



# The Pennine Class 185 experience

What do passengers think?

May 2007

Passenger Focus is the independent national rail consumer watchdog. It is an executive non-departmental public body sponsored by the Department for Transport.

Our mission is to get the best deal for Britain's rail passengers. We have two main aims: to influence both long and short term decisions and issues that affect passengers; and to help passengers through advice, advocacy and empowerment.

With a strong emphasis on evidence-based campaigning and research, we ensure that we know what is happening on the ground. We use our knowledge to influence decisions on behalf of rail passengers and we work with the rail industry, other passenger groups and Government to secure journey improvements.

Our vision is to ensure that the rail industry and Government are always

**'putting rail passengers first'**

This will be achieved through our mission of

**'getting the best deal for passengers'**

# Executive summary

Passenger demand for rail travel has hugely increased in the north of England and many areas have seen unprecedented growth. The National Rail Trends Yearbook reports that between 1995 and 2005 passenger numbers have increased by 34% in the north east, 47% in the north west and a huge 62% in Yorkshire and the Humber. Despite this demand, many passengers in the north of England still travel on trains which are over twenty years old and lack the comfort and reliability that newer trains can offer. Passengers tell us that they want reliable, modern trains which get them to their destination on time and in comfort.

The Pennine Class 185 trains were introduced to passengers travelling on First TransPennine Express (TPE) routes during 2006. This research on the Pennine Class 185s was commissioned to establish what passengers think of the new trains and was carried out as passengers were experiencing the changes from the older trains traditionally used on TPE routes, to the brand new Pennine Class 185s.

The message is clear – passengers like the new trains. More than 90% of passengers said they are satisfied with the key measures – getting a seat, the ease of getting on and off the train and cleanliness of the train interior. Passengers value the modern on-board facilities and the opportunity to travel in a more stylish and relaxed environment. However, the research also shows that passengers' satisfaction with comfort decreases as the journey time increases. As TPE will take on responsibility for running long distance services between Manchester Airport and Scotland in December 2007 this issue should be addressed.

This major investment in trains in the north of England has been given the thumbs up by passengers who are now experiencing the benefits that have been delivered and this should encourage the Government to invest more widely in modern, reliable trains suited to the expectations of the 21st century rail traveller. When investment is made in new trains, passengers do notice the difference.

# Background

TransPennine Express (TPE) provides passenger services across the north of England, running 275 trains daily and carrying over 16 million passengers a year. Over the last three years passenger numbers on TPE trains have grown by 23.8%. The train operating company (TOC) is a joint venture between First Group and Keolis, the French bus and tram operator. The current franchise commenced on 1 February 2004 and will run until 2012 with a possible extension of a further five years. The TPE network extends from the north west, across the Pennines to both Yorkshire and the north east and south Yorkshire and north Lincolnshire. There are three routes – north, north west and south, which can be seen in the diagram below:

From December 2007 the TransPennine network will be expanded to include services between Manchester Airport and Scotland replacing the current Cross Country service on the West Coast Main Line operated by Virgin CrossCountry.

In March 2006, TPE began the rollout of their new fleet of trains – the Pennine Class 185. These trains represent a £250 million investment in rail travel for the north of England and TPE has been keen to promote the features that will benefit passengers, including:

- air conditioning
- quality seating
- first class section
- hill climbing ability
- on board security cameras
- easier access for disabled passengers
- improved reliability
- GPS communication based information system.

The new trains started service on 14 March 2006 replacing a fleet of Class 158 trains built in the 1990s which were showing signs of wear and tear and in desperate need of an overhaul. The Class 158 trains ran in formations of two cars (with 15/16 first class seats and 118/121 standard seats), supplemented by some three car sets on busier services. The three car trains had 32



TransPennine Express network map

- Upkeep and repair of the train
- Cleanliness of the inside
- Cleanliness of the outside
- Comfort of seating area
- Provision of information during journey
- Toilet facilities

