London & South East 'top ten' overcrowded train services: spring and autumn 2010

Based on services arriving at or departing from London during the morning and afternoon peaks

The Department for Transport (DfT) collects rail passenger counts from train operating companies (TOCs) to monitor train crowding levels. All franchises let by the DfT require the train operator to address crowding and to plan their timetables in such a way as to ensure, as far as possible, that crowding is not unduly concentrated on any particular route or individual service. The tables included in this paper show the ten most overcrowded London & South East services in spring 2010 and in autumn 2010.

The 'top ten' services in spring 2010 were between 43 and 67 per cent over their capacity limit (100 per cent); see Table 1. In autumn 2010, services in the list were between 60 and 101 per cent over their capacity limit; see Table 2.

Methodology

These figures are taken from internal management information used for monitoring purposes. DfT is making this list public because of the demand for this kind of information. It should be noted that there are a number of data issues associated with passenger counts which must be considered when referring to the tables. Detailed notes follow the tables.

The 'top ten' lists are generated from arrivals into London during the morning peak (07:00-09:59) and departures from London in the evening peak (16:00-18:59) on a 'typical' weekday, for London and South East commuter services only. The passenger load figure is the count at the busiest point on the particular service. This can be an interchange point outside London on the route concerned (e.g. Stratford or Ealing Broadway) and does not always correspond to the terminal point.

In all cases, the spring data were collected prior to the May 2010 timetable change and the autumn data were collected before the December 2010 timetable change. The data are for services arriving at or departing from London termini in the morning and evening peaks respectively. Most of these overcrowding figures are derived from one-off measurements of the passengers on a particular week day and are not an average representation of overcrowding on the service over a period of time; so the figures represent a one-off snap-shot from either spring or autumn 2010 only and do not provide a guide to current overcrowding.

The 'top ten' lists are determined based on 'load factor', which is the number of standard class passengers on a service expressed as a percentage of the maximum stated standard class passenger capacity for that service (per the Franchise Agreements). For example, a train which has the same passenger load as the passenger capacity has a load factor of 100 per cent.

For shorter journeys, where the journey time between stations at the most crowded point is 20 minutes or less, the capacity figures given in the attached tables take account of the number of standard seats plus a standing allowance, which is determined based on the type of rolling stock. For longer-distance services where there is a gap longer than 20 minutes between stations, capacity is calculated as the number of standard seats only. A number of services included in the tables have their capacity calculated as "seats plus standing" in line with the definition above.

Table 1: The ten most overcrowded train services arriving at or departing from London during the morning and afternoon peaks; spring 2010

Warning - Figures should be treated with extreme caution - please see notes on data issues.

Rank	Train Operating Company	Departure time of service	Origin station	Destination station	Arrival time of service	Standard class passenger capacity[1]	Standard class passenger load[2]	Number of standard class passengers in excess of capacity[3]	*Standard class load factor[4], per cent*	Number of cars
1	First Great Western	05:02	Worcester Shrub Hill	London Paddington	07:29	381	635	254	*167*	7
2	First Great Western	03:58	Swansea	London Paddington	07:32	395	631	236	*160*	8
3	First Great Western	07:09	Oxford	London Paddington	08:24	381	588	207	*154*	7
4	Southern	18:51	London Bridge	London Victoria	19:42	615	944	329	*153*	6
5	First Great Western	17:18	London Paddington	Oxford	18:45	225	340	115	*151*	3
6	First Capital Connect	08:09	Sutton	St Albans	09:29	784	1180	396	*151*	8
7	National Express East Anglia	07:49	Gidea Park	London Liverpool Street	08:22	864	1283	419	*148*	8
8	First Capital Connect	15:44	Luton	Sutton	17:39	412	607	195	*147*	4
9	First Great Western	05:17	Great Malvern	London Paddington	07:59	381	553	172	*145*	7
10	First Great Western	07:33	Oxford	London Paddington	08:30	381	546	165	*143*	7

Notes

(1) The number of standard class seats on the train for journeys of more than 20 minutes. For journeys of 20 minutes or less, an allowance for standing room is also made. The allowance for standing varies with the type of rolling stock but, for modern sliding door stock, it is typically approximately 35 per cent of the number of seats.

(2) The number of standard class passengers on the service at its most crowded point on the journey into or out of London.

(3) The difference between the standard class passenger load and the standard class passenger capacity.

(4) The number of standard class passengers expressed as a percentage of the maximum allowable standard class passenger capacity for that service. For example, a train which has the same passenger load as the passenger capacity would have a load factor of 100%.

The 'top ten' services in spring 2010

1. **05:02 service from Worcester Shrub Hill to London Paddington (254 passengers in excess of its capacity of 381)**

   Capacity is based on seats only. Service has first class.

2. **03:58 service from Swansea to London Paddington (236 passengers in excess of its capacity of 395)**

   Capacity is based on seats only. Service has first class and train is at maximum length.

   FGW recognises that this is a very popular service due to its peak arrival time at Reading.

