Department for Transport

Spotlight on Transport Statistics during the London 2012 Olympic Games and Paralympics

The London 2012 Olympic Games and Paralympic Games took place between 27 July – 12 August and 29 August – 9 September respectively, with the Olympic football starting early on 25 July. Much of this chapter compares data for this period to a comparable period in the previous year. These statistics not only measure 'performance' of the transport network during the Games, but also the behaviour of non-Games travellers who re-timed or chose not to make journeys. This is not intended to be a comprehensive review of transport performance in London or Great Britain during the Games, but supplements evidence from other sources.

Spotlight on Transport Statistics during the London 2012 Olympic Games and Paralympics includes:

- Monthly international passengers and sailings at UK ports;
- Punctuality, passengers and air transport movements at UK airports;
- Average traffic speeds on locally managed 'A' roads in the Olympic host boroughs;
- Performance against profiles on Highways Agency Strategic Route Network (SRN) Olympic Routes, and
- The headline impact on rail journeys including National Rail Games Travel Sales;

Supporting materials

The Olympic Delivery Authority (ODA) published a report *Delivering transport for the London 2012 Games*[1] in October 2012 which provides an overall picture of how transport for the Games was achieved, what was learned on the way, and the transport legacy. It focuses on the additional projects and programmes – mainly funded by the ODA – that would not have happened without the London 2012 Games being staged.

Transport for London (TfL) will also be dedicating a large part of their annual report *Travel in London 5* on how the capital's transport system performed during the Games. TfL collect much more detailed data for London than DfT. Their report will cover the full range of TfL managed transport. *Travel in London 5* will be also be published in mid-December 2012 and will be available on the TfL website at http://www.tfl.gov.uk/corporate/about-tfl/publications/1482.aspx. In light of this, we have not aimed to duplicate TfL's analysis of transport in London during the Games, but present a spotlight on DfT statistics supplemented with data from the Highways Agency (HA) and the Association of Train Operating Companies (ATOC) that contribute to the wider understanding of how the transport network performed in London and other key sites of interest during the Games period.

[1] http://www.ice.org.uk/ice_upload/delivering_transport_London_2012.pdf

Summary

- The number of sea passengers arriving and departing at UK ports was 15 per cent lower in July 2012 than July 2011 and 10 per cent lower in August 2012 than August 2011. The number of sailings was also seven per cent lower in July and August 2012 when compared to the previous year.

- There were fewer terminal passengers (arrivals and departures) at UK airports in July and August 2012 compared to the same months in 2011: the volume of passengers was reduced by 0.5 million (two per cent) and 0.3 million (one per cent) respectively. The number of air transport movements (ATMs) was also two per cent lower in July, August and September 2012 than in the previous year by 4,000, 3,000 and 5,000 ATMs respectively. The most pronounced feature in arrivals and departures at London Heathrow related to Games family members on Monday 13 August (the day after the closing ceremony). The staging of the Olympic Games had no obvious effect on length of delays at UK airports in July and August.

- These results support the findings from the International Passenger Survey which indicate that there were 8.8 million visits to the UK by overseas residents in July – September 2012 (for any purpose)[2]. This was four per cent lower than in July – September 2011. IPS estimates also suggest that there were 680,000 completed visits to the UK by overseas residents in July – September 2012, either specifically for the 2012 Olympics/Paralympics (participating, working or watching) or primarily for another reason but involving attendance at a ticketed event. This represents eight per cent per of all visits to the UK by overseas residents.

- Average speeds on locally managed 'A' roads in the six London host boroughs were generally slightly slower (1.7mph) during the Olympic Games than during a comparative period in 2011. Although this varied depending on the time of day, the morning and afternoon peak speeds were still at approximately the same time of day as in the comparable period a year earlier.

- Performance against profile for the Olympic Routes on the Highways Agency Strategic Route Network (SRN) was good throughout the period of the Olympic Games, with overall journey speeds being recorded as just 0.5 per cent slower than expected and any substantial delays on specific routes were caused by Road Traffic Collisions and other incidents rather than the weight of traffic on the network.

- Estimates from ATOC confirm that there were substantial increases in the number of rail journeys during the Olympics and Paralympics. The overall national impact was estimated to be 21.2 million journeys. Journeys in the London and South East accounted for the majority of this uplift (93 per cent) with long distance journeys accounting for a further five per cent.

[2] http://www.ons.gov.uk/ons/rel/ott/overseas-travel-and-tourism---monthly-release/september-2012/stb-monthly-overseas-travel-and-tourism--september-2012.html

International passengers and sailings at UK ports

- The number of sea passengers and sailings arriving at UK ports is only available on a monthly basis. In 2012 the number of sailings arriving and departing in the UK in July, August and September was 4-7 per cent lower than in 2011. Similarly, the number of sea passengers arriving and departing in the UK in July – September was 4-15 per cent lower in 2012 than in 2011, with July experiencing the greatest year on year decline.

Table 1: Sea Passenger statistics at United Kingdom ports, year on year change

Percentage

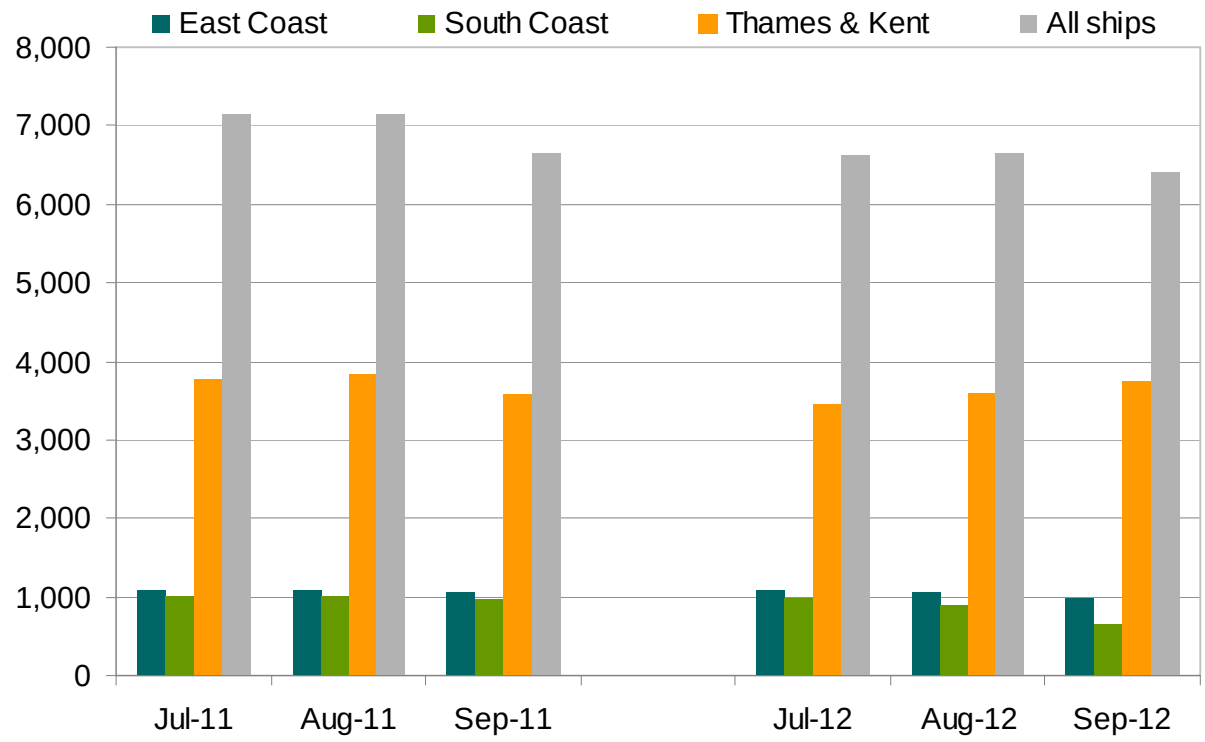
	Change: 2011 to 2012		
	Jul	*Aug*	*Sept*
(a) Passenger ships (arrivals and departures)			
East Coast	-1%	-3%	-6%
South Coast	-4%	-13%	-33%
Thames & Kent	-8%	-6%	5%
of which:			
Dover - Calais	*-13%*	*-8%*	*9%*
Dover - Dunkerque	*4%*	*0%*	*0%*
All ships	**-7%**	**-7%**	**-4%**
(b) Passengers (arrivals and departures, thousands)			
East Coast	-8%	0%	1%
South Coast	-15%	-13%	-20%
Thames & Kent	-16%	-11%	0%
of which:			
Dover - Calais	*-17%*	*-12%*	*1%*
Dover - Dunkerque	*-13%*	*-9%*	*-5%*
All passengers	**-15%**	**-10%**	**-4%**

