

# National Rail Passenger Survey Data Analysis

*On the Move – Supporting Paper 3*

Fiona Preston and Peter Jones  
December 2012



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## This Study

The main findings of the study are reported in *On the Move: Making sense of car and train travel trends in Britain*. A series of technical reports describe aspects of the work in more detail, and are available on the sponsors' websites:

- A supporting technical compendium containing figures and tables that were prepared but have not been included in this summary report
- 'Rail Demand Forecasting Using the Passenger Demand Forecasting Handbook'
- 'National Rail Passenger Survey Data Analysis'
- A report on trends in Scotland, using both NTS data and data from the Scottish Household Travel Survey

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# 1. Introduction

The National Rail Passenger Survey (NRPS) aims to provide a network-wide picture of customer satisfaction with rail travel (Passenger Focus, 2012a). The survey has been conducted twice a year (in spring and autumn) since 1999 on behalf of Passenger Focus, an independent consumer organisation representing the interests of rail passengers.

The survey aims to capture a representative sample of passenger journeys taken throughout the UK, based on a quota-based sample of

the different train operating companies, regions, days of the week and times of day. Forms are distributed on trains and at stations to meet these quotas.



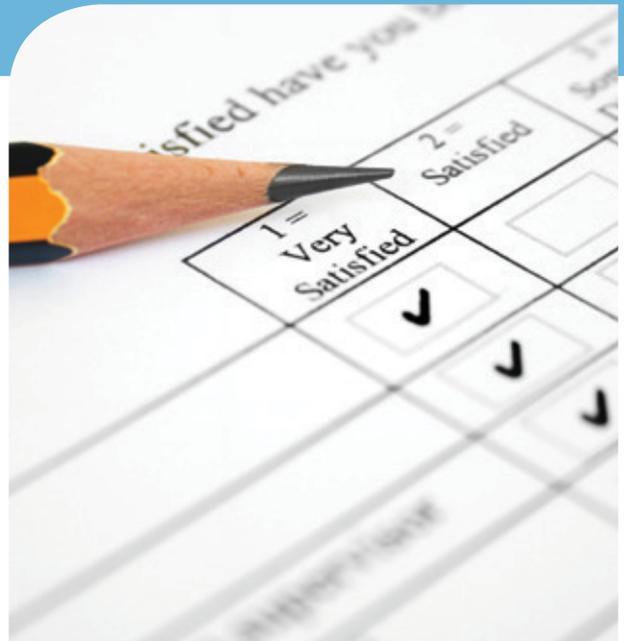
The survey includes questions about passenger characteristics, various aspects of the rail journey, and satisfaction with journey reliability and comfort. Each six monthly survey interviews over 50,000 passengers and receives at least 27,000 completed returned questionnaires. In spring 2012 there was a response rate of 33%. The NRPS data for all waves since 1999 has been analysed in this report.

The NRPS data has been weighted to take into account differences between the sample sizes and response rates of passengers using different train operating companies; the returns are weighted by the size of the station where the survey was handed out, then by weekday/weekend and finally by journey purpose (Passenger Focus, 2012b). This gives a weighting for each respondent, with weightings varying for each wave.



## 2. Customer Service Satisfaction

The NRPS asks respondents to rate their satisfaction on a five-point scale – ‘very satisfied’, ‘fairly satisfied’, ‘neither satisfied nor dissatisfied’, ‘fairly dissatisfied’ and ‘very dissatisfied’. In this analysis the ‘very satisfied’ and ‘fairly satisfied’ responses have been combined to produce a ‘satisfied’ percentage; and ‘fairly dissatisfied’ and ‘very dissatisfied’ combined to produce a ‘dissatisfied’ percentage. In this report, the percentage of respondents who were ‘satisfied’ is displayed as a category in its own right.



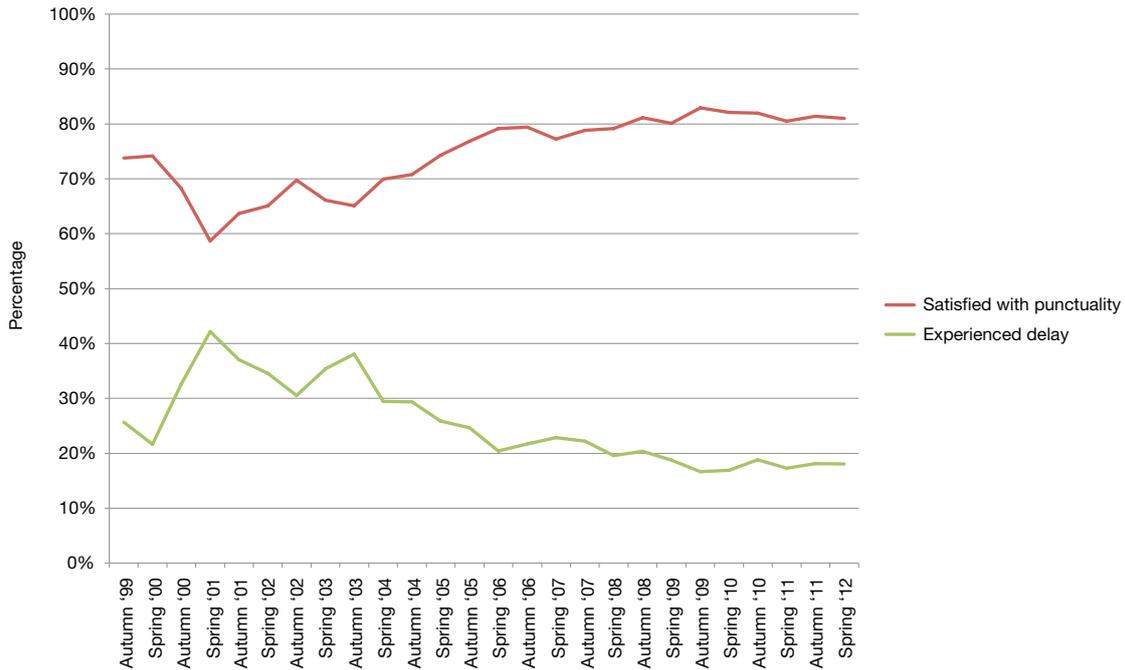
Note that the Selby rail accident in 2001 and the Hatfield rail accident in autumn 2000 have had a significant effect on many of the graphs shown here.

### 2.1 Punctuality and delays

Overall there has been an increase in the percentage of respondents satisfied with the punctuality of their trains, and a decrease in customers experiencing delays, since the start of the survey in 1999 (Figure 1). The two percentages are generally inversely related. As can be seen, there was a sharp increase in delays and associated decrease in customer satisfaction in 2001, and again to a lesser extent in 2003; since then, however, delays have decreased and satisfaction has broadly improved.



**Figure 1: Percentage of respondents satisfied with punctuality of the trains on the journey, and percentage of respondents who experienced a delay on their journey**

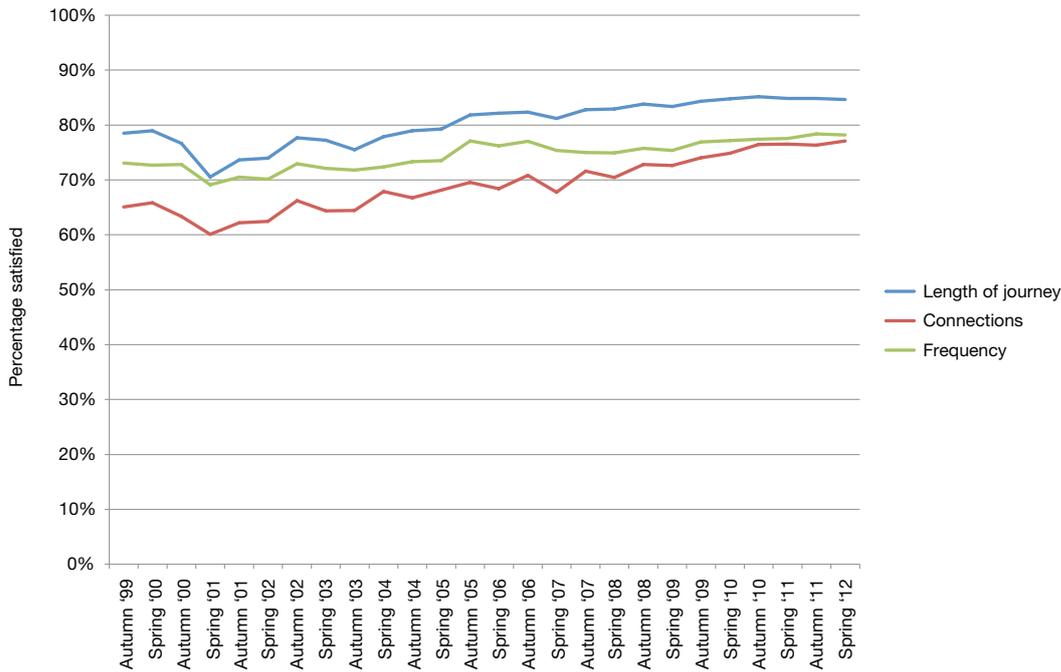


## 2.2 Service patterns

There has been a general increase in the percentage of customers who are satisfied with the frequency of services, length of the journey and convenience of connections (Figure 2). There was a decrease in respondents satisfied with length and connections in 2001, and it took until 2003 to reach the satisfaction achieved in 2000, but since then satisfaction has improved, with only occasional drops in satisfaction set against a rising trend.



