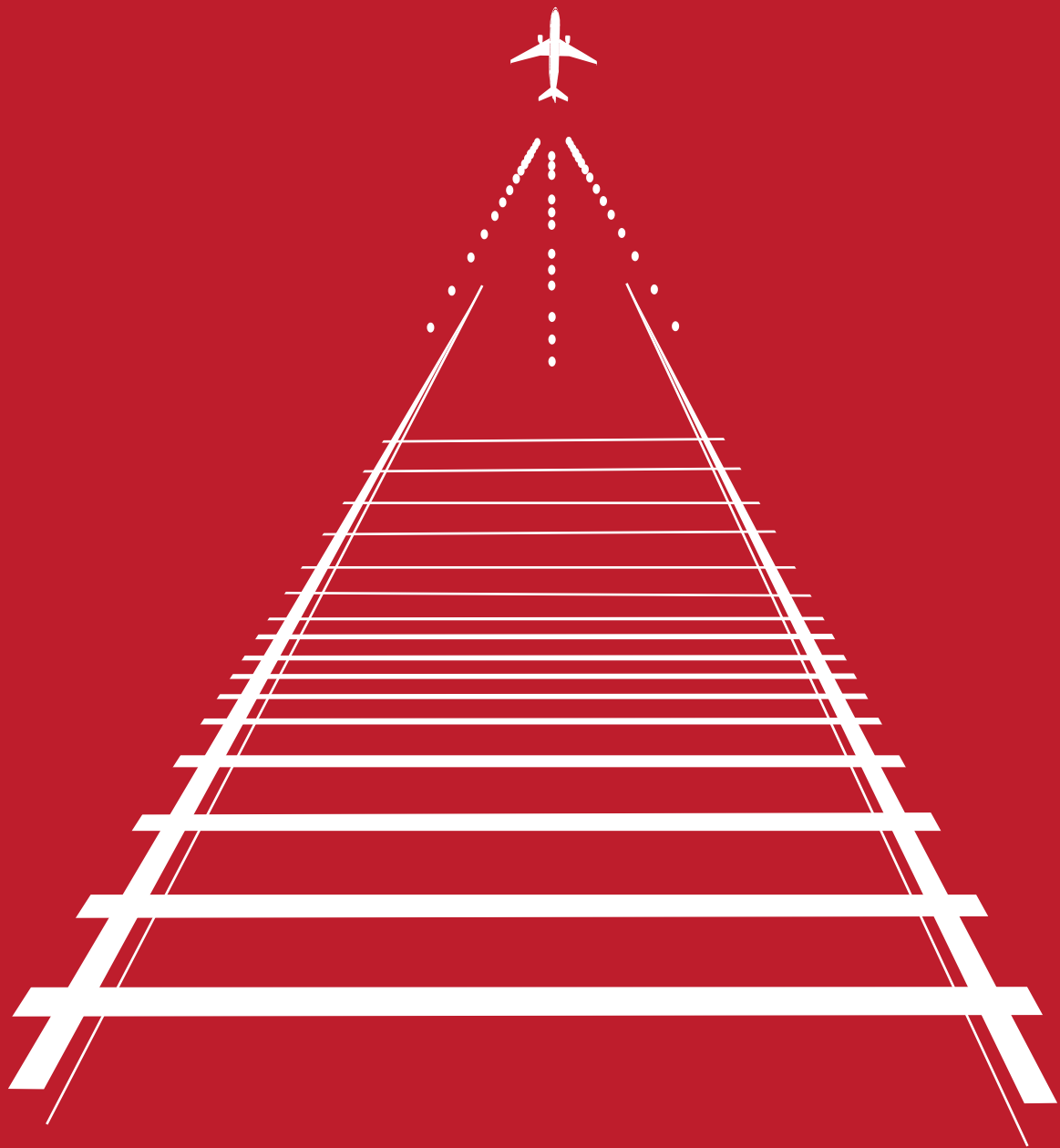


# FLIGHT PATH TO GROWTH

A WORLD CLASS RAIL LINK  
FOR STANSTED



*London First*

## A WORLD CLASS RAIL LINK FOR STANSTED – 21 OCTOBER 2013

### STRENGTHENING LONDON'S AIRPORTS TO COMPETE

#### INTRODUCTION

1. New runway capacity serving London, and the air links it will provide, will grow Britain's ability to trade with the world, attract investment and generate economic activity that will create jobs. Decisions by government enabling it have been deferred, forgoing the national economic benefits this new capacity will deliver. At the same time, our rivals in Europe and elsewhere are securing new air links to high-growth markets while expanding established trade routes. The risk facing London and the UK is that businesses in growing economies, and the airlines that serve them, will make investment decisions over their European and international locations, and their flight patterns and primary airports, that will be difficult, if not impossible, to reverse.
2. As we set out in our [submission](#) in May to the Airports Commission, we believe the Commission's principal task in the short term is to determine how additional flights can be facilitated where the market wants them through the more intensive use of current assets. This is no substitute for a long term strategy to deliver new runway capacity but, in the absence of that strategy, we see no choice. Policy drift will lead to the erosion of London and the UK's competitiveness.
3. We see three principal means of mitigating this risk:
  - Lifting the cap on flights at Heathrow, the UK's only international hub airport, to allow the more intensive use of current runways so that there can be more long-haul flights;
  - Strengthening London's airports to compete by deregulating Gatwick and Stansted so that greater headroom for innovation and competition can stimulate new products and services and the more extensive use of existing runways; and