Source: TSGB1001

- The number of ships sailing between Dover to Calais in July declined at twice the rate as at all UK ports (13 per cent compared to seven per cent). The Dover – Calais route also experienced an above average decline in July passenger numbers (17 per cent compared to 15 per cent for all UK ports). South coast ports also experienced above average rates of year on year decline in July – September. In September 2012, the number of ships arriving and departing at South coast fell by 33 per cent compared to 2011, and the number of passengers fell by 20 per cent.

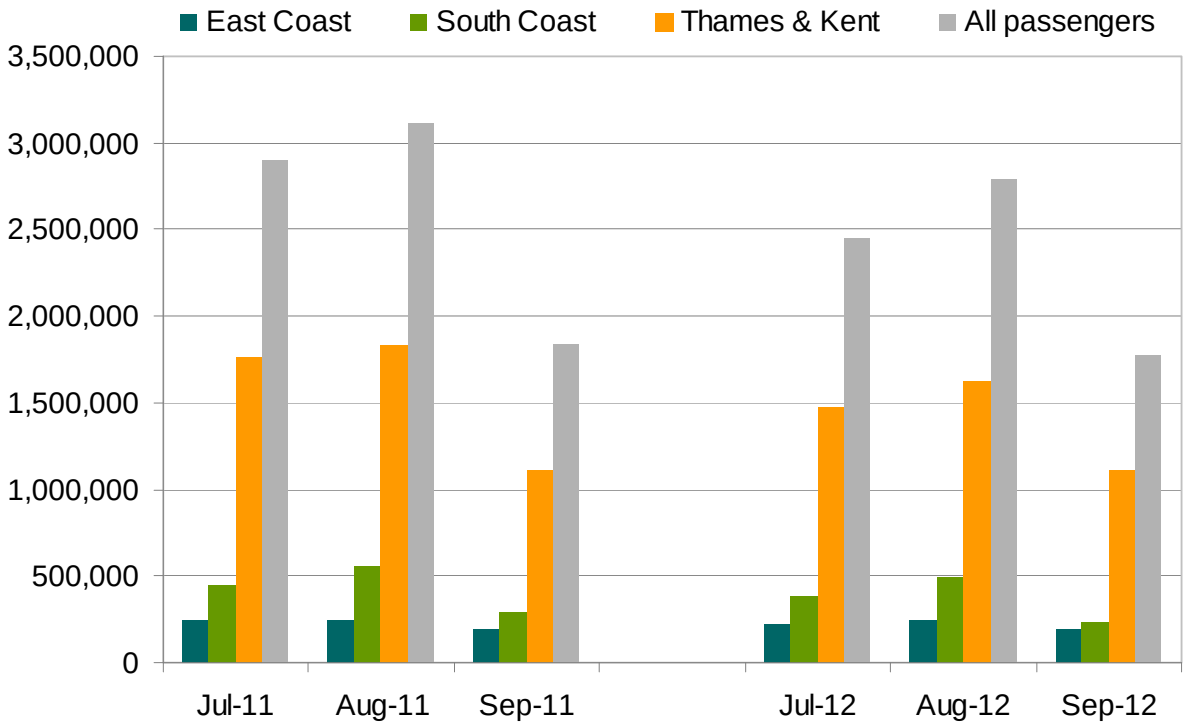
- A large element of this can be attributed to a series of staff strikes at Brittany Ferries, which resulted in numerous sailings from Portsmouth, Poole and Plymouth being cancelled. Chart 2 and Chart 3 illustrate the number of sailings and passengers in July – September 2011 and 2012.

Chart 2: Passenger ships (arrivals and departures at UK ports)



Source: TSGB1001

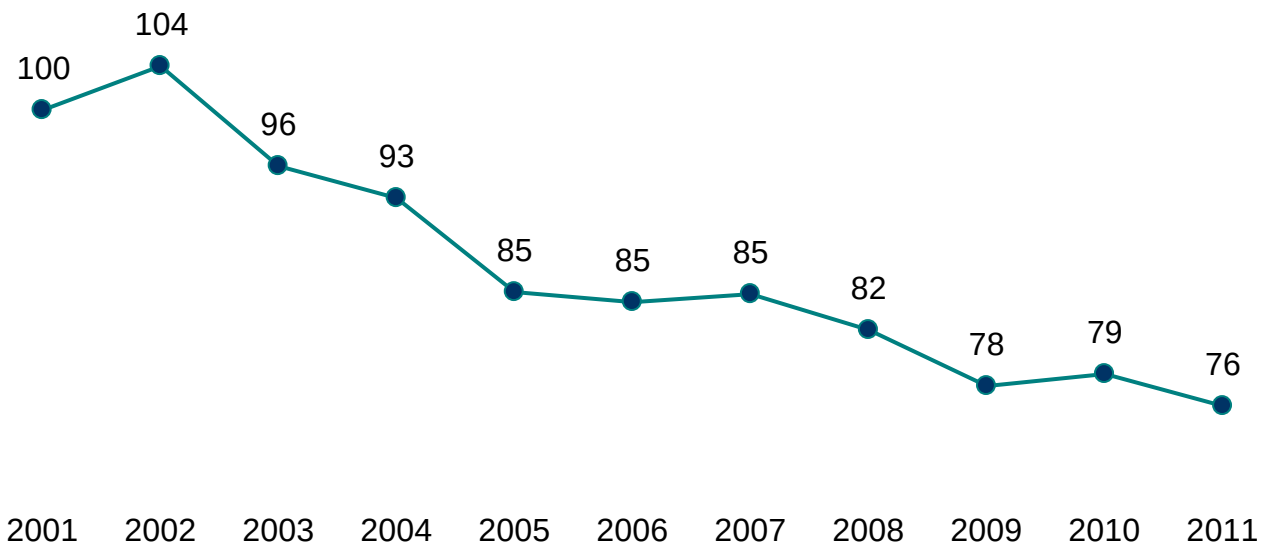
Chart 3: Passengers (arrivals and departures at UK ports)



Source: TSGB1001

- The number of international sea passengers has been in decline for a number of years although the rate of decline has slowed in recent years (Chart 4). Between 2001 and 2011, the number of sea passengers arriving and departing at UK ports declined by an average of three per cent per annum. This would suggest that the reduced number of passengers (4-15 per cent) in August – September 2011-2012 outstripped this downwards trend.

Chart 4: International sea passengers: index (2001=100)



Data: SPAS0103 UK international short sea passenger movements by overseas country: 1950 – 2011

Passengers, air transport movements and freight at UK airports

- The anticipated increase in traffic at UK airports, including airports in the South East, did not materialise (see Table 5). In July and August the total number of terminal passengers (arrivals and departures) was lower in 2012 than in 2011 at UK airports overall, as well as at Heathrow, Stansted and London City.