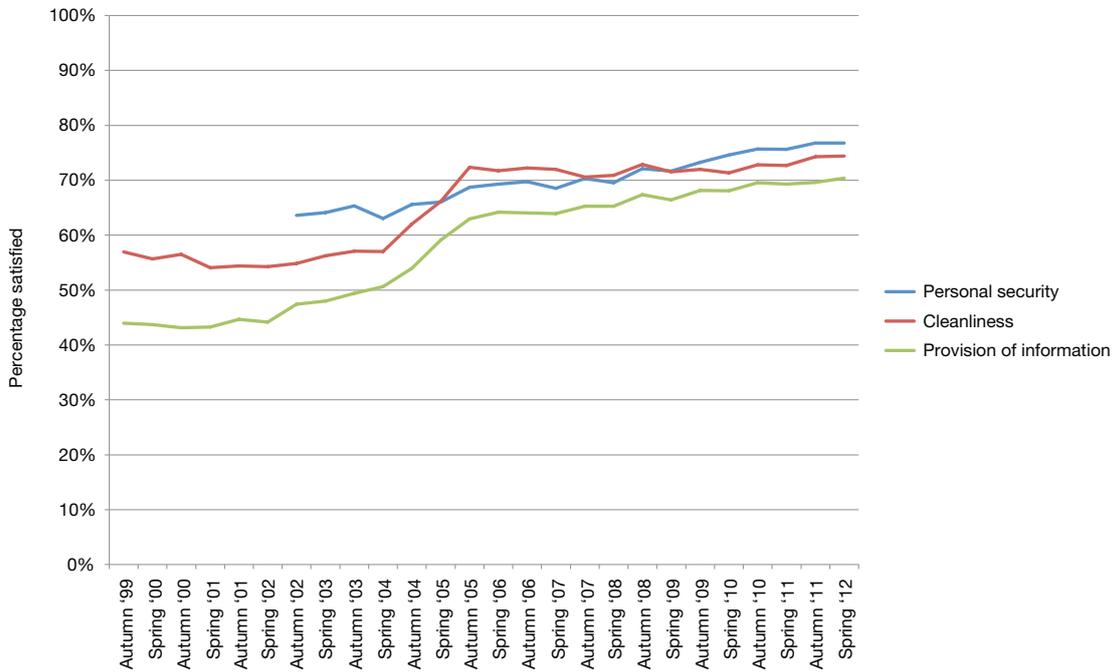
**Figure 2: Percentage of respondents who were satisfied with the frequency of trains, convenience of connections and length of the journey**



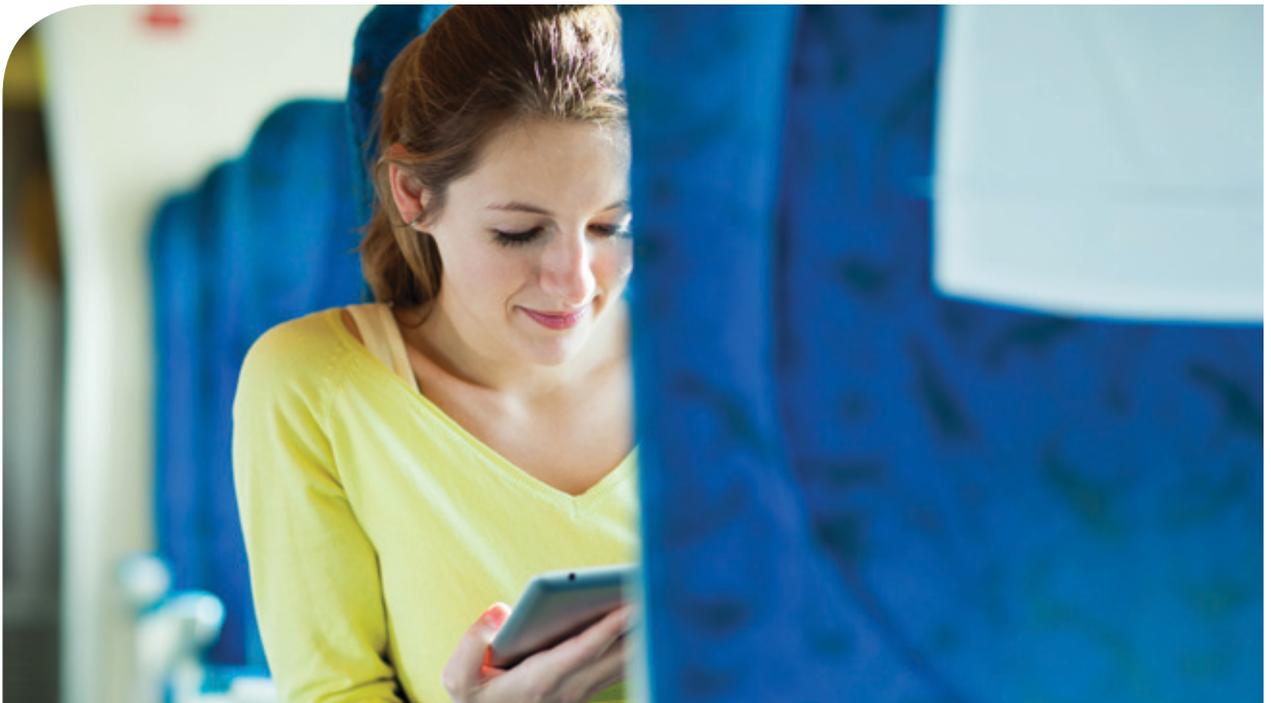
### 2.3 Comfort factors

There have been large improvements in respondents' satisfaction with the cleanliness and provision of information on trains since the start of the survey in 1999 (Figure 3). There was a rapid increase from approximately 57% and 44% of respondents being satisfied with cleanliness and provision of information respectively in 2001/2, to 72% and 63% respectively by 2005; this has further increased to approximately 75% and 70% respectively in the latest survey. A further question asking respondents whether they are satisfied with their personal security whilst making their journey was introduced in 2002, and the percentage of customers satisfied with this aspect of travel has increased over the last ten years, from around 65% to 78%.

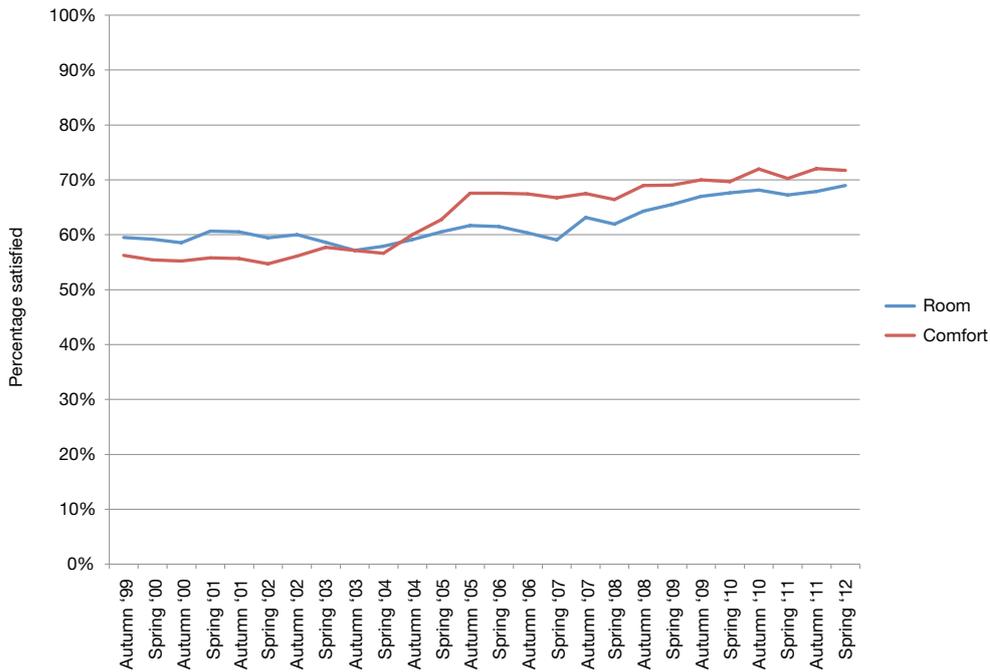
**Figure 3: Percentage of respondents satisfied with conditions on the train – satisfied with their personal security whilst on the train, the cleanliness of the train, and the provision of information**



Customer satisfaction with room on the train and level of comfort aboard the train has also improved over time (Figure 4), from just under 60% to around 70%.



**Figure 4: Percentage of respondents who are satisfied with conditions on the train – room and comfort**



## 2.4 Mobile communications

In autumn 2011, questions were asked for the first time about passengers' use of and satisfaction with mobile phones and Internet connections. Table 1 shows the picture overall: 71.3% of passengers reported making a call and 52.5% using the Internet (mobile data). In both cases satisfaction with reception was in the 50%–60% range.

**Table 1: Percentage of respondents who made phone calls and used the Internet during the journey, and their satisfaction with mobile phone signal and Internet reception**

Year	Phone calls		Internet	
	Did make calls during the journey	Satisfied with phone reception	Did use Internet during the journey	Satisfied with Internet reception
Autumn 2011	71.3	56.5	52.5	52.9

Figure 5 shows the percentage of different age groups who made phone calls and used data, and the percentages satisfied with reception. (Note that since 2006 the 65+ category has been split into age ranges 65–69, 70–80 and 81+.)

Interestingly, while the percentage of respondents making telephone calls and using data decreases with age, levels of reported satisfaction increase.

**Figure 5: Percentage of respondents who made phone calls and used data services, and levels of satisfaction with provision, by age**

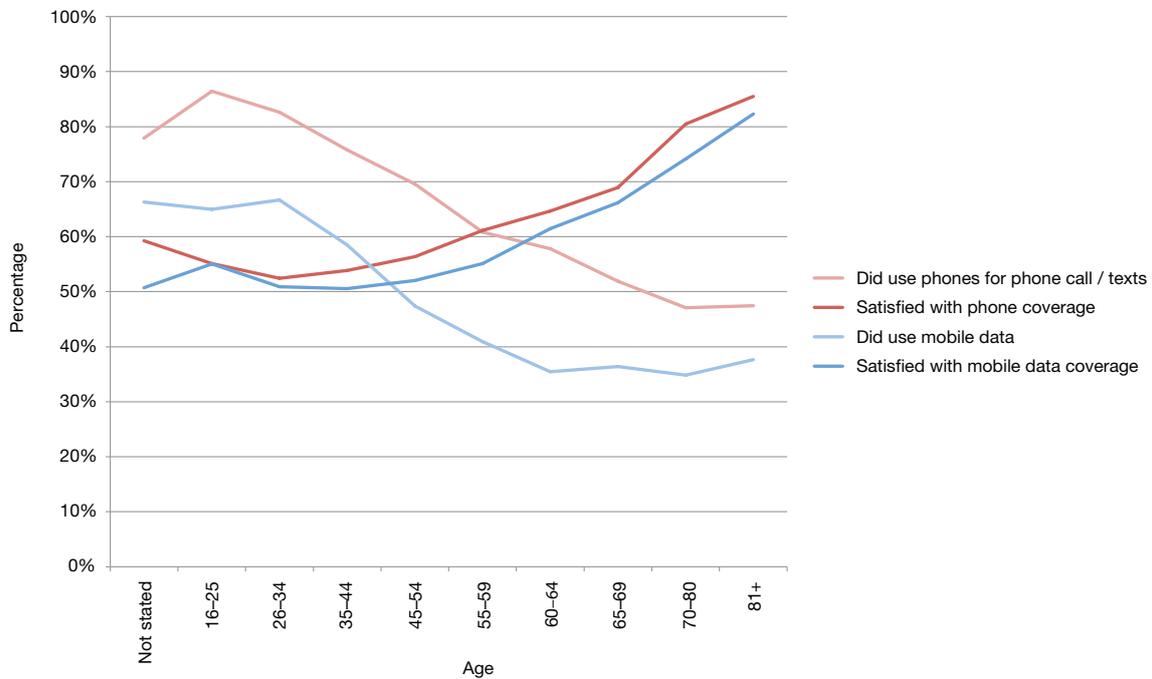


Table 2 looks at usage and satisfaction by journey purpose. The percentages of commuters and business travellers who made phone calls (77.4% and 74.2% respectively) and used data services (58.7% and 56.0% respectively) are similar, and approximately 12% to 15% higher than the corresponding percentages for leisure travellers. The percentages of passengers satisfied with phone reception and with data services were virtually the same for commuters and business travellers (at around 50%), while leisure travellers were approximately 15% more satisfied.