<sup>1</sup> Moving annual averages on the Public Performance measure have improved since the introduction of the new trains. TPE figures show performance is now more consistent.  
<sup>2</sup> The NPS provides a network-wide picture of passengers' overall satisfaction with rail travel and 30 specific aspects of service. 50,000 surveys per year are analysed from the survey carried out twice a year.  
<sup>3</sup> For NPS, % satisfied = passengers who stated 'very or fairly satisfied' or 'very or fairly good'; % dissatisfied = passengers who stated 'very or fairly dissatisfied' or 'very or fairly poor'

# Methodology

first class seats with 172 seats in standard class. The total fleet of 51 new Pennine Class 185 trains was rolled out gradually across 2006, with the full fleet in place by the end of January 2007. Since the introduction of the new trains punctuality and reliability have both improved and performance is now more consistent<sup>1</sup>. The new trains are three carriages long with both standard and first class accommodation. There are 154 standard class seats, 12 standard class tip-up seats and 15 first class seats. On TPE services to Hull, refurbished Class 170 trains are now used rather than the Class 185s.

This report includes results from the latest National Passenger Survey (NPS)<sup>2</sup> which was conducted when most of the new trains were in operation, and compares results with those from passengers travelling during the previous year on older trains to determine whether passengers report higher satisfaction.

Recent NPS results demonstrate an increase in overall passenger satisfaction<sup>3</sup> with TPE, from 81% in autumn 2005 to 88% in autumn 2006. Passenger perception of various aspects of the on-board experience has improved significantly, as shown in the table below:

Autumn 2005	Autumn 2006
71%	86%
70%	84%
61%	82%
67%	82%
62%	78%
39%	60%

<sup>4</sup> Which train? Passenger experience of the Class 170 'Turbostar' (2001); "Fit for Purpose: test riding trains in everyday use" (2002); "The Virgin Voyager Experience" (September 2004); "The Right Train? Test-riding trains in everyday use" (2005); "HST. Successor to the High Speed Train Fleet" (February 2005)

Passenger Focus has developed experience in this field and several reports based on research by the former Rail Passengers Council have been published<sup>4</sup>. These reports consider the design of new trains and the passenger experience of different types of trains. They include a detailed study with over 1000 passengers looking at their perceptions of the new Virgin Voyager trains – the Voyager experience. Some of this research has been used to inform the development of the questionnaires used in the current survey and to identify issues of concern raised by previous new designs of trains.

Passenger Focus commissioned research agency 'mruk research' to conduct passenger surveys on the new trains. The questionnaires rated passenger satisfaction with facilities on board the train and covered the following aspects:

- accessibility
- comfort (including getting a seat)
- cleanliness
- information
- catering
- luggage space
- toilet facilities.

The research was carried out between 17 January and 3 February 2007 inclusively, covering journeys between 07.00 and 22.00. 2,250 self-completion questionnaires were handed out to passengers, with 1,765 forms returned, giving a high response rate of 78%. The questionnaires were distributed on 30 train journeys operating the new trains, spread evenly across the three TPE routes – north, north west and south. The interviewers verified that trains were the new Pennine Class 185 trains before handing out forms.

Trend data from the National Passenger Survey is also provided in this report which indicates that on-train satisfaction has risen significantly since the new trains were introduced. This additional research looks in much more detail at ratings of the on-train environment than the National Passenger Survey.



A Pennine Class 185 train at Manchester

# Passenger research findings

## Introduction

51% of the 1,765 passengers surveyed said they made that journey less than once per month, with only 5% of passengers making the journey every day. Leisure passengers made up 66% of the total number of passengers surveyed, with 24% commuters and 10% business passengers. 11% of passengers classed themselves as Black or Minority Ethnic (BME) and 6% of passengers said they had a long term illness or disability. The average journey length for all passengers in this research was one hour and five minutes.

Aspects relating to comfort scored particularly highly with many over 80%, and views on information were also generally very positive.

## Accessibility

The new trains run in formations of three carriages. Each carriage has wide double doors located at one third and two thirds along the length of each carriage. The trains previously in operation on TransPennine routes had narrower doors at the ends of each carriage. 20% of seats on the new trains have improved access with more legroom and are also designated as priority seating. There are vertical handrails similar to those on buses and tube trains on either side of the doors and grab handles on the backs of the seats. There is a dedicated area for two wheelchairs close to the accessible toilet. This space is in addition to other cycle storage and luggage storage areas.