- The total number of arrivals and departures in the UK fell from 23.2million passengers in July 2011, to 22.7million in July 2012 (two per cent) and from 23.2million in August 2011 to 23.0 million in August 2012 (one per cent).

- The volumes of passengers at Gatwick and Luton in July – September 2012 were similar to those experienced in 2011. Passenger numbers appear to have recovered in September at Gatwick and Heathrow. Heathrow experienced the highest ever number of passengers in a September 2012, rising by one per cent compared to September 2011, to 6.35 million.

Table 5: Terminal passengers at United Kingdom airports: year on year change

	Change: 2011 to 2012		
	Jul	*Aug*	*Sept*
(b) Terminal passengers (arrivals and departures)			
Gatwick	0%	0%	2%
Heathrow	-4%	-2%	1%
London City	-7%	-2%	-2%
Luton	0%	0%	0%
Stansted	-5%	-5%	-4%
All UK airports	**-2%**	**-1%**	**0%**

Source: Civil Aviation Authority, TSGB1002

- Changes in air transport movements (ATMs) show a similar pattern to passenger numbers. The main exception is London City which saw a large increase in ATMs in 2012 despite a fall in passenger numbers. This is thought to be due to additional leisure routes at London City increasing the number of flights coinciding with a fall in passengers on traditional business routes which remained open over the summer albeit with low loads.

- The total number of ATMs in the UK fell from 194,000 in July 2011 to 189,000 in July 2012 (two per cent) and from 194,000 in August 2011 to 191,000 in August 2012 (two per cent). The number of ATMs at UK airports in September 2012 was also two per cent lower than a year earlier.

Table 6: Air transport movements at United Kingdom airports: year on year change

	Change: 2011 to 2012		
	Jul	*Aug*	*Sept*
(a) Air transport movements (aircraft landings and take-offs)			
Gatwick	0%	-7%	0%
Heathrow	-1%	-2%	-2%
London City	11%	11%	0%
Luton	0%	-5%	-1%
Stansted	-4%	-7%	-6%
All UK airports	**-2%**	**-2%**	**-2%**

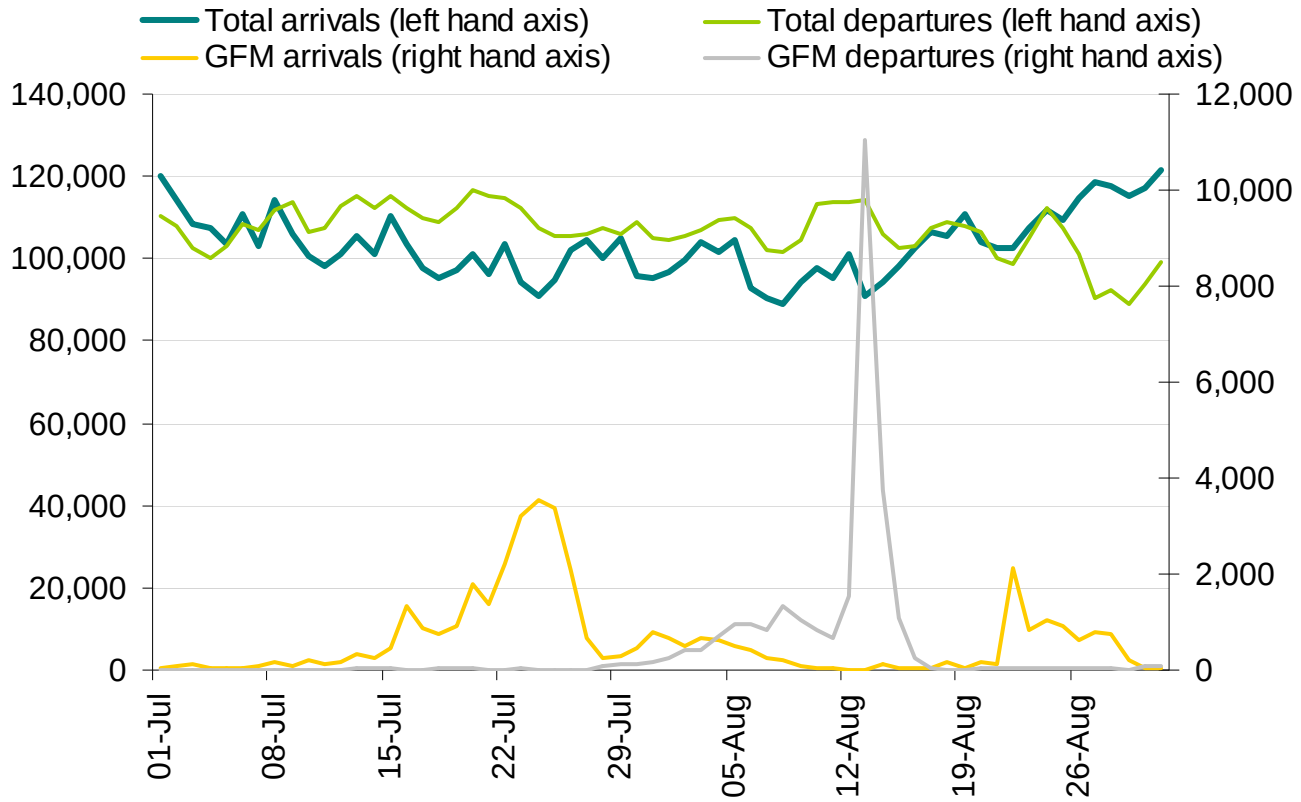
Source: Civil Aviation Authority, TSGB1002

- There are a few small peaks in the daily arrivals and departures for the London airports at key times, for example, an increase in departures after the Olympic closing ceremony, but these don't stand out compared to the daily flows in the same months in 2011.Chart 7 illustrates daily arrivals and departures at Heathrow for the period covering the Olympic Games. There is a clear peak in the number of Games Family Members (GFM) departing from Heathrow on Monday 13 August (the day after the closing ceremony).

- It is worth noting that the GFM data are estimates based on the London Organising Committee of the Olympic Games' (LOCOG's) Arrivals and Departures System (ADS) database.

- This held details of GFM's plans submitted in advance of the Games, but it is likely that not everyone submitted their travel arrangements, or adhered to their submitted travel plans, so these estimates may not be an accurate record of GFM's travel although they should give a good indication of the daily flows.