**Table 2: Percentage of customers who made phone calls and were satisfied, and who used data and were satisfied**

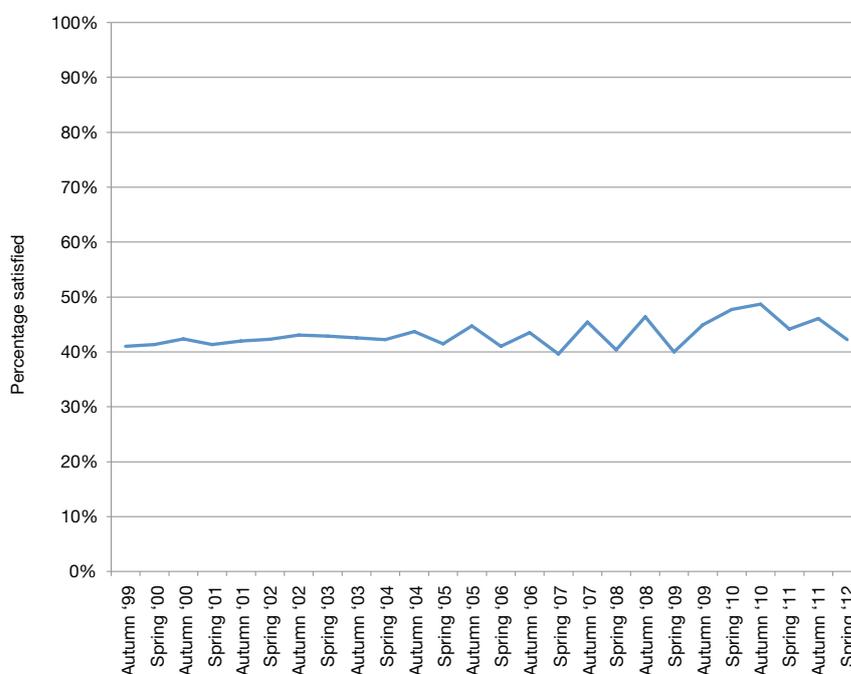
Journey purpose	Percentage of journey purpose category passengers			
	Did use phones calls / texts	Satisfied with phone reception	Did use mobile data	Satisfied with mobile data coverage
Commuting	77.4%	51.9%	58.7%	49.5%
Business	74.2%	51.4%	56.0%	49.3%
Leisure	62.8%	68.2%	43.7%	63.0%

### 3. Customer Satisfaction with Price

Satisfaction with the price of the journey has changed little since the survey began in 1999 (Figure 6). It has fluctuated more over the last eight years, but in spring 2012 remains at a similar level (with approximately 42% of customers satisfied) as in the first study in autumn 1999.

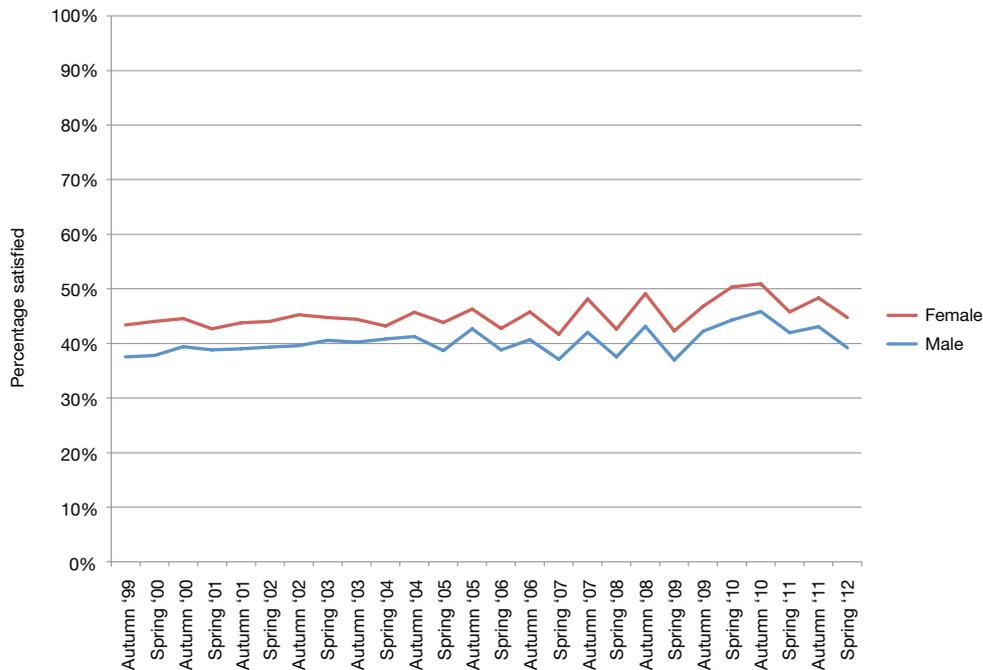


**Figure 6: Percentage of respondents satisfied with the price of their journey**



Both male and female respondents have shown broadly unchanged patterns of satisfaction since 1999, with female respondents being on average 6% more satisfied than male respondents throughout the study period (Figure 7).

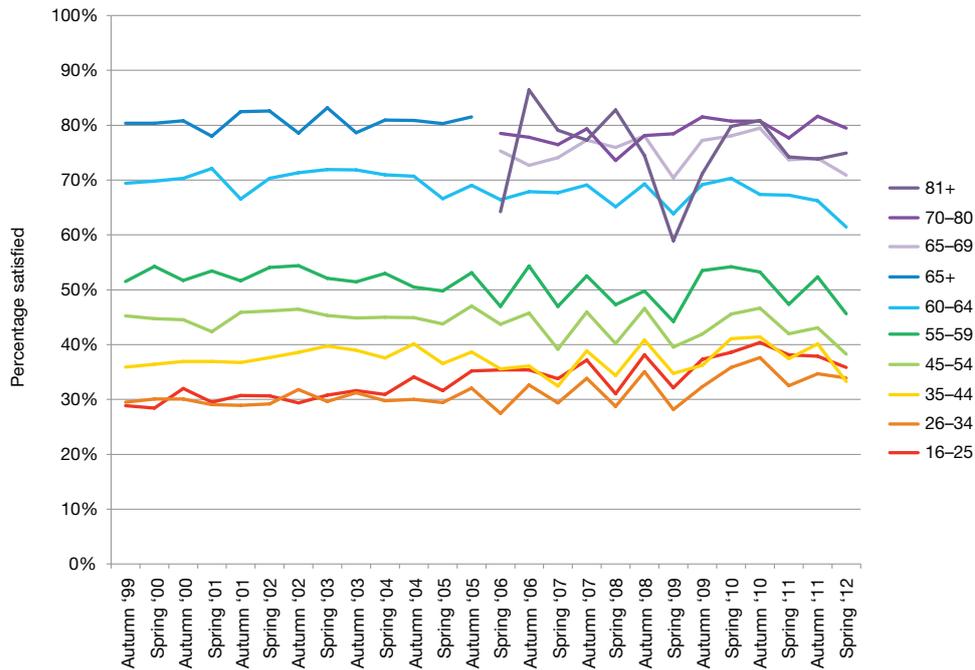
**Figure 7: Percentage of each gender satisfied with price of the journey**



Conversely, satisfaction with price has varied sharply and systematically across the different age groups since the start of the survey in 1999 (Figure 8), at which time only 28% of 16–25-year-olds were satisfied, and levels for other age groups varied up to 81% for the 65+ age group. Since then there has been a slight upward trend in satisfaction with price among younger travellers, and a slight drop among older travellers.

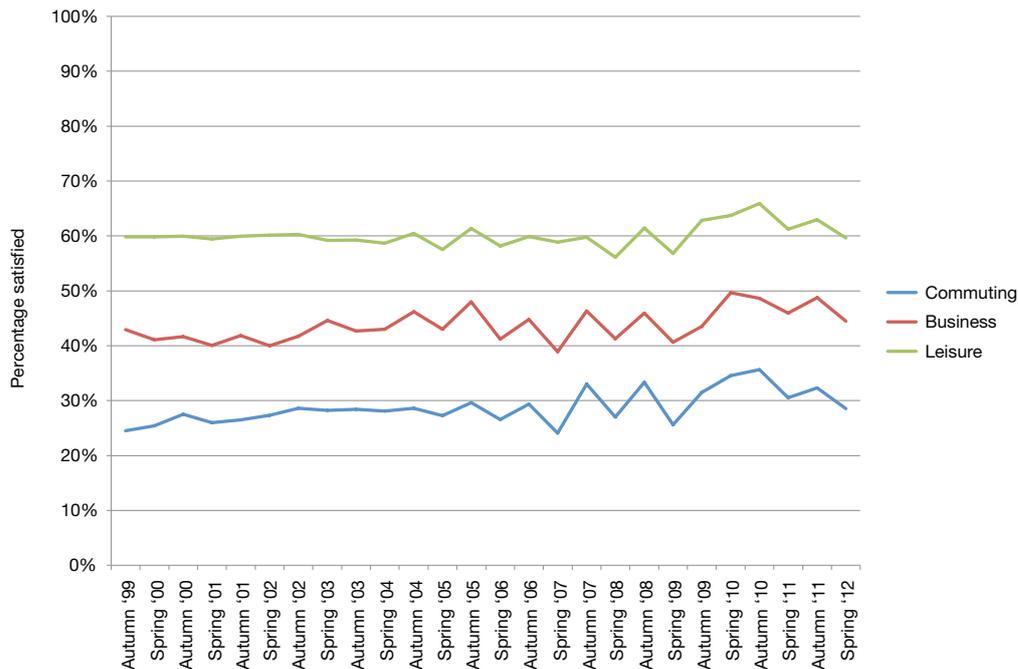


**Figure 8: Percentage of each age group of respondents satisfied with price of their journey<sup>1</sup>**



There are marked differences in satisfaction with price of travel depending on journey purpose (Figure 9). Leisure travellers are 16% more satisfied with price than business travellers, who in turn are 15% more satisfied than commuter travellers; this differential is broadly maintained throughout the study period.

**Figure 9: Percentage of respondents travelling for different purposes satisfied with the price of their journey**



<sup>1</sup> The 65+ category was split into 65-69, 70-80, 81+ from 2006.

Satisfaction with price also varies by day of week (Figure 10) – probably linked to the differing mix of trip purposes. Saturday travellers are around 20% more satisfied than those travelling on Monday to Friday, with Sunday values lying in between the two. Again, there are no strong trends over time.