3. **07:09 service from Oxford to London Paddington (207 passengers in excess of its capacity of 381)**

   Capacity is based on seats only. Service has first class.

   FGW recognises that demand for this service is high, and will be amending the timetable and calling pattern for this service from May 2011, but this is likely to only have a limited impact. The company is talking to DfT about providing additional capacity in the Thames Valley area.

4. **18:51 service from London Bridge to London Victoria via Crystal Palace (329 passengers in excess of its capacity of 615)**

   Capacity includes seats and a standing allowance.

   Some major changes were introduced on the route in May 2010. Firstly, London Overground introduced frequent services between Dalston Junction/New Cross Gate and Crystal Palace/West Croydon (eight trains an hour) which has seen a reduction in the number of passengers using Southern services from London Bridge. At the same time, Southern increased the formation of the 18:51 London Bridge to London Victoria train to operate with 8 coaches which is the maximum possible on the route until platform extension work is completed by Network Rail permitting services to operate with 10 coaches. Subject to this infrastructure work being completed, it is planned from December 2013 that this train will be further strengthened to operate with 10 coaches.

   Also from December 2011, following platform extension works on the Sydenham corridor, a number of other services on this route will be operated with 10 coach trains between London Bridge and Norwood Junction which will significantly enhance the capacity of trains on this route.

5. **17:18 service from London Paddington to Oxford (115 passengers in excess of its capacity of 225)**

   Capacity is based on seats only. Service has first class.

   FGW altered this service from Class 166 to Class 165 in the May 2010 timetable to provide additional capacity, with 45 extra standard seats. This is a popular commuter service from

London to Maidenhead, which is the first stop. Automatic passenger count data suggests that the number of passengers on this service drops significantly after Maidenhead. The company is talking to the Department for Transport about providing additional capacity in the Thames Valley area.

6. **08:09 service from Sutton to St Albans (396 passengers in excess of its capacity of 784)**

   Capacity includes seats and a standing allowance. First class is declassified and train is at maximum length.

7. **07:49 service from Gidea Park to London Liverpool Street (419 passengers in excess of its capacity of 864)**

   Capacity includes seats and a standing allowance. Train is at maximum length.

   From the May 2011 timetable change there will be two additional 8-car services operating from Gidea Park to London Liverpool Street (07:39 and 08:49).

8. **15:44 service from Luton to Sutton (195 passengers in excess of its capacity of 412)**

   Capacity includes seats and a standing allowance.

9. **05:17 service from Great Malvern to London Paddington (172 passengers in excess of its capacity of 381)**

   Capacity is based on seats only. Service has first class.

   This service gets significantly busier as demand rises in the London and Thames Valley area. Currently, FGW is talking to DfT about providing additional capacity in the Thames Valley area.

10. **07:33 service from Oxford to London Paddington (165 passengers in excess of its capacity of 381)**

    Capacity is based on seats only. Service has first class.

    FGW recognises that this is a particularly popular service with customers. The company is talking to DfT about providing additional capacity in the Thames Valley area.

Table 2: The ten most overcrowded train services arriving at or departing from London during the morning and afternoon peaks; autumn 2010

Warning - Figures should be treated with extreme caution - please see notes on data issues.

Rank	Train Operating Company	Departure time of service	Origin station	Destination station	Arrival time of service	Standard class passenger capacity(1)	Standard class passenger load(2)	Number of standard class passengers in excess of capacity(3)	*Standard class load factor(4), per cent*	Number of cars
1	First Great Western	06 37	Reading	London Paddington	07 44	304	610	306	201	3
2	First Great Western	18 45	London Paddington	Reading	19 45	304	588	284	193	3
3	First Great Western	18 15	London Paddington	Oxford	20 14	533	945	412	177	5
4	First Great Western	06 30	Bristol Temple Meads	London Paddington	08 14	395	677	282	171	HST
5	First Great Western	07 40	Reading	London Paddington	08 47	533	907	374	170	5
6	First Great Western	06 07	Oxford	London Paddington	08 14	533	895	362	168	5
7	First Great Western	16 57	London Paddington	Reading	18 00	304	503	199	166	3
8	First Great Western	07 09	Oxford	London Paddington	08 25	381	625	244	164	HST
9	First Great Western	07 28	Bourne End	London Paddington	08 17	440	704	264	160	5
10	First Great Western	17 18	London Paddington	Oxford	18 45	270	432	162	160	3

Notes

(1) The number of standard class seats on the train for journeys of more than 20 minutes. For journeys of 20 minutes or less, an allowance for standing room is also made. The allowance for standing varies with the type of rolling stock but, for modern sliding door stock, it is typically approximately 35 per cent of the number of seats.

(2) The number of standard class passengers on the service at its most crowded point on the journey into or out of London.

(3) The difference between the standard class passenger load and the standard class passenger capacity.

(4) The number of standard class passengers expressed as a percentage of the maximum allowable standard class passenger capacity for that service. For example, a train which has the same passenger load as the passenger capacity would have a load factor of 100%.

The ‘top ten’ services in autumn 2010

1. **06:37 service from Reading to London Paddington (306 passengers in excess of its capacity of 304)**

   Capacity includes seats and a standing allowance. Service has first class.

