

House of Commons Transport Committee

Surface transport to airports

Written evidence from the Mayor of London and Transport for London

1. Introduction

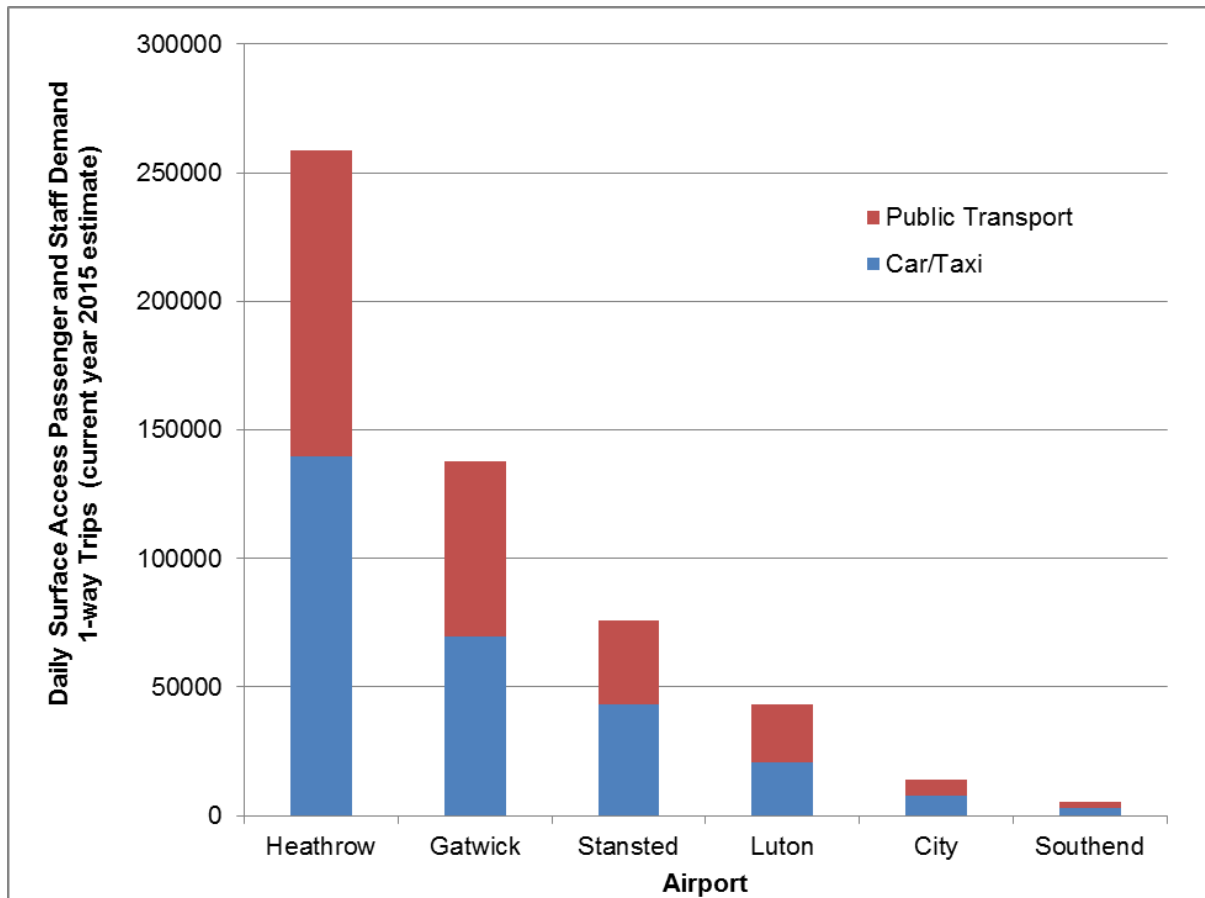
- 1.1 The Mayor of London and Transport for London (TfL) welcome the opportunity to contribute to the Committee's inquiry into surface transport to airports.
- 1.2 There are six airports designated as serving London which meet the Committee's one million annual passenger threshold: Heathrow, Gatwick, Stansted, Luton, London City and Southend.
- 1.3 This evidence responds to the main questions raised by the Committee, covering:
 - The main surface transport issues for airports serving London and how they are being planned for;
 - The Government's role in planning surface access;
 - The effectiveness of mode shift policies and customer preferences;
 - The funding of strategic connections to airports;
 - The role of surface access in making best use of existing capacity.