Passengers were asked to rate various aspects regarding satisfaction with access:

- ease of getting on and off the train
- location of the doors
- handrails
- priority seating for passengers with disabilities
- wheelchair space.

Overall satisfaction was highest for the ease of getting on and off the train (92%). Similarly the NPS results for autumn 2006 show improved passenger satisfaction



Passengers alighting from a new Pennine Class 185 train

amongst passengers with 83% satisfied, 7% higher than 2005 (and 2% higher than for the long distance sector overall<sup>5</sup>).

On access issues, passengers were least satisfied with space for wheelchairs (66%).

With the exception of location of the doors, passengers with a disability or long term illness were less satisfied than those without disabilities with regard to all access related factors. However, the following results are based on only 6% of passengers:

	% respondents with disability/long term illness <sup>6</sup> satisfied	% respondents without disability/long term illness satisfied
Location of doors	90%	91%
Handrails	74%	81%
Ease of getting on and off the train	85%	92%
Priority seating for passengers with a disability	67%	73%
Wheelchair space	53%	66%

<sup>5</sup> Long-distance TOCs: TransPennine Express, GNER, Midland Mainline, Virgin CrossCountry and Virgin West Coast

<sup>6</sup> 6% of all passengers surveyed = 107 passengers

**Comfort**

The new trains have a modern air conditioning system. Seats are ergonomically designed for passenger comfort and have greater legroom. Passengers were asked to rate various aspects regarding satisfaction with comfort:

- being able to get a seat on the train and the suitability of any standing space
- seating layout and space
- comfort of ride and seats
- interior décor
- lighting and temperature
- level of noise from train engines
- draughts from doorways
- ability to screen the sun.

The highest rating for overall satisfaction regarding comfort was being able to get a seat on the train (92%), although passengers who travel most frequently are most likely to be dissatisfied with the ease of getting a seat.

Getting a seat is a high priority for passengers. NPS autumn 2006 results showed that 73% of passengers were satisfied with 'sufficient room for all the passengers to sit/stand'. This is significantly improved compared to one year earlier (65% satisfied), and the percentage satisfied is higher than for other long distance operators (except GNER).

Satisfaction with standing space was much lower at only 70% and lowest on South TransPennine services. Even passengers

with short journey times were dissatisfied with standing space. Again, passengers travelling most frequently (at least once a week) were least satisfied. Standing space also appeared to be an issue for passengers travelling during the evening peak, with 16% expressing dissatisfaction compared to only 4% of those who travelled before 9.00.

Business passengers and commuters were generally least likely to be satisfied with aspects of comfort. The lowest satisfaction rating was for ability to screen the sun (54%). The Pennine Class 185 trains do not have screens or curtains at standard seats. Curtains are available for the 15 first class seats and on hot, sunny days the lack of a screen can be uncomfortable for passengers.

Overall almost nine in ten passengers were satisfied with comfort of the ride and comfort of the seats. Seating space including legroom was also rated highly (88% satisfied). Similar ratings were given in the autumn 2006 NPS regarding comfort of the seating area (82% satisfied).

Satisfaction with most comfort-related aspects appeared to be the highest amongst NorthWest TransPennine passengers, but these passengers have the shortest journeys overall. As expected, passengers with journey times longer than an hour expressed greater dissatisfaction with nearly all aspects of comfort but more significantly with lighting and temperature (air conditioning/heating) and draughts from the doorways, as the table below demonstrates:

	Average journey time (for those satisfied)	Average journey time (for those dissatisfied)
Interior decor	61.3 mins	55.0 mins
Seating layout (mix of airline seats and seats around tables)	61.0 mins	58.0 mins
Levels of noise from the train's engines	60.9 mins	64.6 mins
Seating space including legroom	60.7 mins	63.5 mins
Comfort of the seats	60.5 mins	63.4 mins
Being able to get a seat on the train	60.4 mins	64.2 mins
Comfort of the ride	60.1 mins	64.5 mins
Ability to screen the sun	59.8 mins	63.0 mins
Lighting and temperature	59.2 mins	75.1 mins
Draughts from the doorways	59.2 mins	74.4 mins
Standing space	58.5 mins	56.6 mins