  - Delivering a step change improvement in rail links to Gatwick and Stansted, further strengthening their ability to attract airlines and passengers
4. On the last two counts, we believe the dynamic effects of competition between all London's airports for airlines and services will, over time, result in a downward pressure on aggregate prices, increased choice and, critically, the more extensive use of current capacity. This competition will be spurred both by the removal of restrictive price controls on Gatwick and Stansted and a step change improvement in the quality of express rail services to these airports. These rail services compare unfavourably to those at Heathrow and airports internationally and, we believe, pose a significant barrier to greater competition between London's airports.
5. We welcome the mandate the Government's recently published specification for the new Thameslink franchise has given bidders to provide a world class Gatwick Express service in the short term. This paper proposes a means of achieving a step change improvement in the quality of Stansted Express services over the same period (the next 5-7 years). It summarises the conclusions of [a new study](#) commissioned from The Nichols Group, which itself is informed by the insight and collaboration offered by Network Rail, Transport for London (TfL), Stansted Airport and Abellio.<sup>1</sup>

6. We suggest a route map for change, and with it the basis from which all parties can develop and implement a plan to cut the journey time of the Stansted Express by almost a fifth, almost halve its delays, bring greater network resilience and with it a new timetabling freedom to meet changing patterns of demand for the airport as well as commuter services. The Government sees "considerable scope for airports other than Heathrow to develop long-haul services to a broader range of destinations to support the UK's international connectivity".<sup>2</sup> We believe this aspiration can be supported by a world class rail link for Stansted.