2. The main surface transport issues for airports serving London

Overview

- 2.1 Heathrow and Gatwick are the busiest airports in the UK by a substantial margin and generate by far the highest level of surface access demand. Figure 1 demonstrates the scale of surface access demand at London's airports and Table 1 shows the mode share for passengers and employees separately. For all airports serving London the majority of travel is by car or taxi.

Figure 1: Estimated Airport Daily Total Surface Access Demand 2015 (passenger and staff, excludes freight and other demand)



Note: walking, cycling and minor modes not included. Demand estimates reflect typical 'busy' airport day.
Source: CAA surveys and other survey data published online

Table 1: Airport Passenger and Employee Surface Access Mode Share (current year 2015 estimate)

AIRPORT	Passenger Mode Share (2015)		Staff Mode Share (2015)	
	Public Transport	Car/Taxi	Public Transport	Car/Taxi
Heathrow	41%	59%	28%	66%
Gatwick	44%	56%	25%	71%
Stansted	51%	48%	23%	75%
Luton	33%	66%	13%	79%
City	51%	48%	29%	67%
Southend	29%	70%	15%	71%

Note: walking, cycling and minor modes not included. **Source:** CAA surveys and other survey data published online

- 2.2 There are a number of different types of surface access journey associated with a passenger airport each requiring its own detailed consideration:
- airport passenger trips;
 - 'kiss and fly' trips where passengers are dropped off or collected;
 - employee journeys to work;
 - freight movement to and from the airport;
 - movements around the airports' own networks e.g. bus transfers; and
 - trips to/from development attracted to locations in the vicinity of the airport.
- 2.3 When planning interventions to improve surface access, all of these different types of journey need to be considered to ensure the interventions are as effective as possible at meeting the needs of those travelling to or from airports.

Heathrow

- 2.4 The strategic road connections to Heathrow (M25, M4, M3) are all very congested at peak times and this is forecast to worsen in the future. There are plans to upgrade some additional sections of these routes to 'smart motorways' which will provide a capacity benefit. However, this will not be sufficient to accommodate substantial additional demand from planned, anticipated growth, and certainly not airport expansion. Combined with the impact of aircraft emissions, the high levels of road traffic result in relatively poor air quality in the Heathrow area.
- 2.5 There is therefore a need to deliver substantial mode shift from highway to public transport for both passengers and employees at the airport, regardless of whether it is expanded. Improvements in rail links will be the most effective way of achieving this as they will provide sufficient capacity to accommodate the high levels of demand and are best placed to serve the key markets. The most important improvements to deliver are enhancements to capacity between the airport and central London, and new connections to existing and future catchments not currently served by rail.
- 2.6 The Piccadilly line on the Underground is one of the existing rail links to central London and is currently very busy with crowding on the approaches to the city centre. To help address this, an upgrade of the route is planned by 2026 with a 50 per cent increase in frequency to the airport. New rolling stock will deliver a further 19 per cent capacity increase. However, this upgrade is designed to accommodate expected growth in west London, and the Piccadilly line will continue to have limited capacity to accommodate additional airport demand on the approaches to central London, given expected growth in west London. The upgrade is essential but is unlikely to achieve a major improvement in public transport mode share at Heathrow.
- 2.7 There are no current plans for changes to Heathrow Express services, but Heathrow Connect will be replaced by Crossrail, with longer trains and a doubling of frequency, providing through trains beyond Paddington to central London from 2019. Crossrail's primary purpose is to relieve crowding and accommodate London's growth, not to cater for airport demand. It is already forecast to experience crowding by 2030. It will, however, help drive an improved public transport mode share. To be much more effective, an increased frequency to the airport would be necessary and Crossrail would need to directly serve Terminal 5. The rail industry's Western Route Study has already identified options for making best use of capacity on the Great Western main line, and this could include operating more frequent Crossrail services to the airport in place of express services. This would require additional Crossrail rolling stock.