These findings are particularly interesting as the average journey time for passengers in this research was one hour and five minutes. In addition, at the end of this year it is likely there will be more passengers travelling longer distances on TPE services as services between Scotland and Manchester Airport are introduced. The passenger dissatisfaction with comfort recorded in this research raises potential questions regarding the suitability of these trains for even longer journeys and further research may be needed to determine whether comfort is an issue for these passengers.

**Cleanliness**

The trains are new in service. There are antimacassars provided on each seat, which are replaced regularly. The trains are cleaned inside every day. Generally the outside of trains are washed every other day when they pass through the depot. Passengers were asked to rate various aspects regarding satisfaction with cleanliness:

- interior and exterior cleanliness of the train
- design, location and number of litter bins

Interior and exterior cleanliness of trains was rated highly by passengers with 90% and 88% satisfaction respectively. The autumn 2006 NPS results also show high satisfaction:

	% satisfied
Cleanliness of the inside	84
Cleanliness of the outside	82

Passengers who use the trains most often were the least satisfied with most aspects of cleanliness. Overall, passengers were least satisfied with the design (59%), location (54%) and number of litter bins (52%) on the train. This produced a very low result in comparison with many other factors, therefore highlighting a potential area for improvement. It may be that passengers do not notice the litter bins so are unaware where they are located and how many there are, but further research would be required to establish this.

**Information**

There are exterior information displays at each end of the train and on the sides of the middle carriage. Journey information inside

carriages is displayed electronically and triggered automatically by GPS. There are also regular announcements using the automated voice system or made by staff. TPE route information is presented above the doors and customer information is displayed throughout the train. Paper tickets are used on the backs of seats to denote reservations.

Passengers were asked to rate various aspects regarding satisfaction with information:

- content, quality, number and frequency of announcements
- content and quality of electronic displays
- route maps above exits
- ease of finding a reserved seat.

Passengers were most satisfied with the content (82%) and quality (81%) of announcements and the quality of electronic displays (80%). However, passengers who travel most frequently expressed less satisfaction; 76% satisfaction with content and 74% with quality of announcements.

Our research found that a high proportion of passengers surveyed were infrequent travellers (51%), making that particular journey less than once per month. Therefore information provision appears to be benefiting a greater proportion of passengers who value the information.

A similar level of satisfaction was achieved in the autumn 2006 NPS with 78% satisfied with provision of information during the journey; so many passengers find announcements helpful.

Overall, passengers were least satisfied with finding a seat reservation, with only 63% of those carrying a seat reservation stating they were satisfied. This echoes with passenger feedback gathered by Passenger Focus via an informal network of passengers. Whilst seats are labelled and seat numbers are shown next to the doors on the exterior of the trains, the coaches themselves are not labelled other than for first class. The labelling of coaches to help passengers find their reserved seats has been raised by Passenger Focus with TPE management. As a result, there are now plans to label the coaches and this should take effect from May 2007.



A Pennine Class 185 standard interior

### Catering

TPE Pennine Class 185 trains operate a catering trolley which passes through the train offering an at-seat service on most services<sup>7</sup> between 7am and 7pm on Monday to Friday. Many services are also covered on Saturdays. On busier parts of the network the trolley cannot always make its way through the train due to large numbers of standing passengers.

Passengers were asked to rate various aspects regarding satisfaction with catering:

- Did you purchase anything from the catering trolley?
- If not, why not?

Around one in eight passengers said they had purchased something from the catering trolley. Purchasing was highest on South TransPennine routes with around one in five passengers using the service. Passengers making the longest journeys and passengers travelling most frequently were most likely to make a purchase.