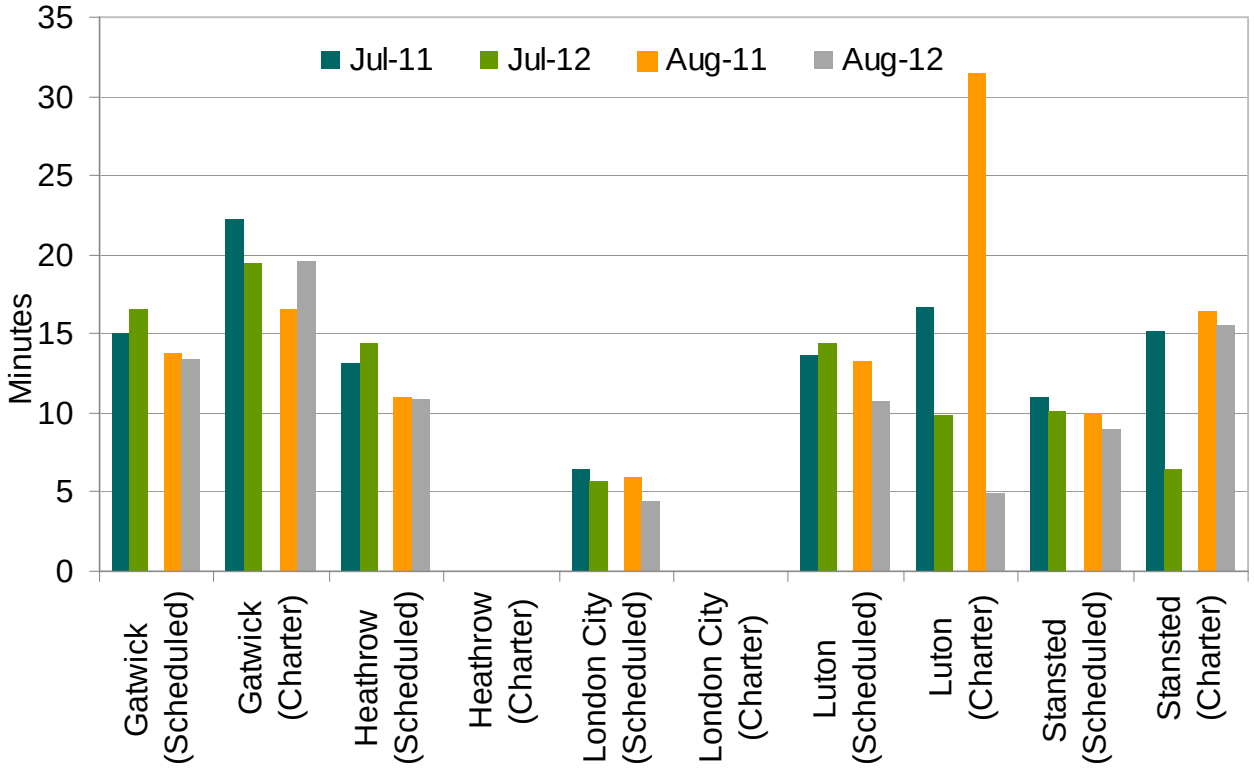
Chart 7: Daily arrivals and departures at Heathrow, total passengers and registered Games Family Members, July and August 2012



Source: Civil Aviation Authority and LOCOG (ADS)

- The Games did not appear to have a marked affect on the punctuality of flights at UK airports (TSGB1003 and Chart 8). Punctuality fluctuated slightly or remained the same at different airports in different months compared to the previous year. It should be noted that delays were relatively low in 2011. Chart 8 illustrates how there is no conclusive direction to the year on year trends for average delays at London airports in July and August 2011-2012.

Chart 8: punctuality at London Airports, July and August, 2011 - 2012 (average delay in minutes)



Source: Civil Aviation Authority, TSGB1003

Average traffic speeds on locally managed 'A' roads in the Olympic host boroughs

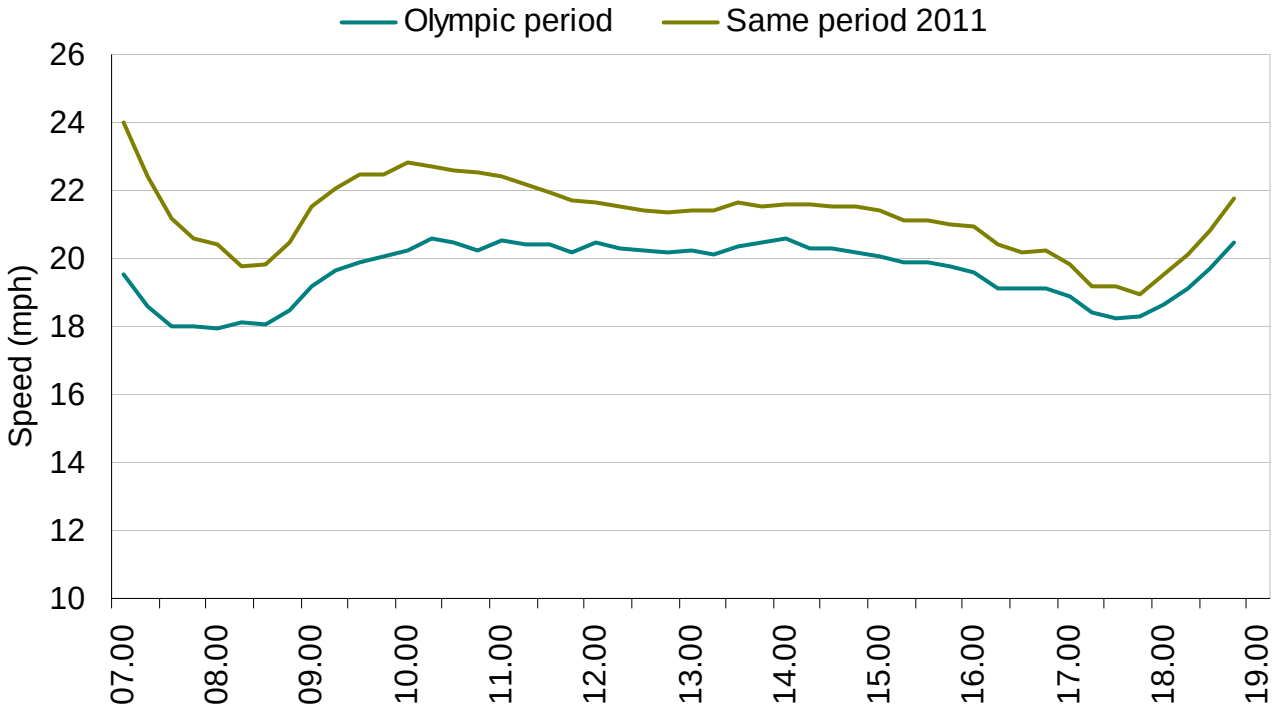
- Average speeds on locally managed 'A' roads in the six London host boroughs were 1.7 mph slower during the Olympic Games period than during a comparative period in 2011. The difference in average speed during the Olympics for the six host boroughs varied between 0.7 – 4.5 mph slower than in the same period a year earlier depending on the time of day.

- Changes in average speeds during the day broadly followed a similar pattern during the Olympics compared to the previous year. That is, the morning and afternoon peak times were much the same. Similar effects on average speeds were observed in other London boroughs, although the reduction in speeds during the Olympic period compared to the previous year was generally greater for the London host boroughs.

- To put the reduction in speeds during the Games into context, average speeds for weekdays in the week commencing 9 September 2012, directly after the Paralympics were around 3-4mph lower during the morning and afternoon peaks, compared to during the Olympic period. This is believed to be largely due to the impact of additional traffic relating to school travel.

- Chart 9 presents estimated average traffic speeds on locally managed 'A' roads in the six London 2012host boroughs on weekdays during the Olympic Games period, by time of day. For comparison, average speeds for the same period in 2011 are also presented.