- 2.8 The proposed Western Rail Access to Heathrow scheme would provide a direct western connection between the Great Western main line and the airport. This would avoid the need for some passengers from the west to travel via central London to reach Heathrow by rail. The case for this scheme is based on supporting economic growth, by providing improved access to the airport for business and passengers west of London, rather than on crowding relief. While it will have a small beneficial impact on airport mode share, it is unlikely to have a significant impact.
- 2.9 The Southern Rail Access to Heathrow proposal which is at an early stage in its development could have a much greater impact on improving mode share. It would need to be delivered alongside major improvements to the existing rail network (which are not currently funded or planned) to allow a sufficiently high frequency of direct services towards central London to operate. A southern link would serve new catchments and encourage large numbers of airport passengers and staff to access the airport by rail, helping to improve the mode share.
- 2.10 These schemes will be insufficient on their own to improve the public transport mode share of Heathrow sufficiently. Other measures will be required. These could include providing incentives for staff to use public transport instead of driving, perhaps by offering discounts and/or restricting staff car parking. Encouraging more efficient freight movements, for example by consolidating deliveries, would also be of benefit. There may also be a need for a charging zone around the airport for road vehicles which would further incentivise staff and passengers to transfer to public transport.
- 2.11 It is worth noting the particular challenges Heathrow faces in shifting staff to public transport. Heathrow already has a comprehensive staff travel plan, but even so, the use of car/taxi by staff remains high. Significant measures to encourage staff will need to be coupled with public transport improvements in particular to meet the needs of those working early and late shifts.
- 2.12 The above enhancements and measures are likely to be required even without any expansion of Heathrow. As the Airports Commission's forecasts show, it is clear that even with these new schemes in place, there would be insufficient public transport capacity to accommodate the additional demand generated by a third runway.

Gatwick

- 2.13 Gatwick Airport is currently served by a mixture of frequent fast and slow rail services to central London which serve a large number of locations in East and West Sussex, Surrey and south London in addition to the airport. The frequency is expected to increase further upon completion of the Thameslink Programme, which will provide through trains from Gatwick to north London and beyond. New rolling stock on the Thameslink and Gatwick Express services will offer additional capacity and luggage space compared to existing rolling stock.
- 2.14 Gatwick Airport is located on the Brighton main line, and forecasts demonstrate that with continued growth, this route is expected to be very crowded at peak times in the medium term. Growth in peak demand is expected to increase by up to 74 per cent between 2011 and 2043 on fast services to Victoria and London Bridge according to Network Rail's London & South East Market Study, equivalent to up to an additional 20,000 passengers in the morning peak hour. While only some of these passengers will be travelling to and from the airport, it demonstrates the capacity challenge faced on the Brighton main line. Network Rail's Sussex Area Route Study explains that to accommodate growth in demand an additional 4-6 trains per hour are required by

2024 over and above existing commitments such as the Thameslink Programme which will deliver up to 16 trains per hour.

- 2.15 Options to achieve the frequency increase required include major works in the East Croydon area and an upgrade of the airport station, with further enhancements at several other locations. The total cost of the required improvements could be as high as £2bn according to Network Rail, dependent on the package of improvements chosen. It is critical that the Government commits to substantial investment in the next rail industry Control Period (CP6, 2019-24). Further large scale investment would be required if the rail network were to have to cope with a significant uplift in airport passengers from Gatwick.
- 2.16 The fundamental capacity challenge on the Brighton main line has been highlighted again this month, with the Government publishing the terms of reference for its London and South Coast Rail Corridor Study, investigating the case for new capacity. The study will look at options including a new main line between London and the South Coast. Though Gatwick is not specifically referred to, work done to date by TfL indicates this scale of intervention would likely be required if the rail network is to be able to accommodate the demand from an expanded airport.

Stansted

- 2.17 Stansted Airport is currently served by a 15-minute frequency rail service to and from Liverpool Street. These services call at other stations along the route to serve the commuter market. The additional station calls, alongside relatively low line speeds and the mix of fast and stopping services on a constrained two-track route lead to relatively slow journey times.
- 2.18 The West Anglia Taskforce has been set up to look at opportunities to provide additional capacity on the London-Stansted-Cambridge Corridor. The corridor also serves the Upper Lee Valley which has been identified as a key corridor for new homes and jobs. A small scale capacity upgrade has been identified in the rail industry's draft Anglia Route Study which would enable a journey time reduction of five minutes on the current 45-50 minute journey time to Stansted. However, more substantial infrastructure investment – notably significant four-tracking between Coppermill Junction and Broxbourne Junction – would enable further journey time improvements and greater frequencies, including the potential for direct services to additional destinations.
- 2.19 In the long-term, Crossrail 2 will be key to transforming access to Stansted, whether serving the airport directly or via a single cross-platform interchange. It will free up capacity on the line and support increased frequencies, including for airport services. It will also broaden the airport's geographical catchment, improving access to the West End and providing a step-change in connectivity to south, west and southwest London. The Mayor and TfL strongly support the four-tracking scheme as a precursor to Crossrail 2.
- 2.20 Coaches also continue to play an important role to Stansted, reflecting the low-cost passenger profile and the relative weakness of rail (in terms of journey time and locations served).