**Figure 10: Percentage of respondents travelling on each day satisfied with price**

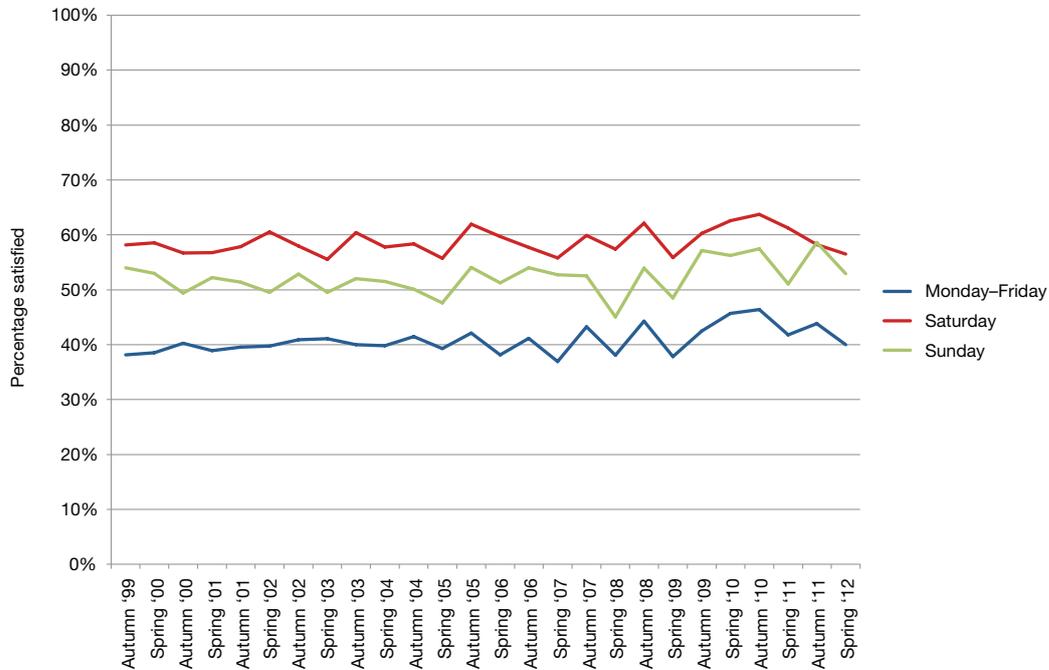
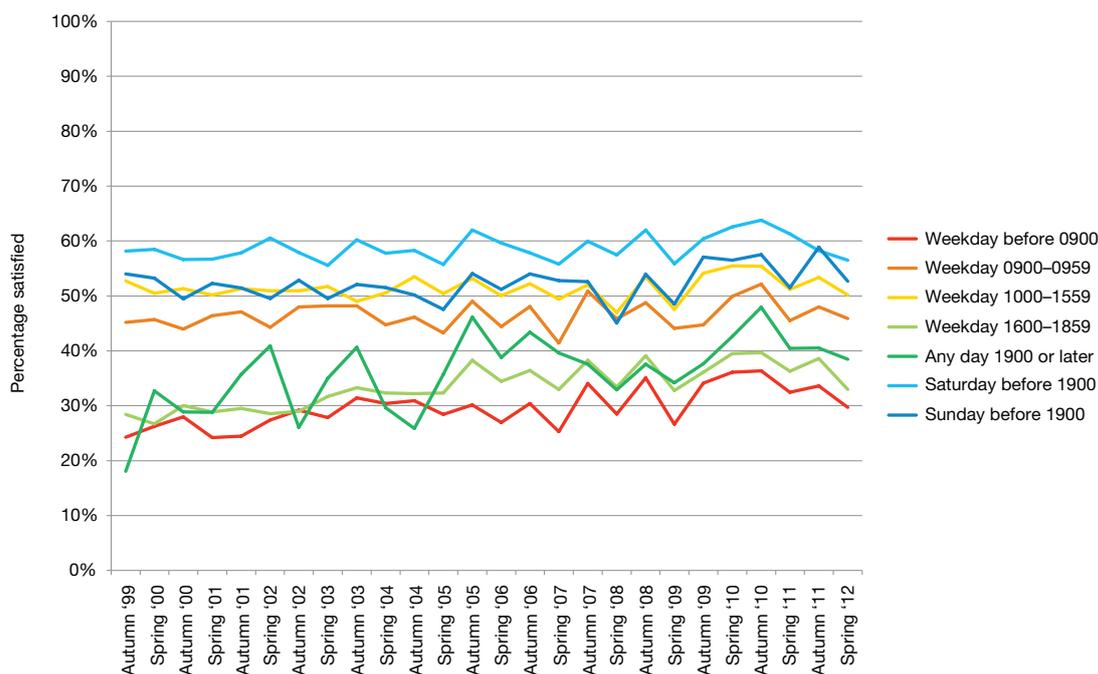


Figure 11 shows that satisfaction with price at peak times (on weekdays before 09:00, and on weekdays in the period 16:00–18:59) and in the evenings is lower than satisfaction at off-peak times and at weekends.

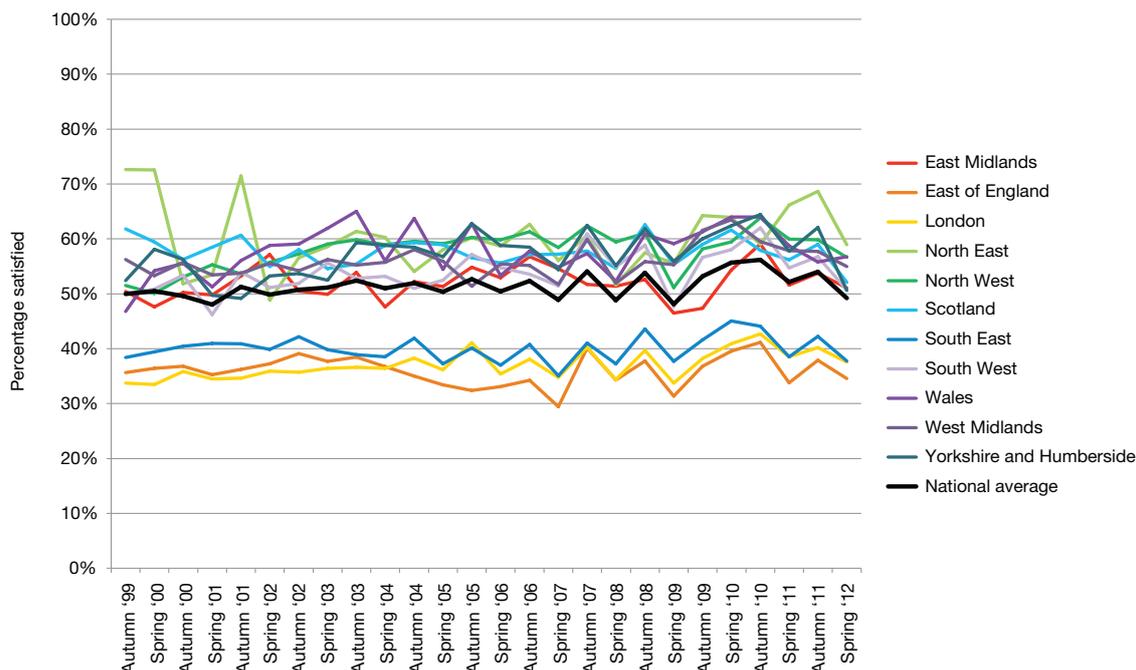


**Figure 11: Percentage of respondents travelling at different times of day satisfied with price**



Satisfaction with price also varies between regions of Great Britain (Figure 12). The majority of regions have between 50% and 60% of respondents satisfied with price. London, East of England and the South East have lower-than-average satisfaction, varying between 30% and 45% of respondents being satisfied with price. As with the previous two figures there are no systematic trends over time.

**Figure 12: Percentage of respondents starting their journey in each region satisfied with price of the journey, with the national average**

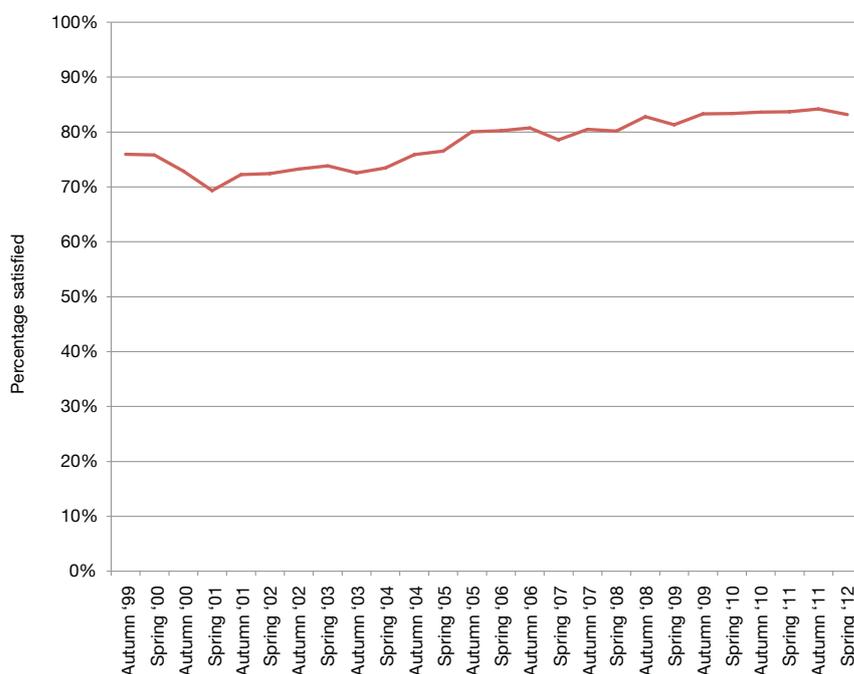


## 4. Overall Journey Satisfaction

Overall journey satisfaction decreased from 75% in 1999 to below 70% in 2001 (Figure 13), but since then it has steadily increased to the point where approximately 83% of respondents were satisfied with their overall journey experience in 2012.