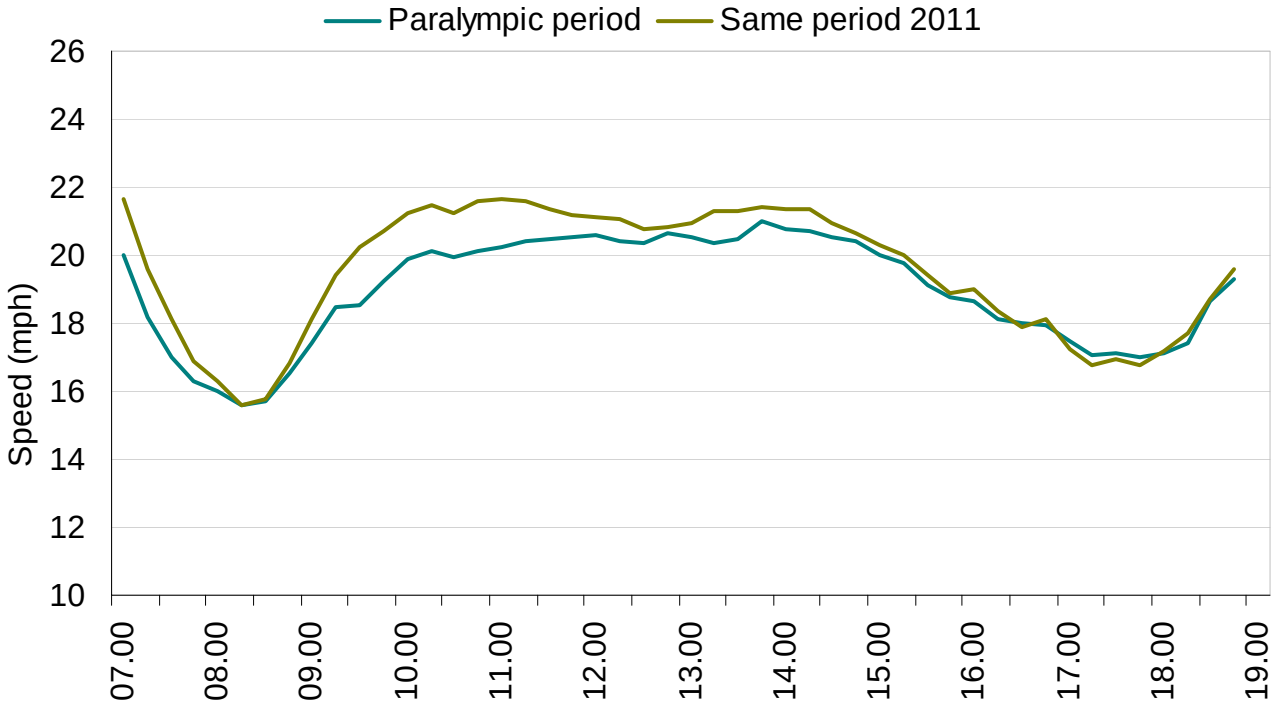
Chart 9: Average speed during the Olympics on locally managed 'A' roads for the six London 2012 host boroughs by time of day



Source: TSGB1005

- Chart 10 presents equivalent data for the duration of the Paralympics. The impact upon the average speed on 'A' roads in the host boroughs was negligible during peak hours. However, the mid-late morning traffic (09.15-11.15) was 1.0 - 1.7 mph slower during the Paralympics compared to the same period a year earlier.

Chart 10: Average speed during the Paralympics on locally managed 'A' roads for the six London 2012 host boroughs by time of day



Source: TSGB1005

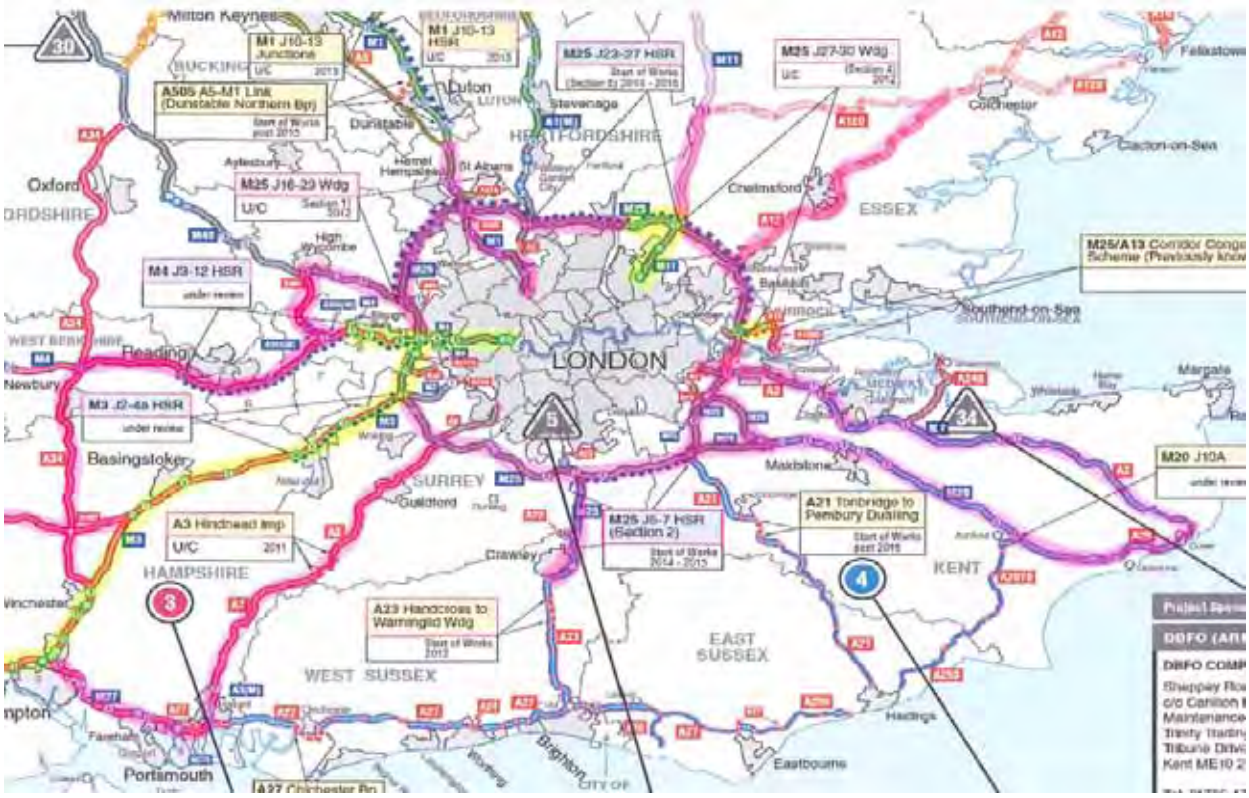
Performance against profiles on Highways Agency Strategic Route Network (SRN) Olympic Routes

- DfT Automatic Traffic Counter (ATC) sample is not used here as it is designed to produce estimates at a national level and as a result have a limited number of Automatic Traffic Counters in London and elsewhere in the country which are used to collect traffic data.

- The quality and coverage of data from these ATCs is not sufficiently robust for use on for London or specific Olympic Routes outside of London over a relatively short reference period. This section therefore draws upon analysis by the Highways Agency using their traffic data for the strategic road network on Olympic Routes.

- Prior to London 2012, the Highways Agency identified key routes within the Strategic Route Network (SRN) that were deemed key for supporting a successful Olympics. These routes (highlighted in Figure 11) were identified as key to supporting travel to the games and the regular traffic whose daily lives were also likely to be impacted upon.

Figure 11: Highways Agency Strategic Road Network Olympic Routes



Source: Highways Agency

- The Highways Agency gauges the performance of its network through a system of rolling profiles which establish a typical journey time for all routes at all times of the day. Through these profiles they are able to assess how well the network is performing. This text focuses on the key Olympic Routes during the period between 23rd July and 13th August.