Luton

- 2.21 Luton Airport Parkway station is served by Thameslink trains on the Midland main line to central London. The rail station is not immediately adjacent to the airport but is

connected via a regular shuttle bus service. The Thameslink Programme will provide additional capacity and enhanced connectivity between Luton Airport Parkway, central London and other key commuter destinations along the route. Alongside higher frequencies and longer trains, customer experience will also be improved through the introduction of new Class 700 rolling stock along the route, providing both additional seating capacity and luggage space for passengers.

- 2.22 Also under consideration in the longer term are plans to improve access from the Midland main line to the airport which would substantially improve public transport mode share. Both a direct branch and a light rail link are options.
- 2.23 Coaches also continue to play an important role to Luton, reflecting the low-cost passenger profile as at Stansted and the lack of a direct rail service to the airport.

London City

- 2.24 London City Airport is served by the Docklands Light Railway (DLR) and the direct access between the DLR station and the airport terminal results in a high public transport mode share. Lengthening of the remaining short 2-car DLR trains which serve the airport to three cars will take place by 2021, providing an additional 20 per cent capacity on services that call at this station.
- 2.25 From 2018, Crossrail will also improve the connectivity of London City Airport. Access will be via DLR from the Crossrail stations at Canary Wharf and Stratford, or via bus from Custom House Crossrail station (part of a package of bus enhancements envisaged for the Royal Docks).

Southend

- 2.26 A new station serving the new terminal at Southend Airport opened in 2011 providing services every 20 minutes to and from Liverpool Street, taking approximately 55 minutes to reach central London. An increase in frequency from 3 to 4 trains per hour is specified in the next Greater Anglia franchise.

3. The Government's role in planning surface access

- 3.1 The Government has clear national ambitions for housing, the economy and for the country's transport system. Surface access to airports in particular, cannot be considered in isolation from these wider issues and the challenge of accommodating a growing population, maintaining international competitiveness and supporting economic growth.
- 3.2 The growing population and economy will result in increased flows on the road and rail network, more vans and lorries delivering goods, and more business travel. The Government needs to strike the right balance between these competing priorities with new capacity on the highway and public transport networks allocated accordingly.
- 3.3 Perhaps the most obvious area where these tensions can be seen on the transport network is the role of express rail services between key airports and central London. For example:
- The Government's decision to open up Gatwick Express services to commuters by extending some services back to Brighton and introducing additional stops. This improved the balance between demand and capacity on the Brighton Main

Line as heavily crowded commuter services had operated alongside relatively lightly loaded airport express services, which was not making best use of rail capacity.

- As noted above, Stansted Express services are in fact relatively slow and have to serve a number of intermediate stations to accommodate commuter demand.
- On the Great Western main line a dedicated express service to Heathrow Airport remains, although the rail industry has recognised in its Western Route Study that given pressures on capacity and the introduction of Crossrail, this may not be sustainable in the future.

- 3.4 As the main funder of enhancements to the transport network, the Government will need to make difficult decisions about these routes in the coming years, balancing the needs of all users. Growth in both airport and non-airport demand risks leaving neither properly served; significant new infrastructure is required if unsatisfactory compromises are to be avoided.
- 3.5 Airports cannot be expected to rely on schemes designed to meet general growth in travel demand; there must be designated schemes to meet increased passenger and employee demand brought about by expansion. The full impacts of any uplift in airport capacity must be considered, recognising the specific needs of air passengers and mode share objectives and this must be considered over and above general increases in demand. Regardless of how the surface infrastructure required to meet any capacity shortfall is paid for, it must be fully incorporated into the airport planning process – including in the scheme cost – and not treated as someone else’s problem.
- 3.6 Finally, the Government must also take into account the different needs of airport passengers compared to other users of the transport network. Many air passengers prefer frequent and fast rail services to give them the confidence to use public transport as a reliable way of travelling to the airport. These should be provided where there is the capacity and sufficient demand to justify them. Air passengers also tend to travel with luggage and this has implications for the rolling stock used. The Class 442 rolling stock currently used on Gatwick Express services is widely recognised as being particularly unsuitable for airport passengers with doors only present at the end of each carriage. The decision to allocate these particular trains to this route showed a lack of consideration of the needs of airport passengers.