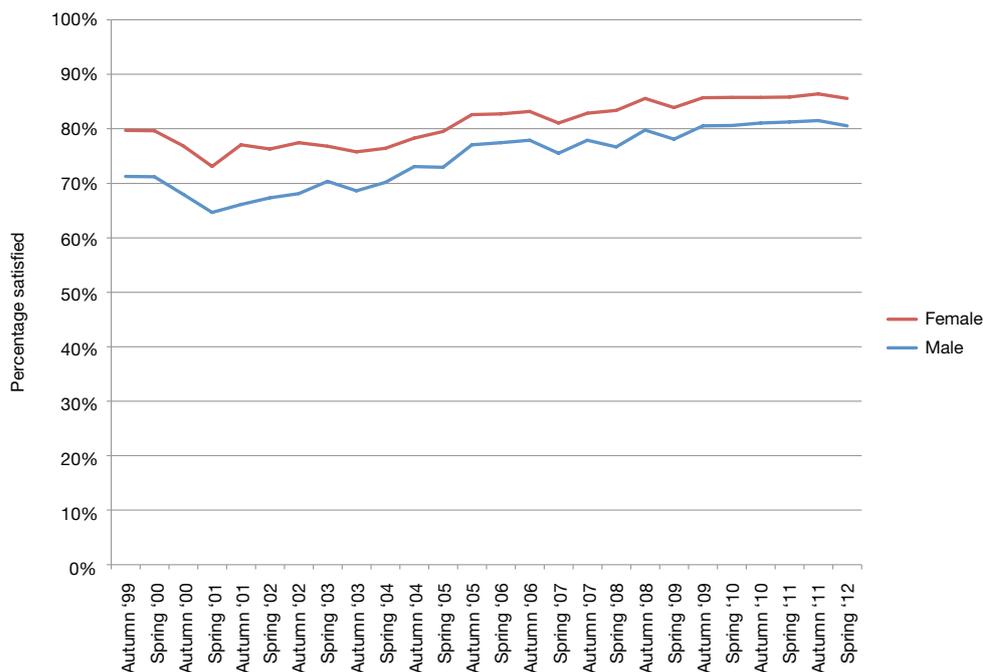


**Figure 13: Percentage of respondents satisfied overall with their journey**



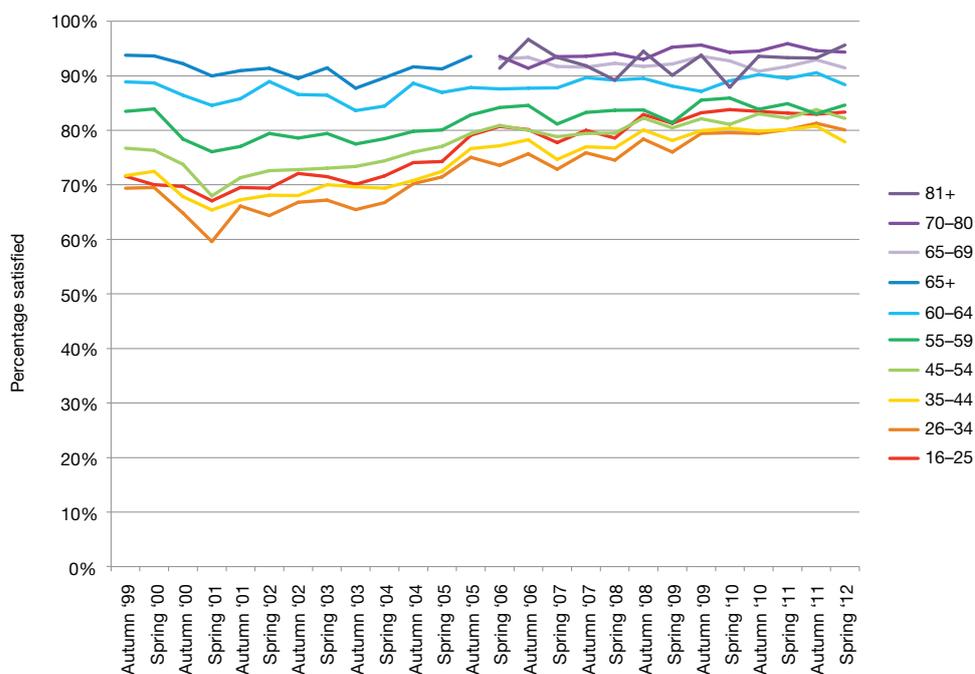
When we look at differences by gender, we find that female respondents have been more satisfied than male respondents (Figure 14). In 1999, 8% more female respondents were satisfied than males, but this differential has narrowed over time and was down to 5% by 2012.

**Figure 14: Percentage of each gender satisfied overall with their journey**



As was the case with price satisfaction, we find that overall journey satisfaction generally increases with age (Figure 15) – although not with such sharp differences. The percentage of respondents satisfied overall has increased over time for younger travellers, while remaining stable for older travellers.

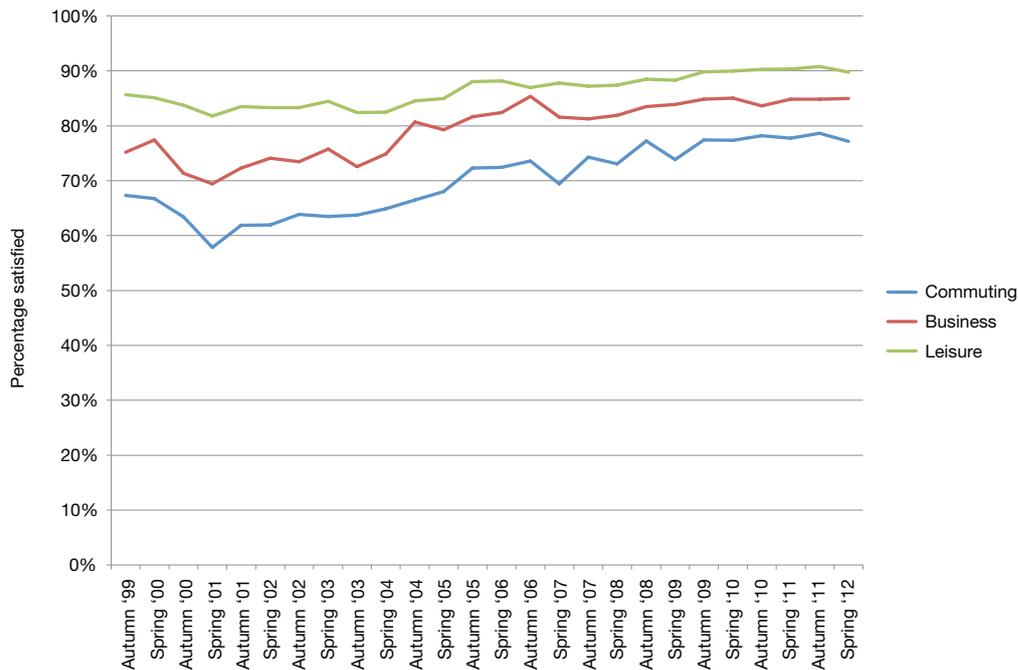
**Figure 15: Percentage of each age group of respondents satisfied overall with their journey<sup>2</sup>**



2 The 65+ category was split into 65–69, 70–80 and 81+ in 2006.

Again, as with price, more respondents travelling for leisure purposes were satisfied with their overall journey than were those travelling on business, who in turn had higher satisfaction levels than commuters (Figure 16). Satisfaction has increased over time in all cases, but with leisure travellers' satisfaction increasing less (by 5%) than business and commuter satisfaction (which each show a 10% increase), to result in less of a differentiation in satisfaction by journey purpose in 2012 than in 1999.

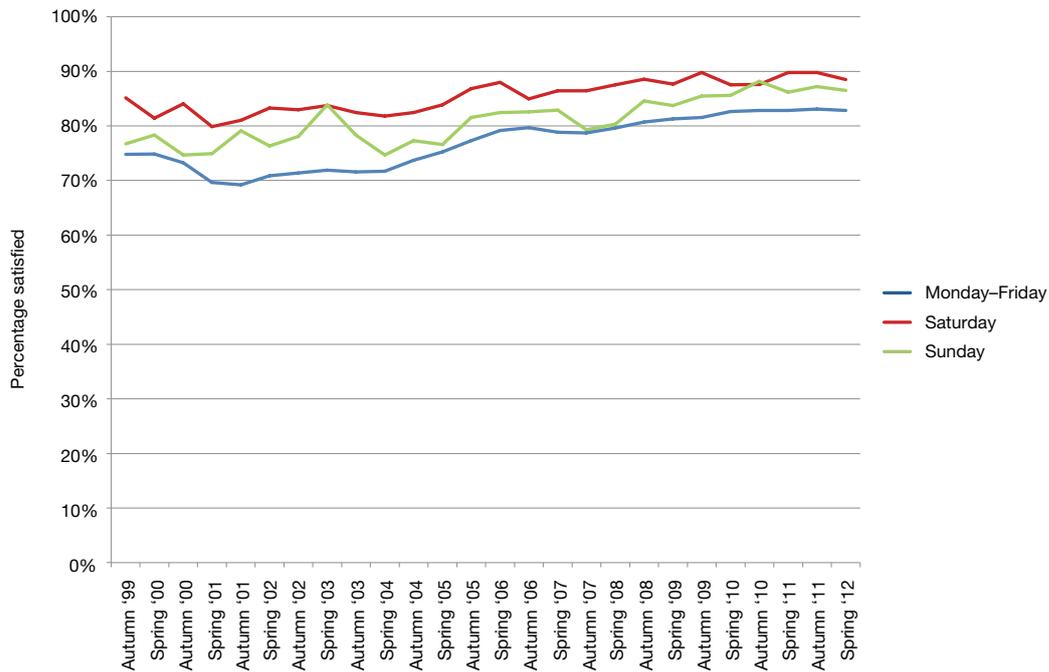
**Figure 16: Percentage of respondents in each journey purpose category satisfied overall with their journey**



Generally, weekend travellers – on a Saturday, in particular – are more likely to be satisfied than weekday travellers (Figure 17). The gap between the percentage of respondents satisfied on weekends and weekdays has narrowed over time, as an increasing proportion of weekday passengers have become satisfied.