Just over half of the passengers surveyed were satisfied with trolley availability (56%) and the range of products on offer (56%). One third of passengers were not satisfied with the pricing of products. Younger

passengers were most likely to state they had not made a purchase because it was too expensive, and 16 to 24 year olds were least likely to have made a purchase (only 8%). On the NorthWest TransPennine route (where only 6% of passengers had purchased from the trolley) passengers said they had not purchased because they had not seen a trolley pass through the train. It should be noted that on services north of Preston the trolley service is not guaranteed although it is available on some trains.

Many passengers are making journeys of over an hour on TPE trains and refreshments are an important service. There seems to be scope for improving the choice of products on offer to passengers and getting the price right.

### Luggage space

There are racks for larger items of luggage situated in two of the three carriages. In the third carriage this space is used for bicycles and when not in use has four tip-up seats. This area is separate to the designated wheelchair space which is situated at the front of the first class carriage. Smaller racks are also available throughout the train with additional storage between the seats and on overhead racks.

<sup>7</sup> Some services north of Preston, north of York and east of Doncaster are not guaranteed a catering service, although it is extended on many trains.



Passengers were asked to state the amount and size of luggage they were carrying, plus rate various aspects regarding satisfaction with luggage space:

- location of luggage storage
- sufficient luggage space
- space for bicycles.

The majority of passengers were satisfied with the amount (75%) and location (77%) of luggage space. These research results were higher than those from the autumn 2006 NPS where only 60% of passengers were satisfied with space for luggage.

Only 50% of those surveyed were satisfied with bicycle space although it is likely that few of those had actual experience of taking a bicycle on the train.

Overall, nearly half the passengers surveyed had large luggage with them (48%). Most passengers (55%) carried one item of hand baggage with an average number of 1.1 pieces of hand luggage per passenger. Nearly one quarter of passengers had more than one item of hand luggage (22%).

Some TPE services call at Manchester Airport and passengers using these trains are more likely to be travelling with holiday suitcases and luggage space is therefore an important issue for them. The research shows that passengers travelling to and from Manchester Airport were more likely to be dissatisfied. 17% of these passengers were dissatisfied with location of luggage space and 27% were dissatisfied with the amount of luggage space. Less frequent users were those most likely to have large items of luggage.

Further research on satisfaction with luggage space may be needed once the new services to Scotland are running, to establish whether luggage space is more of an issue with a potential increase in longer distance journeys.

### Toilet facilities

Each train has two toilets. There is a larger accessible toilet at the end of the first class coach which has baby changing facilities and a smaller toilet at the end of the second carriage.

Passengers were asked to rate various aspects regarding satisfaction with toilet facilities:

- availability of working toilet
- cleanliness
- easy to understand door locking and hand washing/drying
- baby changing facilities

Passengers were satisfied with the availability of working toilets (78%) and more than three quarters found the facilities easy to use. Most passengers were also satisfied with the cleanliness of the toilets (72%). The autumn 2006 NPS results for TPE shows a significant increase in satisfaction with toilet facilities from 39% in autumn 2005 to 60% in autumn 2006.

Frequent travellers were most likely to be dissatisfied with toilet facilities (31%). Older passengers rated the facilities highly: 84% of 60+ year olds were satisfied with availability of toilets; 87% were satisfied with ease of understanding of door locking and 84% were satisfied with understanding hand washing/drying facilities.

Only 60% of those surveyed were satisfied with baby changing facilities although only a small percentage were dissatisfied, which might suggest that most passengers have no experience of using these facilities on the train.

### Other Aspects of the Journey

Passengers were also asked to rate additional aspects experienced on their train journey:

- visibility of luggage on overhead racks and mirrors for viewing storage areas
- safety and emergency information and passenger emergency call buttons
- laptop sockets
- reclining first class seats

In this category, the improved visibility of luggage on overhead racks scored most highly (85% satisfaction). The Pennine Class 185 trains have transparent overhead storage racks so passengers can see their belongings easily and ensure they are safe. The trains also have mirrors positioned above luggage areas at the ends of the carriages which enable passengers to keep an eye on their cases. This aspect however was not rated highly (47%). One possible explanation is that most passengers have not noticed the mirrors exist and their purpose as they are not visible from all seats on the train.

