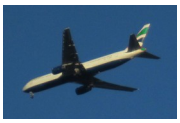

Surface Transport

Heathrow Expansion Factsheet 7

What impact would a new runway at Heathrow have on Surface Transport?

Demand for road and rail transport in London is set to rise substantially. 52 million passengers currently end or start their journeys at Heathrow. This, without a third runway, is set to rise to 90 million by 2050. With a third runway it will be 112 million – a 100% increase on today.

Transport for London (TfL) has calculated that an investment of up to £20 billion will be needed to support this increase. The consequences of inadequate investment would be poor travelling experience on public transport and increased resort to road transport, generating more air pollution and traffic congestion.

Why does it matter?

1. Surface access for Heathrow is both a problem and an opportunity:
    - Inadequate surface access leads to poor service levels for air travellers and increased road congestion and pollution. Poor air quality (see Fact Sheet 4) has serious impacts on health. Mitigation costs could make expansion of Heathrow uneconomic (see Fact Sheet 2).
    - Providing optimal surface access can enhance people's journeys by reducing overall journey times and improving convenience. Arguably money spent on improving access to all five London airports might produce a greater return than money spent on additional runways.
2. The level of investment needed in surface transport to meet the new demand and to ensure air pollution is controlled may make Heathrow expansion unaffordable. The topic involves multiple agencies and stakeholders. Robust proposals need to be prepared before any decision on airport expansion is reached.

How is surface access assessed?

3. The analysis of surface transport breaks down broadly into:
    a. What's the demand?
    b. What's the capacity?
    c. What's the gap between demand and capacity?
    d. What's the impact of demand on service level (including time taken, convenience and journey comfort)?
    e. What's the impact on road congestion?
    f. What's the impact on pollution?
    g. What's the capacity cost and how can funding be shared?
4. The figures used in this Fact Sheet are based on the Heathrow North West Runway (Heathrow NWR) option. The Heathrow Extended Runway (Heathrow ENR) runway option does not appear to be significantly different overall in surface access requirements.

What's the demand for surface transport to and from Heathrow?

5. Demand is made up of (a) background demand and (b) Heathrow specific demand. While Heathrow demand may be relatively small compared to background demand, it can be critical at peak times and when demand is near to or exceeds capacity. Heathrow demand includes terminating passengers, staff and freight.

6. Background demand is growing (based on population growth of 37% in London as a whole between 2011 and 2050 according to the London Plan) [1].

7. Without a third runway, Heathrow terminating passenger demand is forecast by the Airports Commission to grow from 52 million passengers per annum (mppa) in 2011 to 67 mppa (+/- 1 mppa) in 2030 and to 90 mppa (+/- 5mppa) or by around 70% in 2050. The variations in the estimates are a result of the different scenarios used by the Airports Commission to represent the future aviation market. They have used 10 scenarios in all, 5 where a carbon cap is assumed and 5 where carbon trading is assumed. The Airports Commission estimates that with a third runway terminating passenger demand will grow to 83 mppa (+/- 10 mppa) in 2030 and to 112 mppa (+/- 16 mppa) or plus 115% in 2050.

8. Staff numbers tend to be proportional to passenger numbers, so are likely to grow from a base of around 84,000 in 2011. Freight is also expected to grow at similar rates.

9. Surface access demand depends on Heathrow's catchment area and on where people travel to and from within that area. Rail transport projects - HS2 and the Western Rail Access projects – will substantially increase the catchment area to the north and west of the country according to the Airports Commission analysis.

10. The way people choose to travel – the modal share of total demand - is especially important. This means the proportions travelling by road (car and bus) and by rail (network rail, over-ground and underground). Behaviour change and interventions such as congestion charging zones can have an effect on people's choices.

What's the view of Transport for London on demand and capacity?

11. The Airports Commission consulted on its surface transport proposals as part of its broader consultation in November 2014. The All Party Parliamentary Group on Heathrow and the wider economy (APPG) in its evidence gathering asked TfL for its views on surface transport [2].