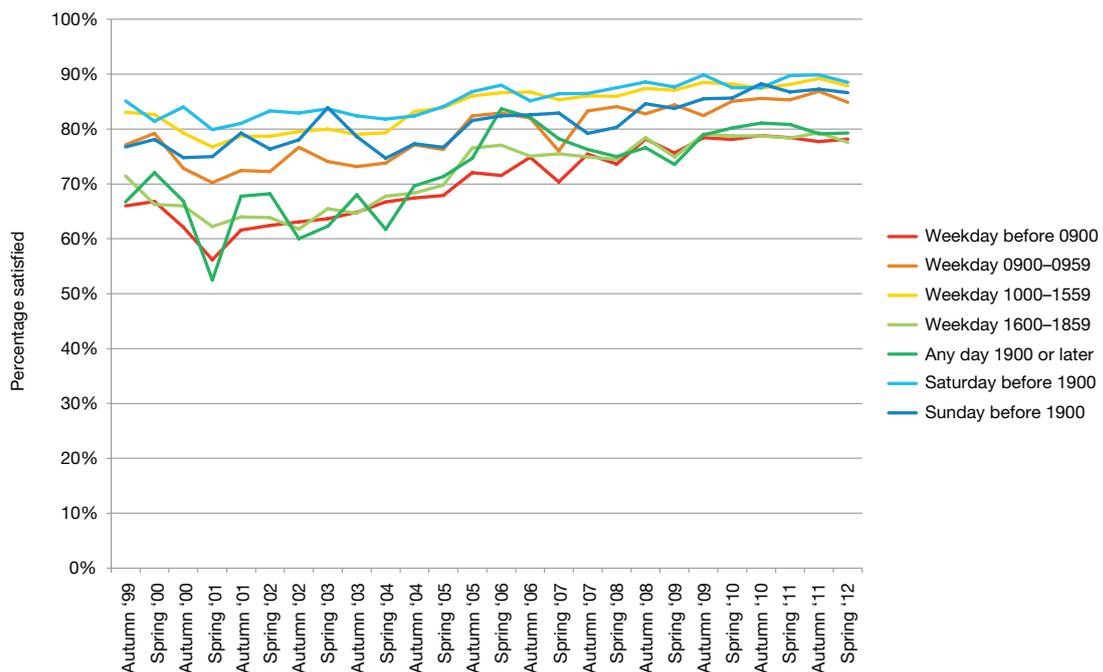


**Figure 17: Percentage of respondents travelling on each day satisfied overall with their journey**



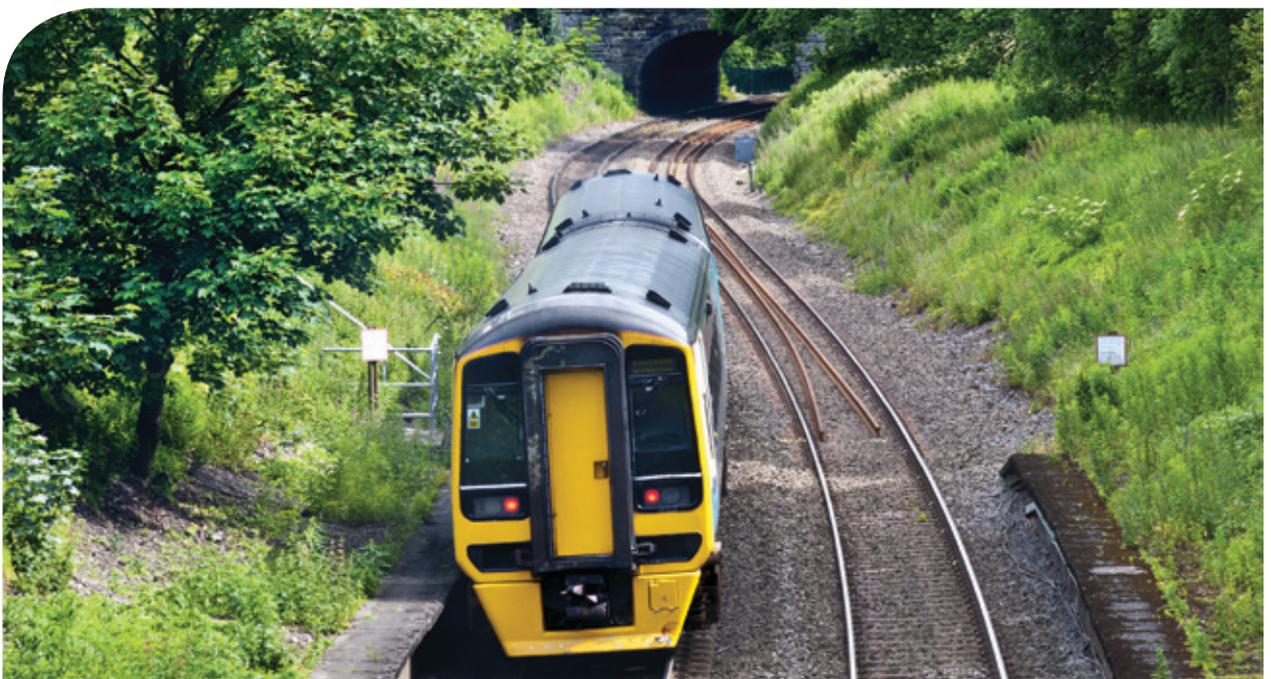
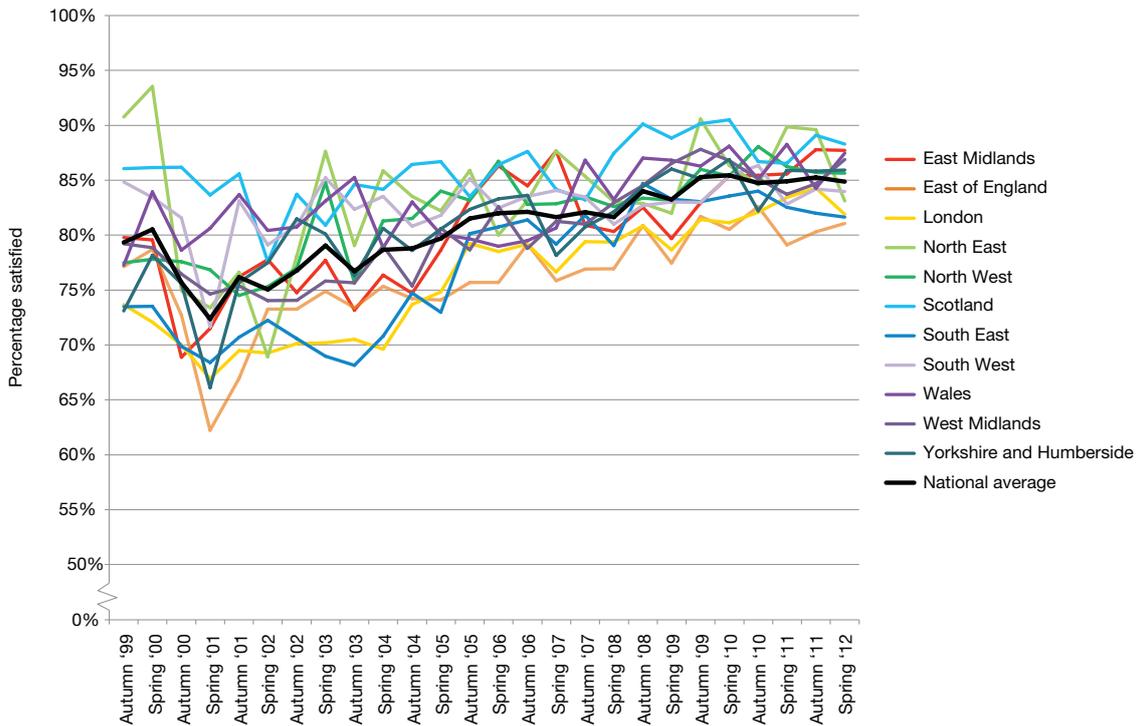
Levels of overall satisfaction at all times of day, especially after 19:00, decreased sharply in 2001, since when they have gradually increased (Figure 18). Weekends and off peaks (defined as 10:00–15:59 weekdays) show the highest percentage of satisfied respondents, while peak time and evening services (before 09:00 and in the period 16:00–18:59 on weekdays, and after 19:00 regardless of day) show the lowest satisfaction – but these differences are narrowing.

**Figure 18: Percentage of respondents travelling at different times of day satisfied overall with their journey**



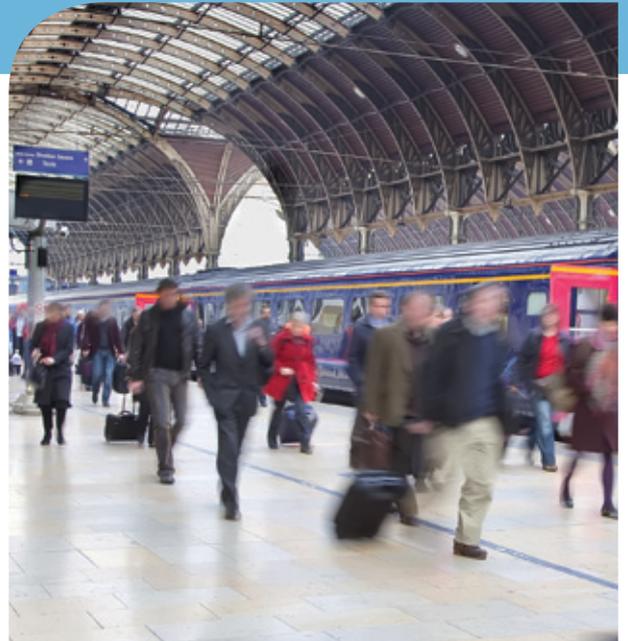
Differences in overall satisfaction between the regions were examined (Figure 19), with the national average also calculated. Overall satisfaction in all regions fluctuates over time, but has increased in general since 1999. Most of the regions suffered a significant loss of overall customer satisfaction in 2001, especially the East of England and Yorkshire & Humberside – the regions most affected by the Selby and Hertfordshire rail accidents.

**Figure 19: Percentage of respondents starting their journey in each region satisfied overall with their journey, with the national average**



## 5. Conclusion

The analysis of the National Rail Passenger Survey data generally shows that passenger satisfaction has increased over time, particularly since the rail accidents of 2000 and 2001. These increases in satisfaction relate both to rail service provision and comfort factors. The exception is satisfaction with price which has remained largely unchanged and shows the largest differences between passenger age groups and trip purposes.



## 6. References

Passenger Focus (2012a). *National Passenger Survey*. Spring 2012 (Wave 26). Retrieved 22 November 2012 from [www.passengerfocus.org.uk/media/69b999a241f39c7380351ae53371af624844ff76/National%20Passenger%20Survey%20Spring%202012%20-%20Main%20Report%20-%20June%202012.pdf](http://www.passengerfocus.org.uk/media/69b999a241f39c7380351ae53371af624844ff76/National%20Passenger%20Survey%20Spring%202012%20-%20Main%20Report%20-%20June%202012.pdf).

Passenger Focus (2012b). *National Passenger Survey Detailed Technical Survey Overview*. Spring 2012 (Wave 26). Retrieved 22 November 2012 from [www.passengerfocus.org.uk/media/541f81ce28c2c148cb617f5452c1f4306d045cbb/National%20Passenger%20Survey%20Spring%202012%20-%20Detailed%20Technical%20Survey%20Overview%20-%20June%202012.pdf](http://www.passengerfocus.org.uk/media/541f81ce28c2c148cb617f5452c1f4306d045cbb/National%20Passenger%20Survey%20Spring%202012%20-%20Detailed%20Technical%20Survey%20Overview%20-%20June%202012.pdf).

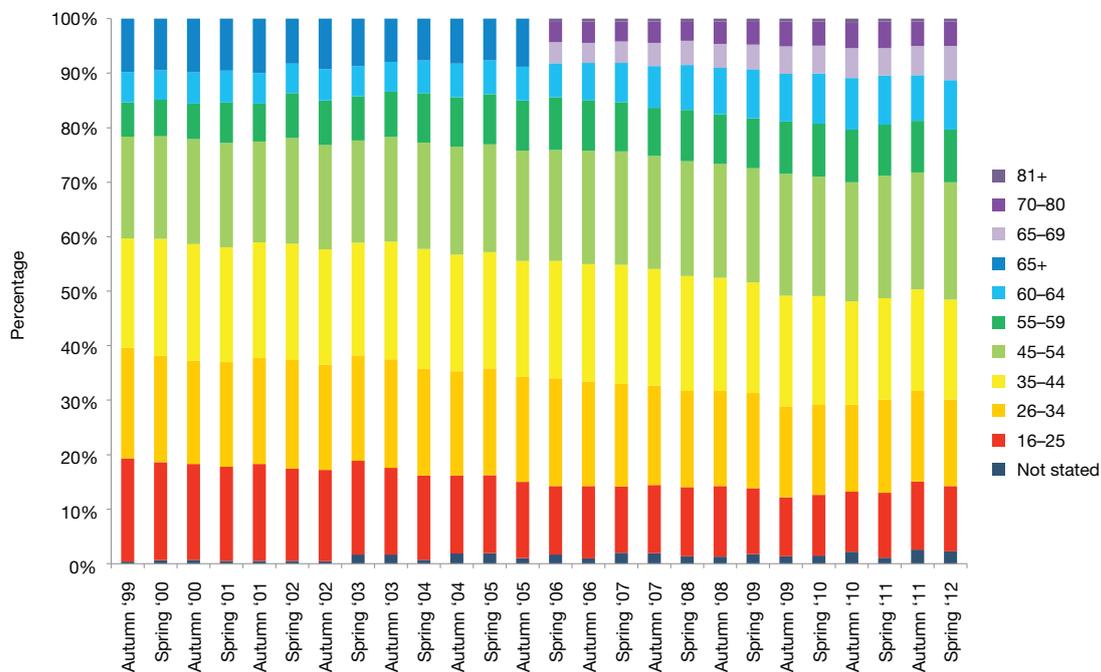
## 7. Appendix: Composition of the Sample

The Appendix summarises the characteristics of the respondents in the quota samples in each survey.