4. The effectiveness of mode shift policies

- 4.1 Ensuring sustainable access to airports must be an essential objective for airport operators, working in conjunction with Government, transport authorities and other stakeholders. This is driven by two key factors: emissions and road congestion.

Emissions

- 4.2 The Climate Change Act established a legally binding target to reduce UK greenhouse gas emissions by at least 80 per cent in 2050 from 1990 levels. The aviation industry has an essential part to play in meeting this target. Aside from the steps the industry is taking to address aircraft emissions, mode shift will be key to reducing the carbon emissions associated with airport surface access.
- 4.3 The UK faces stringent EU air quality emissions targets and their importance was highlighted by the Supreme Court ruling in the ClientEarth case earlier this year. Air

quality around airports is a particular challenge due to a combination of emissions from airport activity and vehicles in the vicinity of the airport.

- 4.4 Heathrow Airport, in particular, is a significant air quality hotspot for Greater London, with very high NO₂ concentrations, above EU limit values. Airport-related road traffic can also contribute to air pollution at other locations on the highway network. In September, Defra published its draft action plan that sets out how to achieve compliance outside London by 2020 and in London by 2025. It is vital that airports play their part and do nothing to jeopardise compliance. Taking concrete steps towards mode shift to public transport is vital to support improved air quality.

Road congestion

- 4.5 Road capacity is limited and if we expect increased traffic – both airport and non-airport – to be accommodated on the existing network, there will be worsening congestion, with further consequences for air pollution and carbon emissions. Options for provision of additional highway infrastructure are costly and limited. Lower cost interventions such as ‘smart motorways’ can assist in the short term but will fill up quickly. This is a particular problem around Heathrow where small scale schemes do not address the capacity challenge faced on what are among the busiest sections of motorway in Europe.
- 4.6 Worsening congestion also has a direct impact on journey time reliability. This is a major issue for an airport, forcing passengers and staff to allow considerable extra time to make their flight or shift. Ultimately, this fundamentally erodes the attractiveness of the airport.
- 4.7 Given these issues, enhancements to public transport serving airports is a more effective way of improving their surface access than providing additional road capacity.

Passengers’ preferred mode of travel

- 4.8 It is important to recognise that when ‘airport customer preference’ is referred to, this does not automatically entail car or taxi. Airport passengers want a journey that is comfortable, convenient, affordable, fast and reliable. Comprehensive, well-designed public transport can achieve this. This means links to a wide range of destinations, including good onward connections (supported by integrated ticketing and step-free interchanges), adequate (and uncrowded) capacity for passengers and their luggage, a reliable service and competitive journey times and fares.
- 4.9 This is borne out by the evidence of airports with good public transport access. London City Airport has achieved over 50 per cent public transport mode share for passengers – one of the best shares in the UK – thanks to the DLR service straight to the terminal, offering the fastest route to both the Docklands and the City. Further afield, Hong Kong’s new airport was designed with public transport access at its heart and has achieved over 70 per cent mode share for public transport, a transformational improvement on the airport it replaced.

Delivering mode shift

- 4.10 It is important to set challenging mode share objectives, while recognising that achieving mode shift requires concerted effort backed up by investment.

- 4.11 Shifting staff from car to public transport is particularly challenging, not least given the nature of work shift patterns. Behavioural change backed up by targeted investment can play its part, but the example of Heathrow Airport also shows its limitations. Just one in ten employers at the airport offer the 'Personalised Travel Plans' under the airport operator's scheme. Other positive measures have included provision of cycling facilities and development of the Heathrow Staff Travelcard. Nevertheless, over half of airport staff still drive to work.
- 4.12 A key tool at the disposal of airports is the ability to limit the supply of car parking. However, this is also an important revenue stream for most airports. To date, airport operators have seemed to make greater efforts in promoting car parking rather than discouraging car access.
- 4.13 At the same time, the introduction of charges at several airports to pick up and drop off passengers outside the terminal is likely to have helped discourage 'Kiss and Fly' passengers.
- 4.14 Improvements to information and ticketing can also support mode shift. However, realistically, the biggest changes in mode shift towards public transport are achieved through significant investment in surface access infrastructure.

