGROVE	DUKE STREET	KILWINNING	SHAWLANDS
BELLSHILL	DUMBARTON CENTRAL	KINGS PARK	SHETTLESTON
BISHOPBRIGGS	DUMBARTON EAST	KIRKHILL	SHIELDMUIR
BISHOPTON	DUMBRECK	KIRKWOOD	SHOTTS
BLAIRHILL	DUNLOP	LANARK	SINGER
BLANTYRE	EAST KILBRIDE	LANGBANK	SPRINGBURN
BOGSTON	EASTERHOUSE	LANGSIDE	STEPS
BOWLING	EXHIBITION CENTRE GLASGOW	LARGS	STEVENSTON
BRANCHTON	FAIRLIE	LENZIE	STEWARTON
BRIDGETON	FORT MATILDA	LOCHWINNOCH	SUMMERSTON
BURNSIDE	GARROWHILL	MARYHILL	THORNLIEBANK
BUSBY	GARSCADDEN	MAXWELL PARK	THORNTONHALL
CAMBUSLANG	GIFFNOCK	MAYBOLE	TROON
CARDONALD	GILSHOCHILL	MILLIKEN PARK	UDDINGSTON
CARDROSS	GIRVAN	MILNGAVIE	WEMYSS BAY
CARFIN	GLASGOW CENTRAL	MOSSPARK	WEST KILBRIDE
CARLUKE	GLASGOW QUEEN STREET	MOTHERWELL	WESTERTON
CARMYLE	GLENGARNOCK	MOUNT FLORIDA	WHIFFLET
CARNTYNE	GOUROCK	MOUNT VERNON	WHINHILL
CARTSDYKE	GREENFAULDS	MUIREND	WHITECRAIGS
CATHCART	GREENOCK CENTRAL	NEILSTON	WILLIAMWOOD
CHARING CROSS (GLASGOW)	GREENOCK WEST	NEW CUMNOCK	WISHAW
CLARKSTON	HAIRMYRES	NEWTON (LANARKSHIRE)	WOODHALL
CLELAND	HAMILTON CENTRAL	NEWTON-ON-AYR	YOKER

Stations in area: South Yorkshire PTE

ADWICK			
ALTHORPE			
BARNSELY			
BENTLEY (YORKSHIRE)			
BOLTON-ON-DEARNE			
CHAPELTOWN			
CONISBROUGH			
CROWLE			
DARNALL			
DARTON			
DODWORTH			
DONCASTER			
DORE			
ELSECAR			
HATFIELD AND STAINFORTH			
KIRK SANDALL			
KIVETON BRIDGE			
KIVETON PARK			
MEADOWHALL			
MEXBOROUGH			
PENISTONE			
ROTHERHAM CENTRAL			
SCUNTHORPE			
SHEFFIELD			
SILKSTONE COMMON			
SWINTON (YORKSHIRE)			
THORNE NORTH			
THORNE SOUTH			
THURNSCOE			
WOMBWELL			
WOODHOUSE			

Stations in area: West Yorkshire PTE

BAILDON	OUTWOOD		
BATLEY	PONTEFRACT BAGHILL		
BEN RHYDDING	PONTEFRACT MONKHILL		
BERRY BROW	PONTEFRACT TANSHELF		
BINGLEY	RAVENSTHORPE		
BRADFORD FORSTER SQUARE	SALTAIRE		
BRADFORD INTERCHANGE	SANDAL AND AGBRIGG		
BRAMLEY (YORKSHIRE)	SHEPLEY		
BROCKHOLES	SHIPLEY		
BURLEY PARK	SLAITHWAITE		
BURLEY-IN-WHARFEDALE	SOUTH ELMSALL		
CASTLEFORD	SOWERBY BRIDGE		
COTTINGLEY	STEETON AND SILSDEN		
CROSS GATES	STOCKSMOOR		
CROSSFLATTS	STREETHOUSE		
DEIGHTON	TODMORDEN		
DENBY DALE	WAKEFIELD KIRKGATE		
DEWSBURY	WAKEFIELD WESTGATE		
EAST GARFORTH	WALSDEN		
FEATHERSTONE	WOODLESFORD		
FITZWILLIAM			
FRIZINGHALL			
GARFORTH			
GUISELEY			
HALIFAX			
HEADINGLEY			
HEBDEN BRIDGE			
HONLEY			
HORSFORTH			
HUDDERSFIELD			
ILKLEY			
KEIGHLEY			
KNOTTINGLEY			
LEEDS			
LOCKWOOD			
MARSDEN			
MENSTON			
MICKLEFIELD			
MIRFIELD			
MOORTHORPE			
MORLEY			
MYTHOLMROYD			
NEW PUDSEY			
NORMANTON			