### 7.1 Demographics

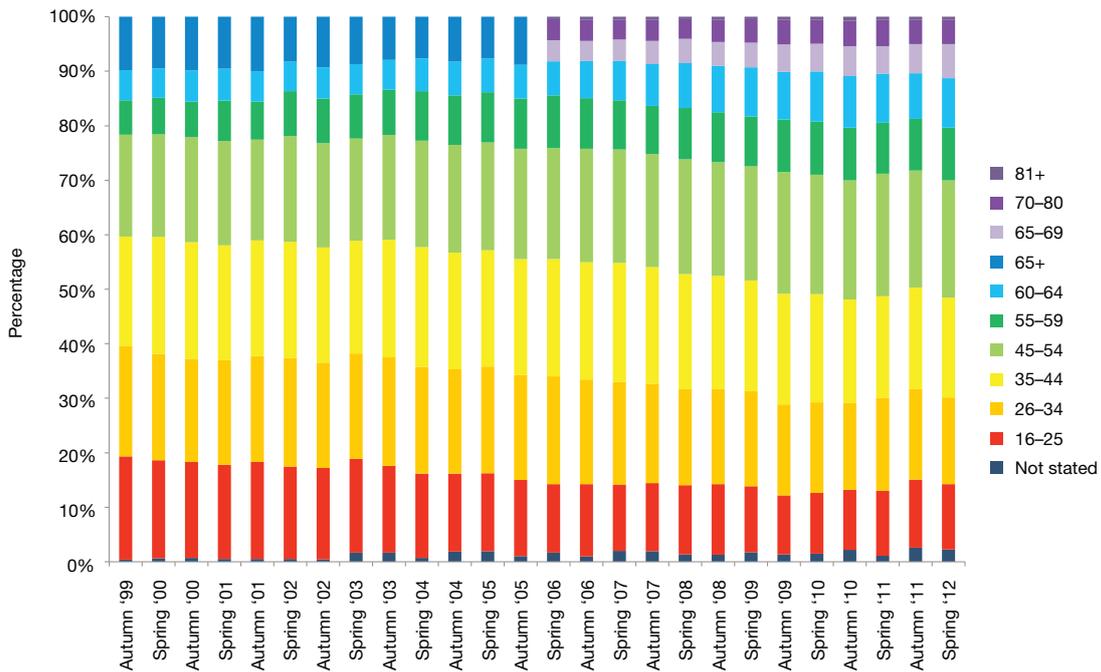
Since the first survey in 1999, the proportion of respondents over 60 has increased (Figure A1). Note that the 65+ category was subdivided into age ranges 65–69, 70–80 and 81+ in spring 2006. The proportions of responding 16–25-year-olds and 26–34-year-olds have both decreased.

**Figure A1: Age of respondents as a percentage of all respondents each year**



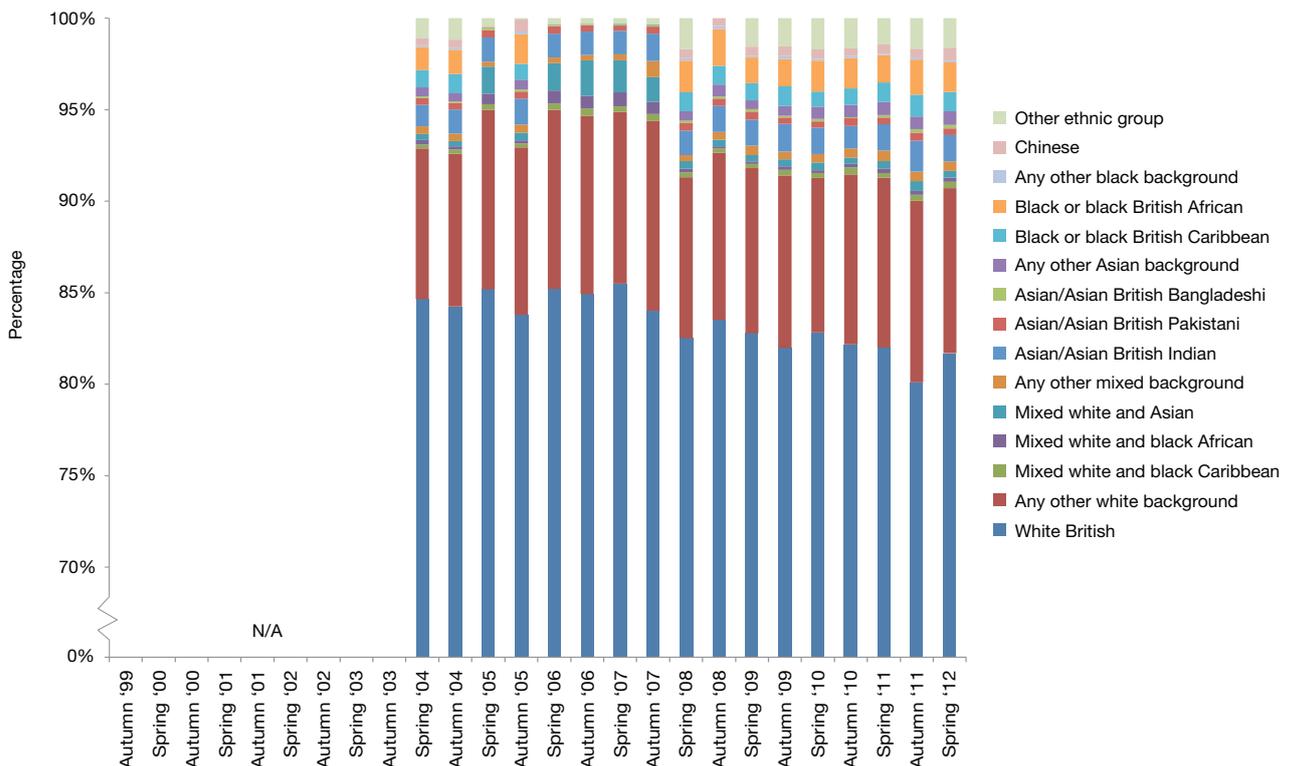
Just over half of the respondents were female (Figure A2), a proportion that has hardly changed over time.

**Figure A2: Gender of respondents as a percentage of all respondents each year**



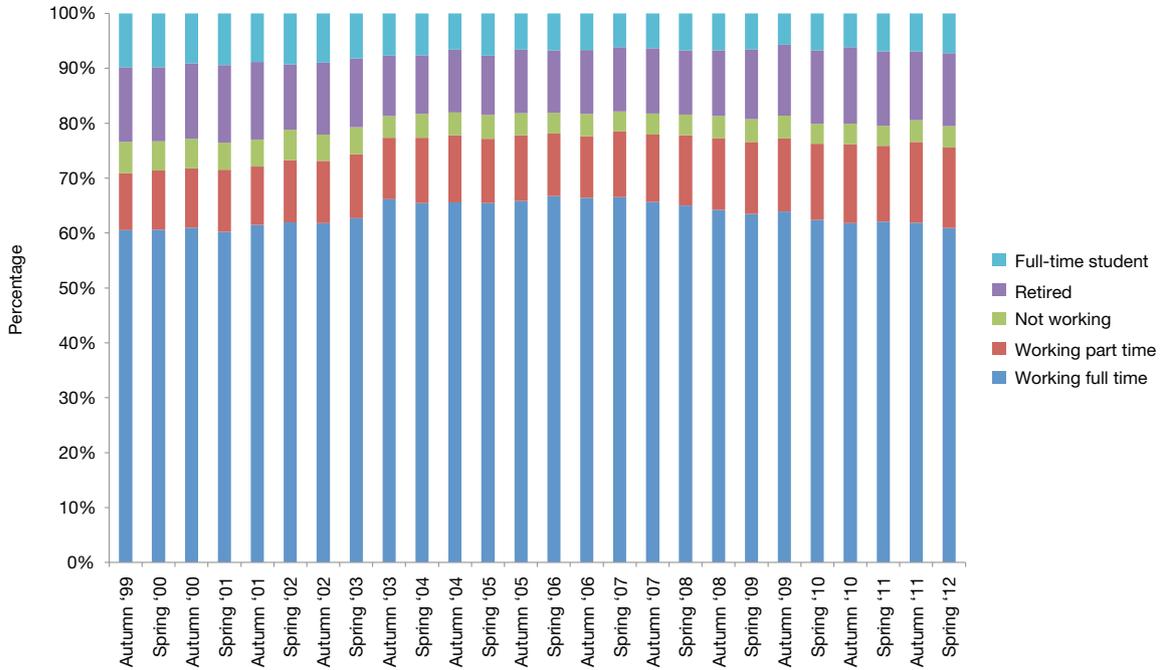
The survey introduced a question about the respondents' ethnic origin in spring 2003, which has revealed a slight increase in the proportion of ethnic minorities travelling since 2003 (Figure A3).

**Figure A3: Ethnic origin of respondents as a percentage of all respondents each year**



There has been a slight decrease in the proportions of students, and a noticeable increase in part-time workers (Figure A4).