5. The funding of strategic connections to airports

- 5.1 UK airports are, for the most part, privately owned businesses, which seek to make profits for their shareholders. The type of surface access measures outlined above either contribute to the airport's attractiveness – and so fall through to its bottom line – or help it meet its sustainability obligations. As such, it is only reasonable that an airport be expected to contribute its fair share towards surface access improvements. This includes both the large infrastructure interventions as well as smaller scale enhancements.
- 5.2 It is also clear that, if an airport is seeking to expand, its proposals should address the full extent of any network impacts in the long term and contribute to the cost of any mitigation as appropriate. This is no different from what would be expected of any private developer.
- 5.3 It would simply not be acceptable – and would potentially be in contravention of state aid rules – were the taxpayer to fully fund schemes which had, as a key objective, enhanced airport access.
- 5.4 Moreover, against a backdrop of increasing competition between surface access infrastructure schemes for a limited pool of Government funds, an airport operator stepping forward with a significant financial contribution can demonstrate its commitment and help smooth the way for a scheme which might otherwise be stalled.

6. The role of surface access in making best use of existing capacity

- 6.1 Surface access does not, of itself, substitute for the need for enhancements in airport capacity – nor is it likely to be able to free significant capacity at an airport close to maximum utilisation.

6.2 Surface access can play an important role in increasing the attractiveness of an airport and expanding its catchment both geographically and in terms of market share. Its ability to do this will depend primarily on the factors mentioned above: the service needs to be comfortable, convenient, affordable, fast and reliable.

6.3 Nonetheless the nature of the challenges faced by each airport is particular to that airport and so the surface access enhancements that might be implemented are similarly specific. Three examples of airports, for which improvements to surface access could allow them to more effectively serve the London area, are set out below.

- Luton Airport is the only one of the six London airports without a direct rail link; the need to use an often crowded connecting bus erodes the potential convenience and journey time of the rail proposition. A rail connection – currently under consideration – would increase the airport’s geographical catchment, and allow the airport to compete more effectively for higher-value passengers.
- Stansted Airport is served by a rail link but, taking account of the distance covered, it is relatively slow speed compared to the offer from other London airports. Proposed four-tracking of the West Anglia main line would enable faster more frequent services; Crossrail 2 would support further enhancements in the service offered and transform access to the airport, particularly from south, west and southwest London. Taken together, these will significantly enlarge the airport’s catchment and increase the attractiveness of the airport to higher-value passengers.
- Birmingham Airport is not considered a London airport, though it is, by train, just 70 minutes from central London. However, the most affordable fares on these trains are not available at peak times, nor do they allow flexibility if a flight is delayed. An integrated air-rail ticket – or an air-rail add-on ticket – which was flexible and reasonably priced could allow the airport to tap into the London market. Because of any revenue implications, it would require the co-operation of the train operating company and the DfT. Similar schemes are well established elsewhere, for example for Prestwick Airport in Scotland and for all German airports.

6.4 Nonetheless, it is important to understand the limitations of surface access interventions in their ability to unlock better use of existing airport capacity. In all cases, these measures are necessary rather than sufficient conditions and would likely need to be accompanied by other enhancements in the airport’s offering. Surface access does not, of itself, enable an airport to become a hub – with the particular characteristics that entails – nor is it likely to be able to free capacity at an airport close to maximum utilisation.

7. Conclusions

7.1 This submission has set out the Mayor and TfL’s response to the main questions raised by the Committee about surface access to airports. The key conclusions are:

- It is very important that future airport demand is accommodated by additional public transport capacity to address issues such as highway congestion, journey

time reliability, emissions and air quality, and to ensure that additional airport demand doesn't impact on other travellers using the surface access networks.

- Well designed public transport can also meet airport passengers' requirements for fast and reliable services.
- Travel behaviour change measures for airport employees can help achieve mode shift for some journeys.
- Surface access improvements can provide additional travel options to airports serving London but are not an alternative to the need to enhance airport capacity.
- The Government should support sustainable access to airports, ensuring that it is not at the expense of other travellers and fits with wider growth objectives
- Airport operators need to provide appropriate contributions towards additional transport schemes based on the long term requirements and impacts of their proposals.

October 2015