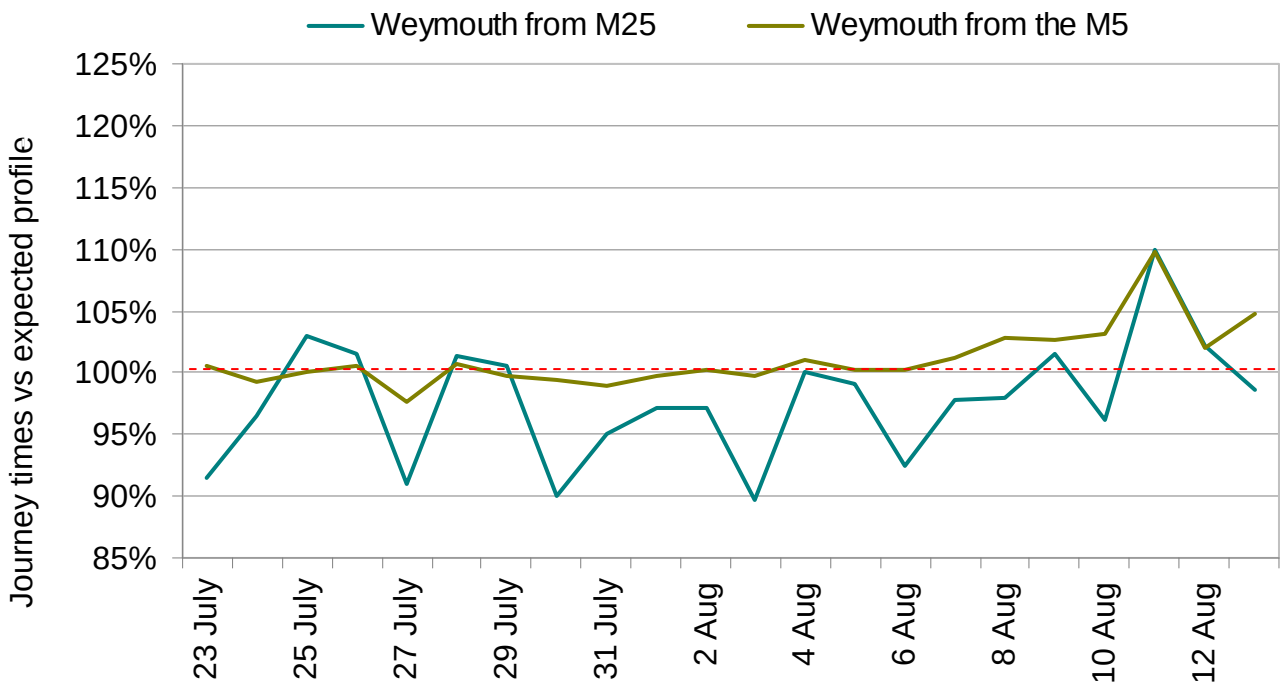
- On the whole performance against profile on these routes was good throughout the period of the Olympics. Overall, average journey times were recorded as being just 0.5 per cent slower than expected across the Olympic Network. For example, the profiled journey time from Heathrow to the end of the M4 (as of 12:00 on 23rd July) was 10 minutes. An increase of 0.5 per cent on this would result in an additional journey time of 3 seconds being added to this journey time. It should be noted, however, that this is the average performance of the network and there were many delay causing incidents that did impact upon travellers' journeys.

- In addition to looking at journey times across all Olympic routes, performance against profile has been analysed for five specific routes:
  - two routes to Weymouth;
  - Hertfordshire Park and Ride to junction four of the M11
  - the M25 and Heathrow to the end of the M4.

- Charts 12-14 illustrate how average journey times 'above profile' (*Journey time versus expected profile*>100%) were longer than expected, and journey times 'below profile' (*Journey time versus expected profile*<100%) were shorter than expected.

- The routes to Weymouth were from the M5 junction 29 using the A30 and A35. The route from the M25 used the M3, M27 and A31. Both routes to Weymouth performed well and were only under major strain on one day - the 11th August when there was a three vehicle Road Traffic Collision (RTC) that closed the A35 for four hours.

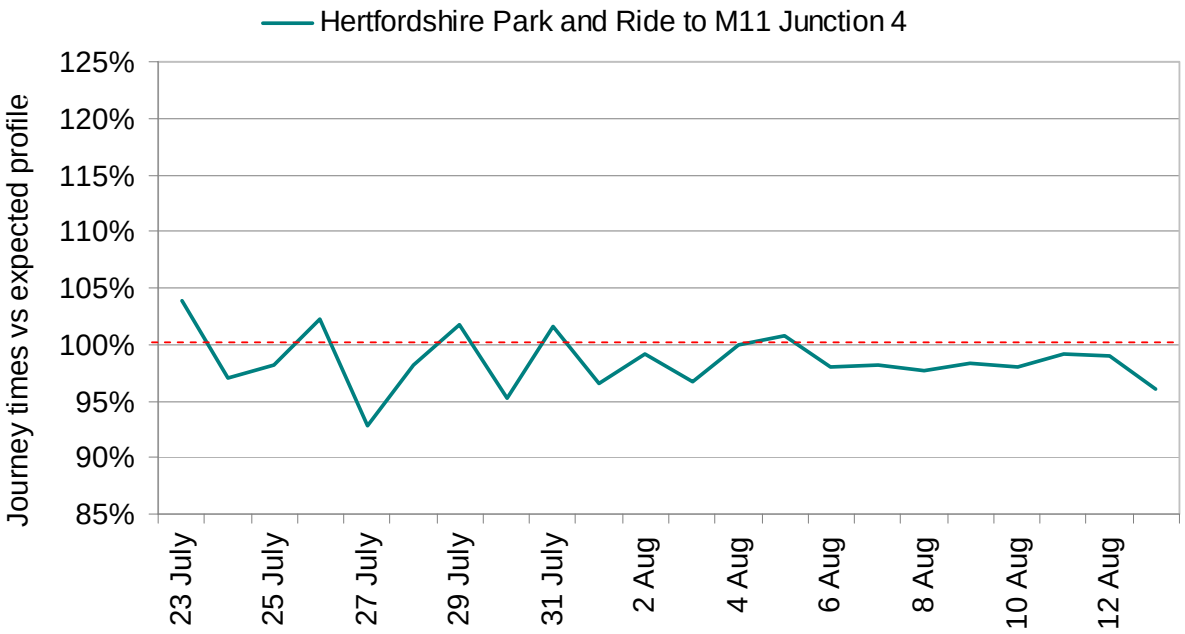
Chart 12: Olympic route performance – Weymouth



Source: Highways Agency

- The route from the Hertfordshire Park and Ride begins at junction nine of the M1, joins the M25 and finishes at the end of the M11 at junction four. This remained near profile throughout the Olympic period. There were no significant incidents on this route and journey times were constant.

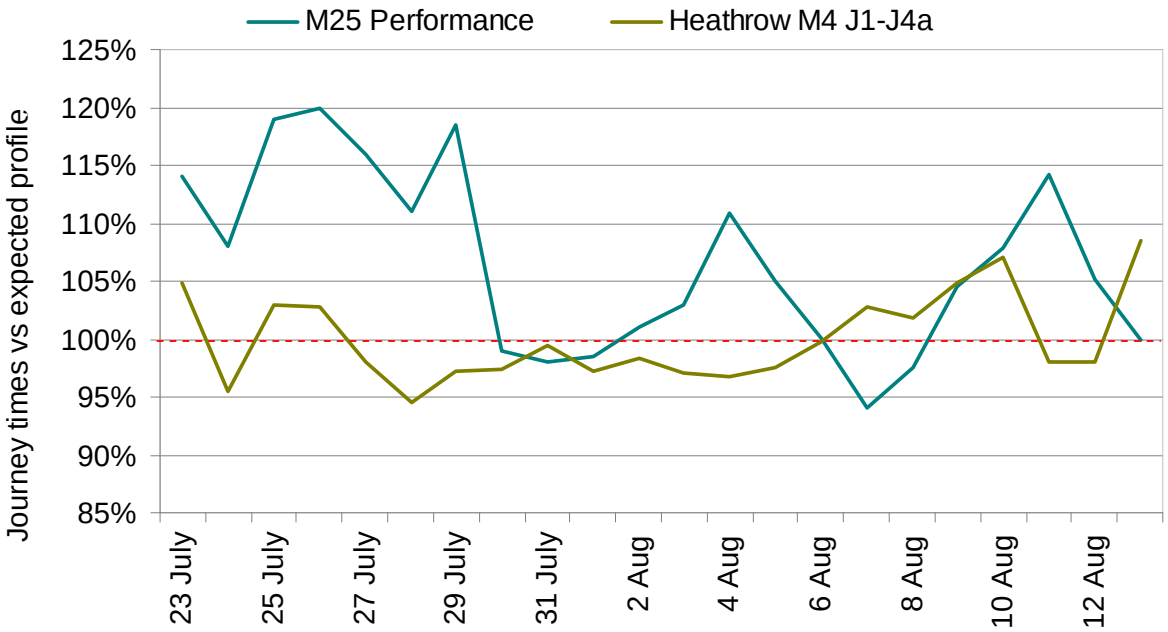
Chart 13: Olympic route performance – Hertfordshire Park and Ride to the end of the M11