Passengers were also very satisfied with safety and emergency information (79%). The autumn 2006 NPS showed passenger satisfaction with personal security on board is also high with 84% of passengers satisfied.

Most passengers were satisfied with laptop socket provision (74%) and most first class passengers were satisfied with the reclining seats (74%) although the sample size was low, with only 2% of the passengers surveyed travelling first class.



A toilet in the new class 185 trains

### Other Comments

At the end of the self-completion questionnaire passengers were invited to give any unprompted comments they wished to make. 45% of the passengers we surveyed added further comments. Most comments were provided by passengers who travelled frequently and these passengers were more likely to make negative comments, relating to on-board temperature, luggage space and lack of carriages. Conversely, passengers travelling less frequently were most likely to make positive comments about the new trains recognising the improvement compared to the previous trains including aspects like cleanliness and comfort.

# Conclusions

The provision of a new fleet of trains seen as successful by passengers is a major achievement and shows how investment in new, modern and reliable trains can benefit passengers and result in increased satisfaction.

At the time this survey was conducted, the full fleet of 51 trains had not been rolled out, yet improvements in satisfaction amongst passengers were already clearly evident. The results for TPE in the autumn 2006 wave of the National Passenger Survey were also consistently higher than those of other long distance train operating companies.

The research has highlighted areas where on-board service could be enhanced and improved for the benefit of passengers. In December 2007, TPE will be extending services from Manchester and the north west to Scotland replacing the Virgin CrossCountry journeys currently operated using Voyager trains. Many passengers may be making long distance journeys and on-board experience and perception of the Pennine Class 185 trains will impact on the potential growth of this service.

Passenger Focus is happy to meet with train companies considering redesign or refurbishment of existing trains to contribute a passenger perspective on the design of new trains.

## Suggestions for enhancing the passenger experience

### • Comfort

Comfort was the most highly rated category in our research. Passenger capacity should be monitored as many passengers travel on crowded trains without getting a seat. Satisfaction with aspects of comfort was an issue for passengers making the longest journeys and also for those who travelled most frequently. There was dissatisfaction particularly amongst commuters travelling in the evening peak. These passengers were most likely to experience crowding and expressed a lack of satisfaction with getting a seat and standing space. TPE has told us they are keen to secure a fourth carriage for use on the busiest services. Passengers making longer journeys were less satisfied with the comfort of the seats, the on-board temperature, the lack of blinds to screen the sun and draughts from the doorways. Doors are situated in the middle of carriages rather than at the ends, as on other train layouts, where draughts can be mostly excluded by internal sliding doors.

An ambient on-board temperature should be maintained and adjusted if necessary. TPE has altered the temperature settings in response to passenger feedback and should continue to monitor passenger satisfaction in this area.

### • Cleanliness

Overall passengers rated the cleanliness of the trains as excellent; however commuters in particular were not satisfied with the location, design and number of litter bins available on board. Customer feedback is needed to find out how this can be improved.

### • Information

The majority of passengers rated the information available on the trains very highly. Passengers taking part in this research told us that finding seat reservations was a particular issue. Our research found that seat reservations could be improved. Coaches are not labelled and seat numbering is identical in each carriage. TPE has told us they plan to label coaches and this is welcome.

### • Catering

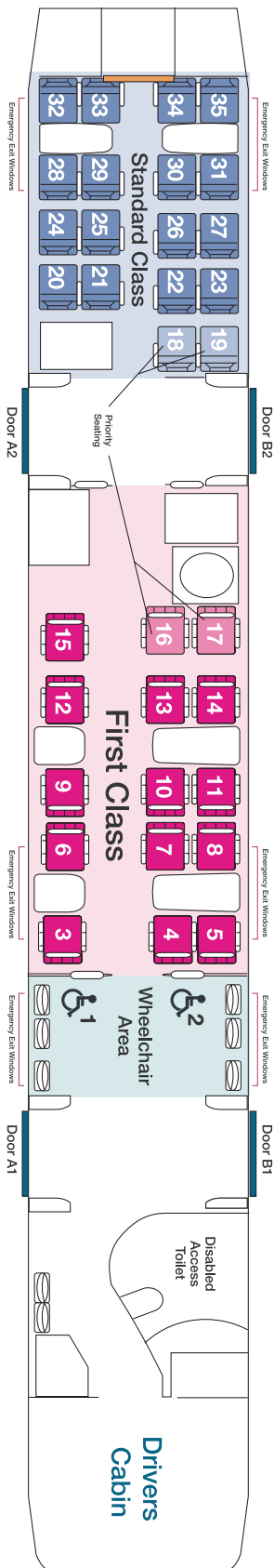
Just over half the passengers we surveyed were satisfied with the catering service on board the trains. However, many passengers on North West TransPennine services told us that they did not see the catering trolley. Passengers also told us there was a lack of choice and the products available were too expensive. The catering trolley should be available to passengers when advertised. Thought should be given to improving the range of products on offer and getting the price right.