Stations in area: West Midlands PTE

ACOCKS GREEN	MARSTON GREEN		
ADDERLEY PARK	NORTHFIELD		
ASTON	OLD HILL		
BERKSWELL	OLTON		
BESCOT STADIUM	PERRY BARR		
BIRMINGHAM INTERNATIONAL	ROWLEY REGIS		
BIRMINGHAM MOOR STREET	SANDWELL AND DUDLEY		
BIRMINGHAM NEW STREET	SELLY OAK		
BIRMINGHAM SNOW HILL	SHIRLEY		
BLAKE STREET	SMALL HEATH		
BLOXWICH	SMETHWICK GALTON BRIDGE		
BLOXWICH NORTH	SMETHWICK ROLFE STREET		
BORDESLEY	SOLIHULL		
BOURNVILLE	SPRING ROAD		
BUTLERS LANE	STECHFORD		
CANLEY	STOURBRIDGE JUNCTION		
CANNOCK	STOURBRIDGE TOWN		
CHESTER ROAD	SUTTON COLDFIELD		
COSELEY	TAME BRIDGE PARKWAY		
COVENTRY	THE HAWTHORNS		
CRADLEY HEATH	TILE HILL		
DORRIDGE	TIPTON		
DUDDESTON	TYSELEY		
DUDLEY PORT	UNIVERSITY (BIRMINGHAM)		
EARLSWOOD (WEST MIDLANDS)	WALSALL		
ERDINGTON	WHITLOCKS END		
FIVE WAYS	WIDNEY MANOR		
FOUR OAKS	WITTON		
GRAVELLY HILL	WOLVERHAMPTON		
HALL GREEN	WYLDE GREEN		
HAMPTON-IN-ARDEN	WYTHALL		
HAMSTEAD (BIRMINGHAM)	YARDLEY WOOD		
HEDNESFORD			
JEWELLERY QUARTER			
KINGS NORTON			
LANDYWOOD			
LANGLEY GREEN			
LEA HALL			
LONGBRIDGE			
LYE			

Appendix D

Weighting regime: main survey – Wave 23

TOC	Total journeys	COMMUTE	BUSINESS	LEISURE	WEEKDAY	WEEKEND
Arriva Trains Wales	26,419,732	28%	8%	64%	81%	19%
c2c	32,175,381	66%	4%	30%	93%	7%
Chiltern Railways	17,768,185	35%	21%	44%	80%	20%
CrossCountry	29,700,417	15%	28%	57%	78%	22%
East Midlands Trains	22,316,655	23%	28%	49%	82%	18%
First Capital Connect	97,671,860	45%	26%	29%	86%	14%
First Great Western	83,870,434	30%	20%	50%	77%	23%
First ScotRail	73,238,340	39%	13%	47%	80%	20%
First TransPennine Express	22,294,549	24%	14%	62%	78%	22%
London Midland	52,930,162	45%	14%	41%	85%	15%
London Overground	55,745,618	64%	3%	33%	83%	17%
Merseyrail	40,081,911	37%	8%	55%	80%	20%
National Express East Anglia	106,689,221	60%	17%	23%	89%	11%
East Coast	17,732,582	13%	27%	60%	79%	21%
Northern Rail	94,517,769	38%	9%	53%	76%	24%
South West Trains	190,064,794	53%	15%	32%	85%	15%
Southeastern	153,263,554	61%	12%	27%	90%	10%
Southern	162,014,190	50%	16%	34%	90%	10%
Virgin Trains	23,171,843	9%	31%	60%	85%	16%
Heathrow Express	6,299,299	2%	68%	30%	79%	21%
Heathrow Connect	2,800,000	6%	25%	69%	71%	29%
Grand Central	521,762	5%	28%	67%	71%	29%
Wrexham and Shropshire	670,328	5%	18%	77%	72%	28%
First Hull Trains	678,600	10%	45%	45%	70%	30%

Appendix E

Journey Purpose Definition

Detailed description	Journey Purpose
Daily commuting to/from work/college/school	Commuter
Less regular commuting to/from work/college/school.....	
On company business (or own if self employed).....	Business
On personal business (job interview, dentist etc).....	Leisure
Visiting friends or relatives	
Shopping trip	
Travel to/from holiday	
A day out	
Sport	
Other leisure	