Source: Highways Agency

- The M25 is the busiest part of the Olympic Network and during the games there were eight days where the expected profiles for the routes were considerably exceeded. The Highways Agency managed 18 significant incidents on the M25 that directly contributed to the poor performance experienced on those eight days. In total, these 18 events were on the network for 32.5 hours and were directly responsible for poor journey times on these days. That is, delays were not due to the weight of traffic using the network. The M4 route from Heathrow performed well with no significant incidents.

Chart 14: Olympic route performance – M25 and M4 to Heathrow

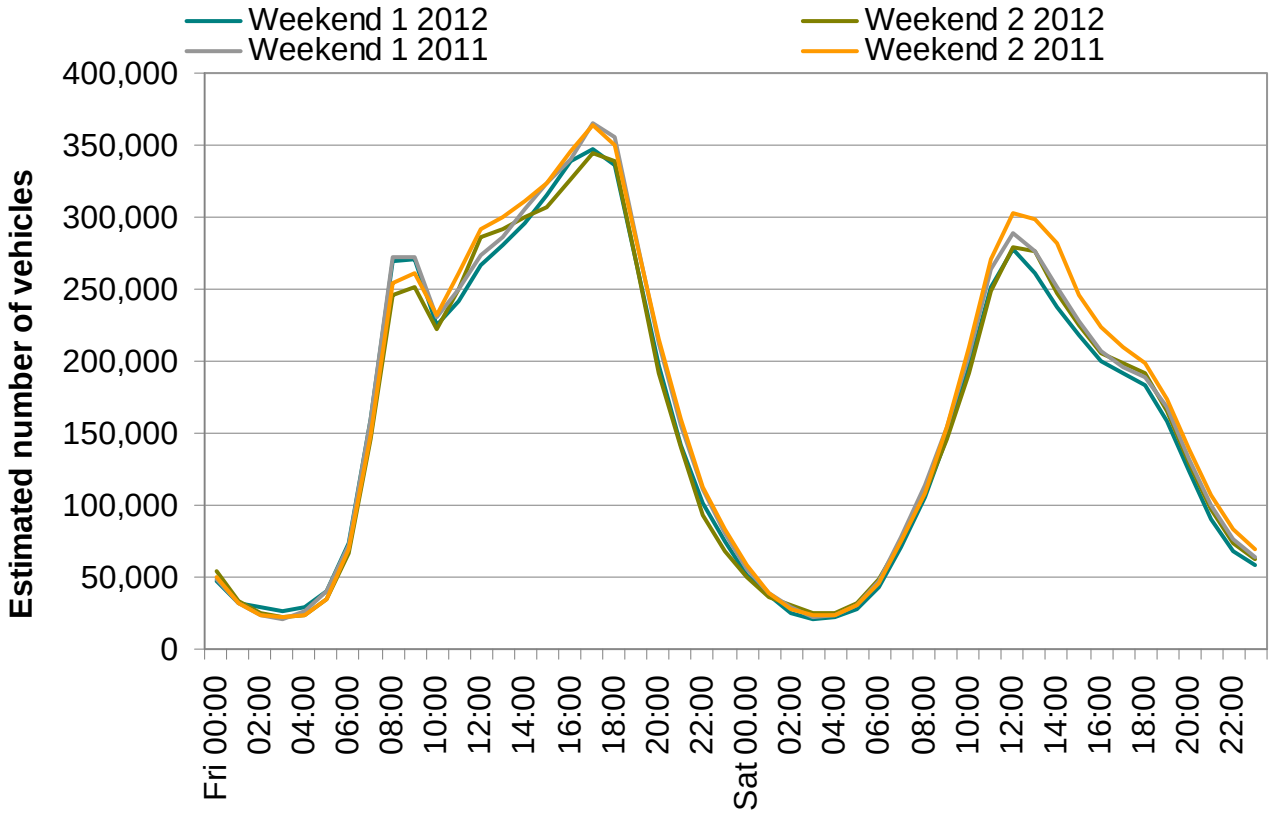


Source: Highways Agency

- The last two 'summer getaway' weekends in July are usually peak demand days for the SRN which traditionally experiences a substantial spike in traffic on the last two Fridays and Saturdays in July. As illustrated in Chart 15, this effect was less pronounced in July 2012 than the previous year.

- For the first weekend[3] there were four per cent fewer vehicles on the road compared to 2011 and for the second weekend[4] there were six per cent fewer vehicles on the network. This suggests that road users modified their journeys at these crucial getaway periods in 2012, and have either deferred travelling or have decided against travel at this time in 2012.

Chart 15: estimated number of vehicles on the Strategic Route Network on "summer getaway" weekends (Friday and Saturday)



Source: Highways Agency

The estimated headline impact on rail journeys including National Rail Games travel sales

- This section evaluates the impact of the Games on services on three specific rail sectors: London and the South East, long distance rail services and regional services, as well as National Rail as a whole. All three rail sectors saw sizeable uplifts in Off Peak growth across the Games period, with the greatest overall impact in London and the South East where there were approximately 20 million more journeys (across all ticket types) than would normally be seen at that time of year.

[3]Weekend 1: 20th-21st July 2012 compared with 22nd-23rd July 2011
[4]Weekend 2: 27th-28th July 2012 compared with 29th-30th July 2011

Table 16: Net impact on rail journeys[5]

Sector	*Net Olympics Impact (million journeys)*	*Net Paralympics Impact (million journeys)*	*Net Overall Impact (million journeys)*
London and South East	13.6	6.1	19.7
Long Distance	0.5	0.5	1.0
Regional	0.2	0.3	0.5
National net impact	**14.2**	**6.9**	**21.2**

Source: ATOC

- Eight million additional journeys were made on Off-Peak tickets (including National Rail Games Travel sales) and there was also strong growth on Anytime tickets within London and South East, with two million more journeys than would normally be seen.

- Games Travelcards were the largest contributor to the uplift in London and South East travel with an estimated 11 million journeys made on these. Season ticket journeys were negatively impacted as many commuters attended Games events (although some of these will have used their season ticket to do so), stayed at home or chose to go on holiday, with two million fewer journeys than usual made on these tickets.

- The impacts on the Long Distance and Regional Train Operating Companies (TOCs) were less pronounced, but both saw uplifts in travel compared to normal levels. One million additional Long Distance journeys were made whilst the corresponding uplift in the Regional sector was 0.5 million journeys.

- Long Distance Anytime travel was below usual levels as many business trips were cancelled or postponed until after the Games, although the National Rail Games Travel website boosted long distance travel overall.