### • Luggage

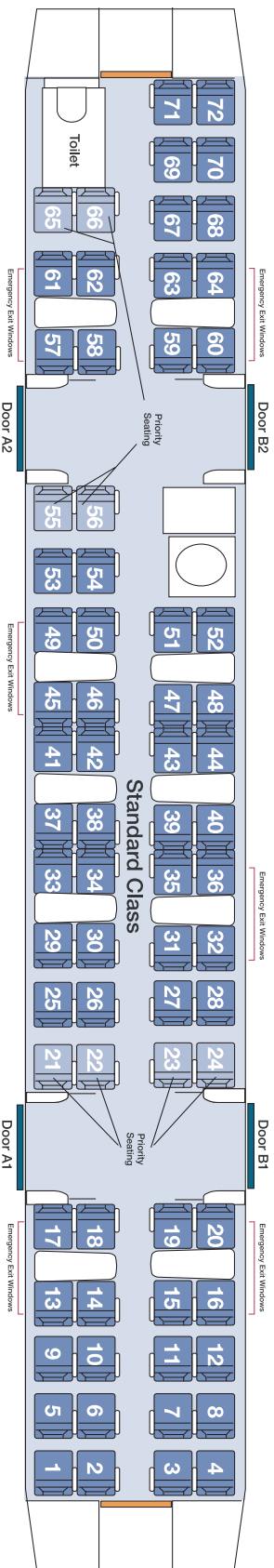
Passengers travelling to and from Manchester Airport with holiday suitcases would like more luggage space. However, passengers rate getting a seat very highly. Consideration should be given to providing advice for passengers travelling with large items of luggage. Passengers need to know the best place to board the train for easy access to the larger luggage storage areas.

# Pennine Class 185 – Seating Plan

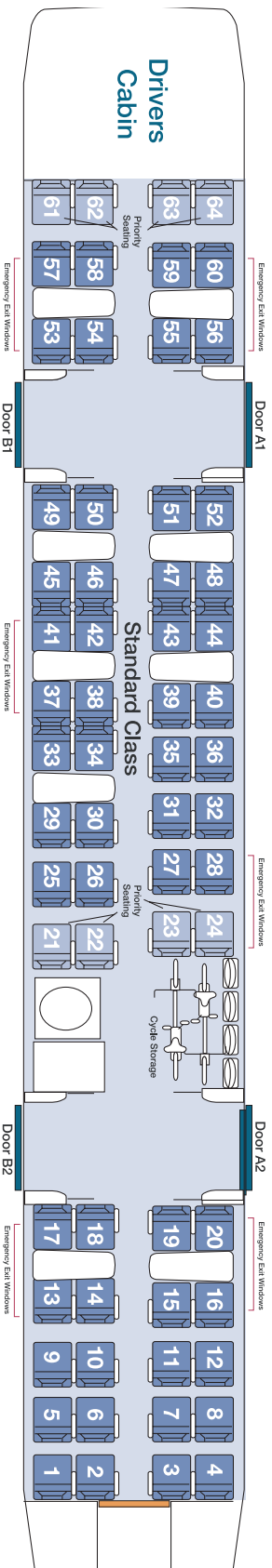
## Coach A – First Class, Wheelchair Access and Standard Class



## Coach B – Standard Class



## Coach C – Standard Class



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