**Figure A4: Working status of respondents as a percentage of all respondents each year**

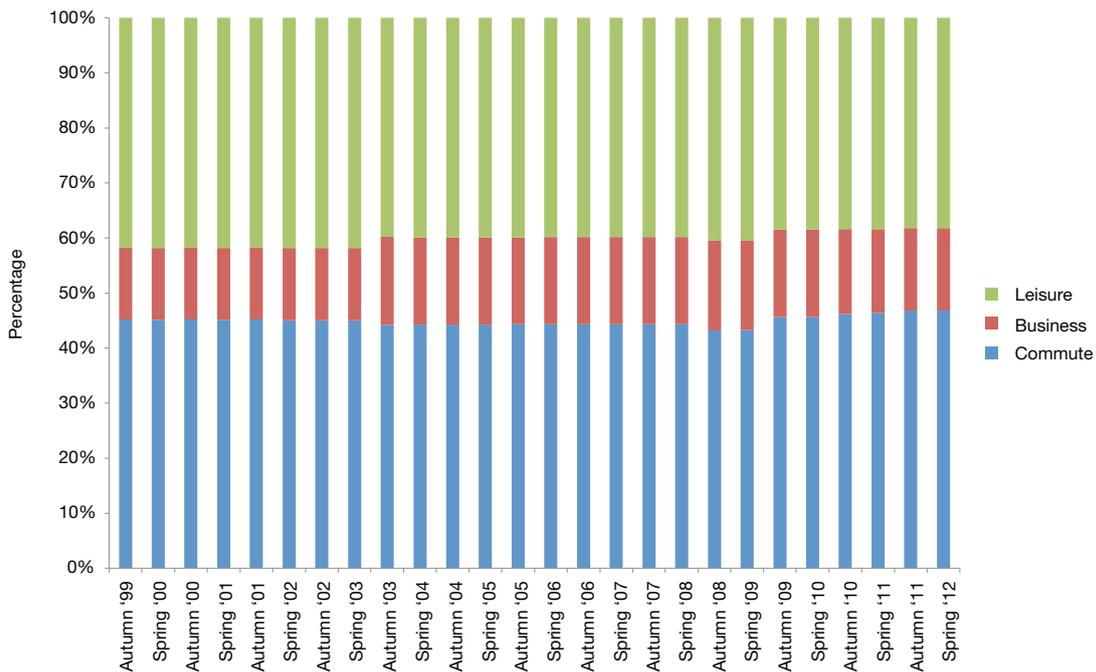


## 7.2 Journey characteristics

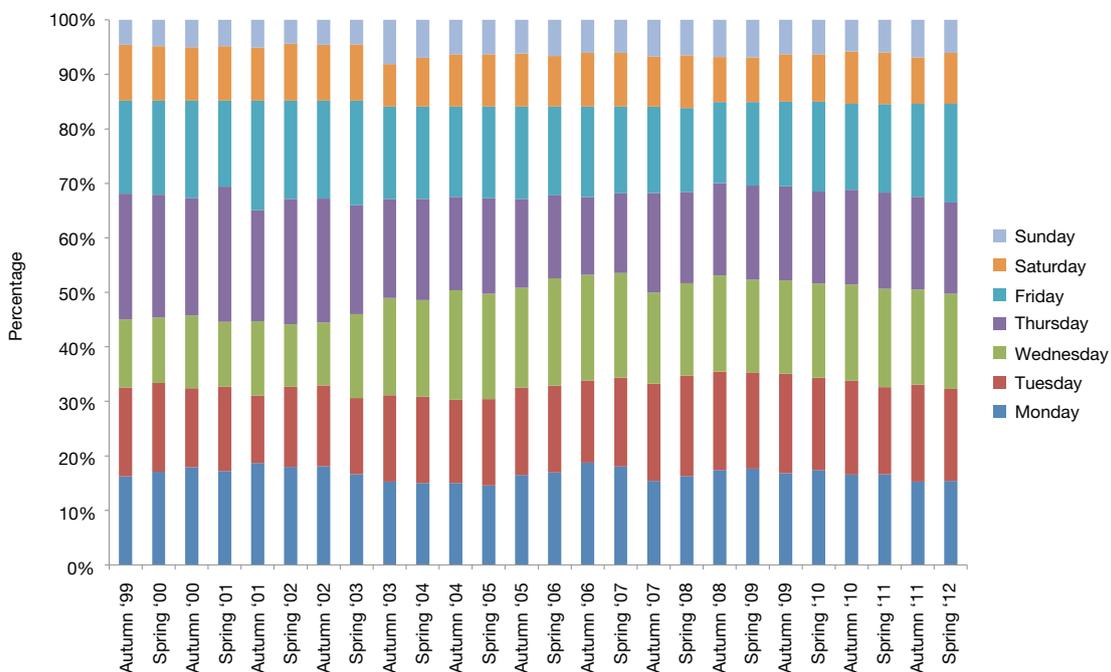
The NRPS uses a detailed classification of trip purpose, but for clarity it is shown here in three broad trip purposes: commuting, business and leisure (Figure A5). There has been a small increase in the proportions of both commuting and business journeys.

The mix of the days of the week that the journey was undertaken has fluctuated over the study period but no discernible pattern or trend is observable (Figure A6).

**Figure A5: Purpose of journey as a percentage of all journeys each year**



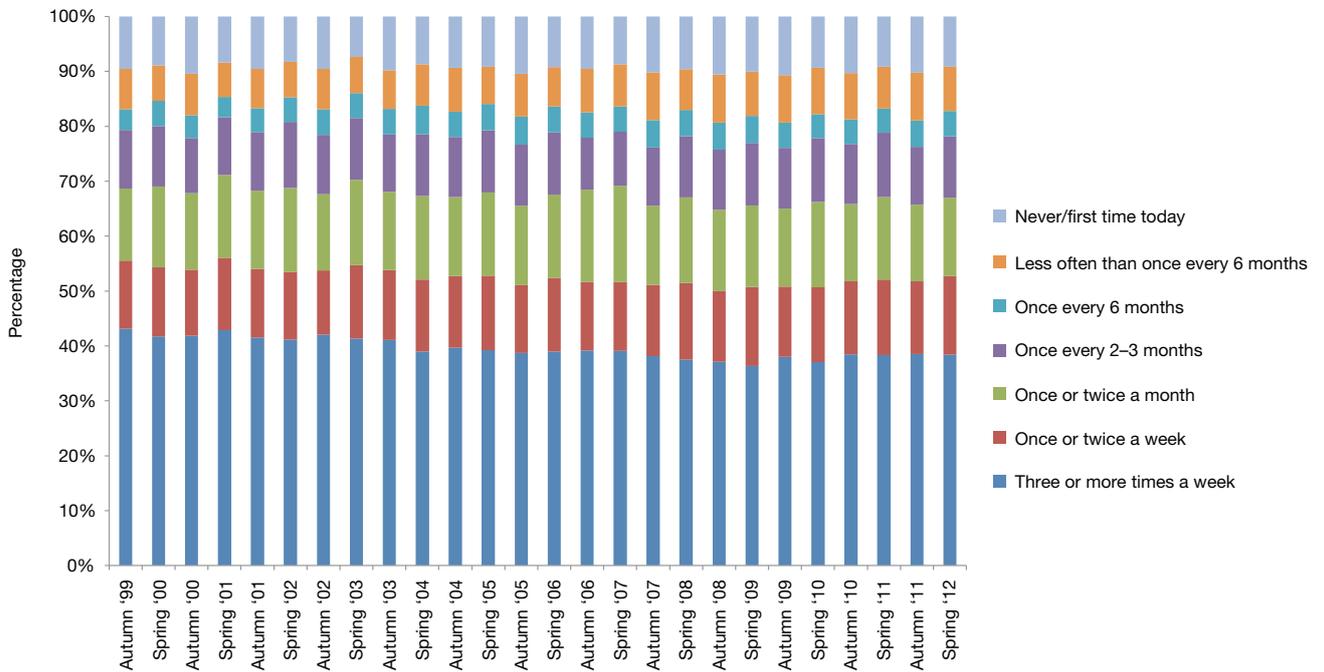
**Figure A6: Day of week journey undertaken as a percentage of all journeys each year**



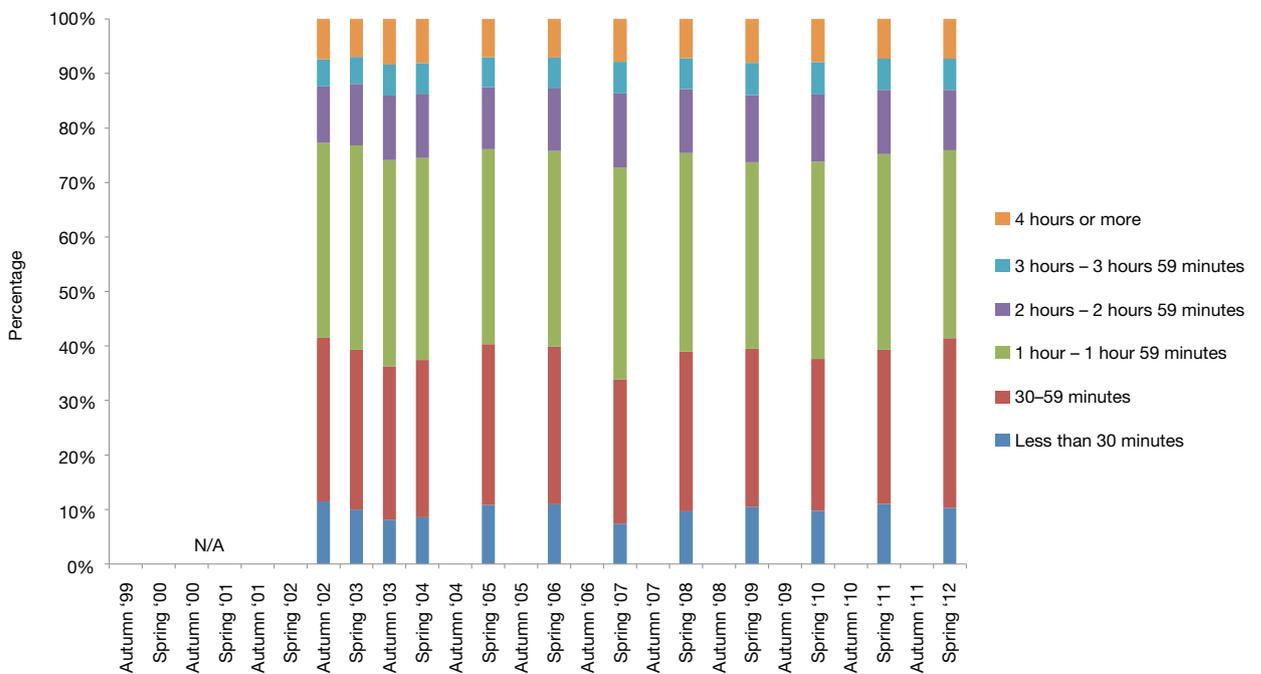
Finally we look at the frequency of making the trip (Figure A7) and the length of time the journey lasted (Figure A8). (From 2004 on, the question about length of time taken to complete the whole journey was restricted to the spring surveys, in order to limit the questionnaire length.) Both the frequency of making the trip

and length of time to complete the journey have fluctuated during the survey time period with no noticeable trends.

**Figure A7: Frequency of rail travel as a percentage of journeys each year**



**Figure A8: Length of trip as a percentage of all journeys each year**



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[www.rail-reg.gov.uk](http://www.rail-reg.gov.uk)

The **Independent Transport Commission** is one of Britain's leading research charities with a mission to explore all aspects of transport and land use policy. Through our independent research work and educational events we aim to improve and better inform public policy making. For more information on our current research and activities please see our website.

[www.theitc.org.uk](http://www.theitc.org.uk)

**Transport Scotland** is the Scottish Government's national transport agency responsible for; aviation, bus, freight and taxi policy; coordinating the National Transport Strategy for Scotland; ferries, ports and harbours; impartial travel services; liaising with regional transport partnerships, including monitoring of funding; local roads policy; major public transport projects; national concessionary travel schemes; rail and trunk road networks; sustainable transport, road safety and accessibility; the Blue Badge Scheme. Transport Scotland is an Executive agency accountable to Scottish Ministers.

[www.transportscotland.gov.uk](http://www.transportscotland.gov.uk)

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