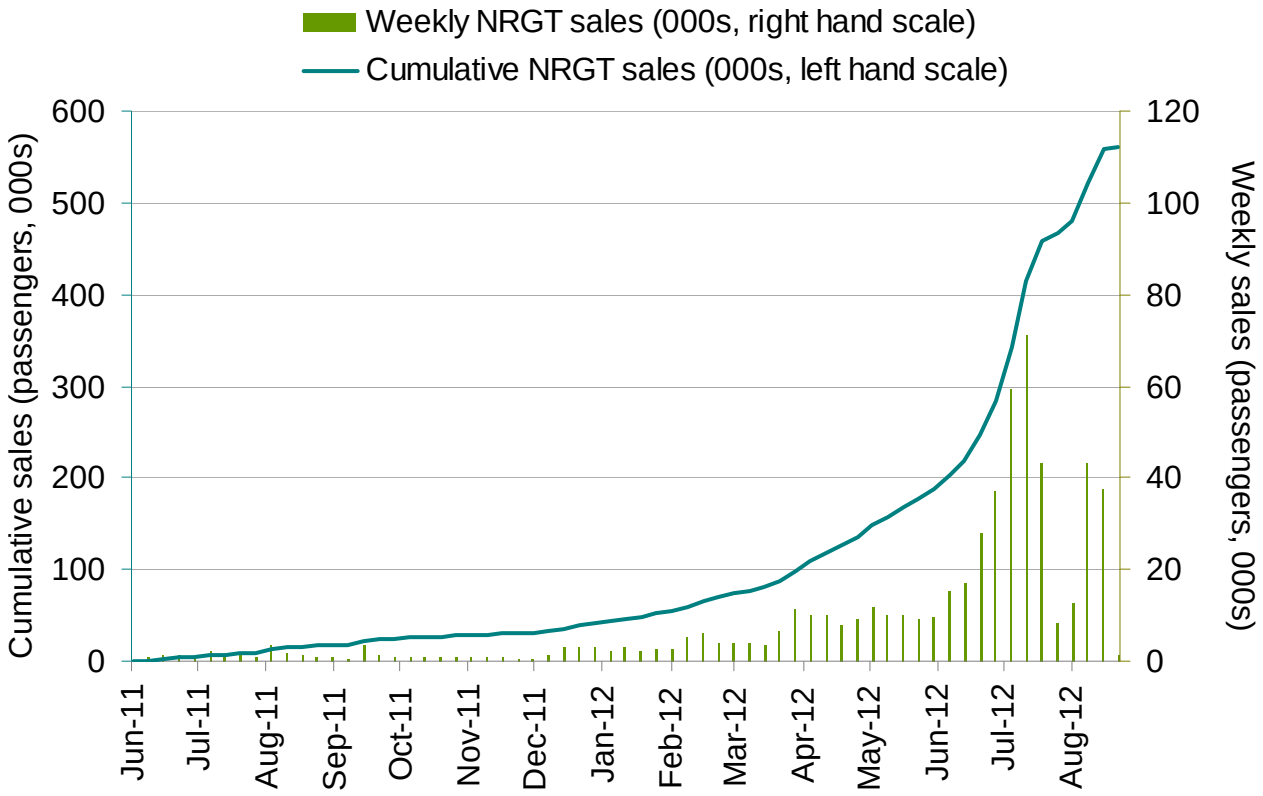
National Rail Games Travel Sales

- The National Rail Games Travel (NRGT) website was launched in June 2011 to enable Olympic spectators, volunteers and officials to make their travel arrangements at the same time as buying their Games event tickets. There were two ticket types available through NRGT – Games Advance tickets and Games Day Tickets – with a travel period between 18th July and 14th September.

- In the first six months of operation, fewer than 500 people bought tickets through NRGT per week, but this increased to around 3,500 people per week in the first quarter of 2012, and then to 10,000 per week in the second quarter. The NRGT website saw a substantial increase in sales as the Games approached, with 40,000 people buying rail tickets each week in July 2012. Sales peaked in the first week of the Olympics when 71,000 people bought tickets. In total, 561,000 passengers travelled on tickets sold through the NRGT website, totalling 1.1 million journeys.

[5] Please see background notes at the end of this chapter for methodology

Chart 17: National Rail Games Travel Sales



Source: ATOC, Table TSGB1004

- In addition to the NRGT website, many tickets (for Games-related journeys) were also sold through conventional means such as station booking offices, ticket vending machines, and other websites. On top of this, Games spectators and volunteers were given free Games Travelcards so did not need to purchase tickets for travel within London.

Background notes and contacts

Background notes for DfT Maritime Statistics can be found at:
https://www.gov.uk/government/organisations/department-for-transport/series/ports-statistics

- Enquiries regarding Maritime statistics should be directed to maritime.stats@dft.gsi.gov.uk or Phone: 020 7944 4131

Background notes for DfT Aviation statistics can be found at:
https://www.gov.uk/government/organisations/department-for-transport/series/aviation-statistics

- Enquiries regarding Aviation statistics should be directed to aviation.stats@dft.gsi.gov.uk or Phone: 020 7944 3088

Background notes for the DfT speeds and congestion statistics can be found at:
https://www.gov.uk/government/organisations/department-for-transport/series/road-congestion-and-reliability-statistics

- Enquiries regarding Congestion statistics should be directed to congestion.stats@dft.gsi.gov.uk or Phone: 020 7944 6579
- For the purposes of this analysis, the Olympic Games period was defined as the period 23 July to 13 August 2012. The same period in 2011 was defined as 25 July to 15 August, containing same number of each day of the week as the Olympic Games period. The Paralympic Games period was defined as 29 August -13 September 2012 and the same period the year earlier was defined as 31 August – 15 September 2011.
- The six Olympic host boroughs are Barking & Dagenham, Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest.
- Average speeds in Chart 9 and Chart 10 were estimated using data from weekdays only. It should be noted that the sample used to estimate average speeds may not be representative of traffic. Temporary factors such as road works or bad weather may have influenced the estimates of average speeds.

Background notes for DfT Traffic statistics can be found at:
https://www.gov.uk/government/organisations/department-for-transport/series/road-traffic-statistics

- Enquiries regarding Traffic Statistics should be directed to roadtraff.stats@dft.gsi.gov.uk or Phone: 020 7944 3095.
- The analysis and commentary in this section was produced by Paul Trow at the Highways Agency.

Background notes for DFT rail statistics can be found at:
https://www.gov.uk/government/organisations/department-for-transport/series/rail-statistics

- Enquiries regarding Rail statistics should be directed to rail.stats@dft.gsi.gov.uk or Phone: 020 7944 2419.

- The analysis and commentary in this section was produced by Billy Denyer at ATOC.

- Table 16 provides an estimate of the net impact of the Olympics and Paralympics on national rail journeys. The key assumption behind this analysis is that the Olympics and Paralympics periods were 'on-trend' without the presence of the Games.

- Growth rates during the Games were compared to the Pre-Games trend and any variation was attributed to the Olympics or Paralympics. This analysis must therefore be used with caution. However, this ensures that travel by non-ticket holders (e.g. journeys to London to sample the atmosphere, and journeys made by Games volunteers) is included in the overall impact assessment.

- 'Games Travelcards' and 'National Rail Games Travel' sales are included to give a full estimate of the Games impact. We do not know exactly how many journeys were made on Games Travelcards so the journeys have been estimated by dividing the revenue received by the average within-London journey price.

- Please note that the Travel Demand Management (TDM) campaign actively shifted and successfully depressed demand in some areas. There will have been considerable variation in the impact within each sector, but we do not have robust enough data to analyse the impact at TOC level.