12. Both the APPG and TfL point to the Commission's under-estimate of demand and adequate capacity in its surface access appraisal:
    - The Commission's study period ends in 2030 and while the runway use may be approaching capacity at that point, the Commission's forecasts show that based on the Commission's global growth carbon traded scenario, there is a further 40% growth in terminating passenger numbers after 2030;
    - It would appear that even in 2030 the assumed surface access demand is based on Heathrow Airport Ltd (HAL) estimates, which are below those otherwise estimated by the Airports Commission and detailed above;
    - The net result is that the morning peak hour 2-way Heathrow demand is estimated by the Commission to be a total of 20,000 trips in 2030 compared to TfL's estimate, when the airport is subsequently full, of 35,000 trips, which is 75% greater. Similar disparity arises in the underlying road and rail demand. The Commission estimates 12,300 road trips, while TfL estimates 23,900 trips. The Commission estimates 7,400 rail trips while TfL estimates 11,500 trips.

13. The difference in the estimates of demand is said by TfL to be the Commission's under-estimate of freight demand, greater staff efficiencies and more optimistic mode shift from road to rail.

14. It is said by TfL that the current mode share is for 59% of passengers and 54% of staff to use a car to access Heathrow. TfL reduces these figures to 52% of passengers and 50% of staff

using a car by 2030. But the Commission assumes that in 2030 45% and 47% use a car, respectively.

15. The surface access capacity predicted by the Commission comprises a Core baseline and an Extended transport baseline which together are expected to be in place by 2030. The Core baseline includes Heathrow Express, London Underground Piccadilly line, Crossrail and HS2 with Heathrow passengers connecting at Old Oak Common. For roads, it includes "smart motorway" upgrades to certain junctions on the M23, M25 and M3. A smart motorway is a section which uses active traffic management techniques to increase capacity, e.g. variable speed limits and hard shoulder running at busy times. The Extended baseline includes Western Rail Access (WRA) to Heathrow. Two additional schemes that are not included in the baselines are a Southern Rail Access (SRA) linking Staines to Waterloo via Richmond and increased Crossrail frequency. These are allocated to the Heathrow project rather than to background demand.
16. TfL says the baseline and Heathrow expansion projects will not provide sufficient capacity. The Airports Commission has pointed out some inadequacies in the analyses by HAL – for example, absence of local analysis and freight analyses. There are also risks that have not been addressed. The WRA has still to be funded and the SRA (previously known as Airtrack) ran into considerable problems when last considered because of the impact on the several level crossings that would have to be closed for more of the time with consequential impact on local traffic.
17. Demand for seating capacity on segments of the Piccadilly line and Crossrail far exceeds the available seating capacity. While this might be a lesser problem for non-airport users, Heathrow's passengers may have luggage, have long flights ahead or behind them, and include families with children. By 2030, with or without a third runway, overall rail access to Heathrow (including Crossrail, underground and Heathrow Express) does not improve for 8 London boroughs, and marginally reduces for 15 boroughs. Only 8 boroughs experience any improvement.
18. Inadequate capacity leads to road congestion and pollution. The recent consultation by the Airports Commission on air quality does not appear to have taken on board the shortcomings of the surface access appraisal that the APPG and others highlighted in response to the Commission's consultation in February 2015. These included the inadequate study period ending in 2030, missing local road and freight analyses, absence of a risk analysis, questionable reliance on the peak hour assessment, and questionable viability of the SRA and, in particular, the continuing breach of statutory air quality limits.

What are the costs?

19. The Airports Commission estimates the surface access investment required for servicing an expanded Heathrow will be £5.7 billion. But TfL believe the sum required will be £20 billion [2]. The Commission estimates that HAL will need to find as much as £34 billion to finance a third runway and ongoing cash outflow, excluding the funding of surface access. It is not clear from the Commission or HAL who is expected to fund the surface access. But it is clear from the Commission's reports that it thinks even without the surface access funding, the markets may find it difficult to fund the size of investment required. It could prove unacceptable economically and politically for the State to fund the scheme as direct grants or by guarantees (see Fact Sheet 2). The cost of inadequate surface access is significant in terms of overcrowding on the rail system, less convenience and comfort and congestion and pollution on the road network. Furthermore, with pollution subject to statutory limits it is quite possible that Heathrow will not be able to make full use of an additional runway.

Who should appraise and implement the options?

20. The Airports Commission has taken on the role of both proposer and appraiser of its own surface transport proposals. This raises the question as to who will undertake an independent appraisal and who will lead on the proposals after the Commission makes its recommendation.

References

[1] GLA Intelligence: Population And Employment Projections to Support the London Infrastructure Plan 2050 (November 2013)
https://www.london.gov.uk/file/18859/

[2] TFL response to APPG on surface access (27 March 2015)
http://www.heathrowappg.com/tfl-response-to-appg-on-surface-access/