   FGW has recognised this service is crowded and plan to strengthen it if additional rolling stock can be provided. Recent counts have suggested that current loads are slightly less than was reported in the autumn.

   Currently, FGW is talking to DfT about providing additional capacity in the Thames Valley area.

2. **18:45 service from London Paddington to Reading (284 passengers in excess of its capacity of 304)**

   Capacity includes seats and a standing allowance. Service has first class.

   FGW has recognised this service is crowded and plan to strengthen it if additional rolling stock can be provided. Recent counts have suggested that current loads are slightly less than was reported in the autumn, but the service is still crowded.

   Currently, FGW is talking to DfT about providing additional capacity in the Thames Valley area.

3. **18:15 service from London Paddington to Oxford (412 passengers in excess of its capacity of 533)**

   Capacity includes seats and a standing allowance. Service has first class.

   First Great Western altered this service in the December 2010 timetable to provide additional capacity, with 45 extra standard seats. Recent counts showed a significantly lower loading on this service.

4. **06:30 service from Bristol Temple Meads to London Paddington (282 passengers in excess of its capacity of 395)**

   Capacity is based on seats only. Service has first class. Train is at maximum length.

   Although still crowded, more recent figures suggest significantly lower train load figures for this service.

   Currently, FGW is talking to DfT about providing additional capacity in the Thames Valley area.

5. **07:40 service from Reading to London Paddington (374 passengers in excess of its capacity of 533)**

   Capacity includes seats and a standing allowance. Service has first class.

   More recent count data for this service suggest lower loadings on this service.

6. **06:07 service from Oxford to London Paddington (362 passengers in excess of its capacity of 533)**

   Capacity includes seats and a standing allowance. Service has first class.

   Although still crowded, more recent count data for this service shows a significant drop in the number of passengers from the autumn 2010 figures.

7. **16:57 service from London Paddington to Reading (199 passengers in excess of its capacity of 304)**

   Capacity includes seats and a standing allowance. Service has first class.

   FGW has recognised this service is crowded and plans to strengthen it if additional rolling stock can be provided. Recent counts have suggested that although still crowded, current loads are slightly less than were reported in autumn 2010.

   Currently, FGW is talking to DfT about providing additional capacity in the Thames Valley area.

8. **07:09 service from Oxford to London Paddington (244 passengers in excess of its capacity of 381)**

   Capacity is based on seats only. Service has first class. Train is at maximum length.

   FGW has recognised that demand for this service is high, and has amended the timetable and calling pattern for the service in May 2011, but believe this is likely to have a limited impact. However, recent counts have suggested that current loads are slightly less than was reported in autumn 2010.

   Currently, FGW is talking to DfT about providing additional capacity in the Thames Valley area.

9. **07:28 service from Bourne End to London Paddington (264 passengers in excess of its capacity of 440)**

   Capacity is based on seats only. Service has first class. Train is at maximum length.

   FGW recognise that this is a busy peak service into Paddington, running non-stop from Slough.

   Currently, FGW is talking to DfT about providing additional capacity in the Thames Valley area.

10. **17:18 service from London Paddington to Oxford (162 passengers in excess of its capacity of 270)**

    Capacity is based on seats only. Service has first class. Train is at maximum length.

    FGW has recognised that this service is crowded and plan to strengthen it if additional rolling stock can be provided. Recent counts have suggested that although still crowded, current loads are slightly less than were reported in autumn 2010.

Passenger counts data issues

- Though a great deal of work is being undertaken in the Department to improve the quality of the passenger count data received from the TOCs, and the outputs derived from these data, this is work in progress. Whilst we believe that aggregate statistics are of reasonable quality, statistics on individual services are not robust.

- The overcrowding figures for the 'top ten' services are often derived from one-off measurements of the passengers on each train on a particular week day. They are not an average representation of overcrowding on the service over a period of time. Furthermore, the majority of the passenger load numbers are obtained by manual counting and so there is a significant risk of human error. Hence **the figures should be treated with extreme caution**.

- As the figures included in this release are a one-off snap-shot from either spring 2010 or autumn 2010, they do not provide a reliable, accurate guide to current overcrowding. For example, extra capacity has already been introduced on some routes.

- It should be noted that some of the services in the 'top ten' list are atypical, in as much as they are services/routes on which additional capacity cannot be provided without unrealistic changes to infrastructure.

- Although we are increasing the quantity of passenger counts collected by DfT, both in terms of the number of counts received from TOCs and the geographic coverage of the data, at present we have insufficient data to cover off-peak and regional services. Therefore each 'top ten' list is generated from arrivals into London during the morning peak (07:00-09:59) and departures from London in the evening peak (16:00-18:59) for London and South East commuter services only. The data collected are intended to represent a 'typical' weekday (usually Tuesday to Thursday). Historically, the department has only monitored crowding levels for London and South East operators. In co-operation with train operators, the Department is currently expanding its capacity to monitor crowding in key regional cities; however, the data quality is variable at present.

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