## **THE SITUATION TODAY**

### **The Network**

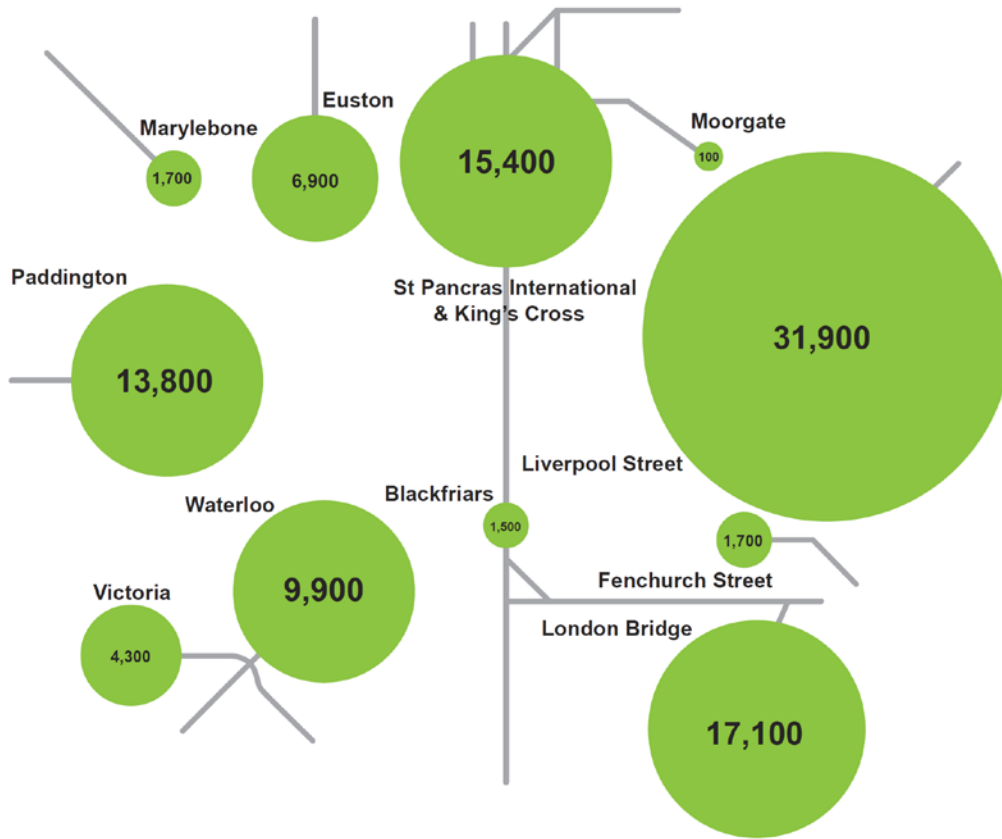
7. While the capital is well served by the range, frequency and, increasingly, the reliability of rail services, demand outstrips supply. Since privatisation, demand has risen by around 50 per cent and there are few signs of diminution. Most recent figures show that 2011 saw demand for services in and to London and the South East grow at almost twice the rate of journeys across the rest of the country.<sup>3</sup>
8. A result of peak demand for services to central London outstripping supply is overcrowding.<sup>4</sup> The ten most overcrowded rail services in the UK serve the capital<sup>5</sup> and the data, though not systematically collected, suggests that half of rail passengers travelling to London in the rush hour do so in conditions classed as overcrowded.<sup>6</sup>
9. As employment in London continues to grow, demand is set to rise. Network Rail estimates that demand for routes linking central London with the rest of the country will rise by 36 per cent by 2031. Figure 1 (over) shows the growth in rush hour passengers by 2031 at London's stations. London Liverpool Street is forecast to see almost 32,000 more passengers every morning, a 73 per cent uplift.

### **The Stansted Express**

10. Against this context of high and growing commuter demand, and a network that has arguably suffered from decades of underinvestment, the Stansted Express operates four trains an hour from Liverpool Street to Stansted Airport. It does so on the West Anglia Main Line, sharing the network with fast and local commuter services between Liverpool Street and Stratford to the Lee Valley, and to Cambridge and beyond.
11. This network's infrastructure is ageing and heavily utilised, in common with most of London's rail links. The quality of the Stansted Express service faces four principal sets of constraints:
  - The track layout at Liverpool Street station, one of the most congested in London, often leaves the Stansted Express stranded behind stopping commuter services or failed trains.
  - One of the most utilised sections of the network, between Clapton (Coppermill Junction) and Broxbourne, narrows to two tracks, leaving the Stansted Express and other fast services no opportunity to overtake stopping services or a failed train.

- Level crossings and junction configurations elsewhere in the network (south of Tottenham Hale and north of Broxbourne) require Express services to slow or stop, further extending journey time.
- Speed restrictions are in place on the Stansted Express – not because of rolling stock, which is new,<sup>7</sup> but because of track and timetabling that require scheduling buffers to recover from delays.

**Figure 1: Forecast growth in demand for services to central London, 2031: additional rush hour passengers per station (7–10am)**



Source: Network Rail  
 Figures for London Bridge include those for Charing Cross and Cannon Street  
 Data based on 'do-minimum' committed schemes only

12. The combined result of these constraints, on a network that has, in places, little operational resilience, is three-fold:

- The journey time of the Stansted Express is both longer than comparable services to Heathrow and Gatwick, and more variable. Its average off-peak journey time is 47 minutes, its peak journey time 51 minutes, within a range that extends to almost an hour (56 minutes).
- Greater Anglia and Network Rail have collaborated successfully to deliver network-wide improvements in recent years – raising performance above the national average.<sup>8</sup> However, one in ten Stansted Express services is delayed by at least 5 minutes<sup>9</sup> (worse than delays to the Heathrow Express and marginally better than delays to the Gatwick Express which, of course, has only a 30 minute journey time).
- There is no timetabling headroom to alter or extend the scheduling of the Express to meet patterns of changing demand for the airport (particularly pre-rush hour).

13.While there is no comprehensive national strategy to improve rail access to all our major airports, the £15 billion investment in Crossrail and the proposed £500m western extension rail scheme should meet the needs of Heathrow's users; and the £6 billion upgrade of Thameslink offers the chance to preserve and enhance express rail services to Gatwick and Luton. There is no comparable public investment to improve rail access to Stansted over the same period.

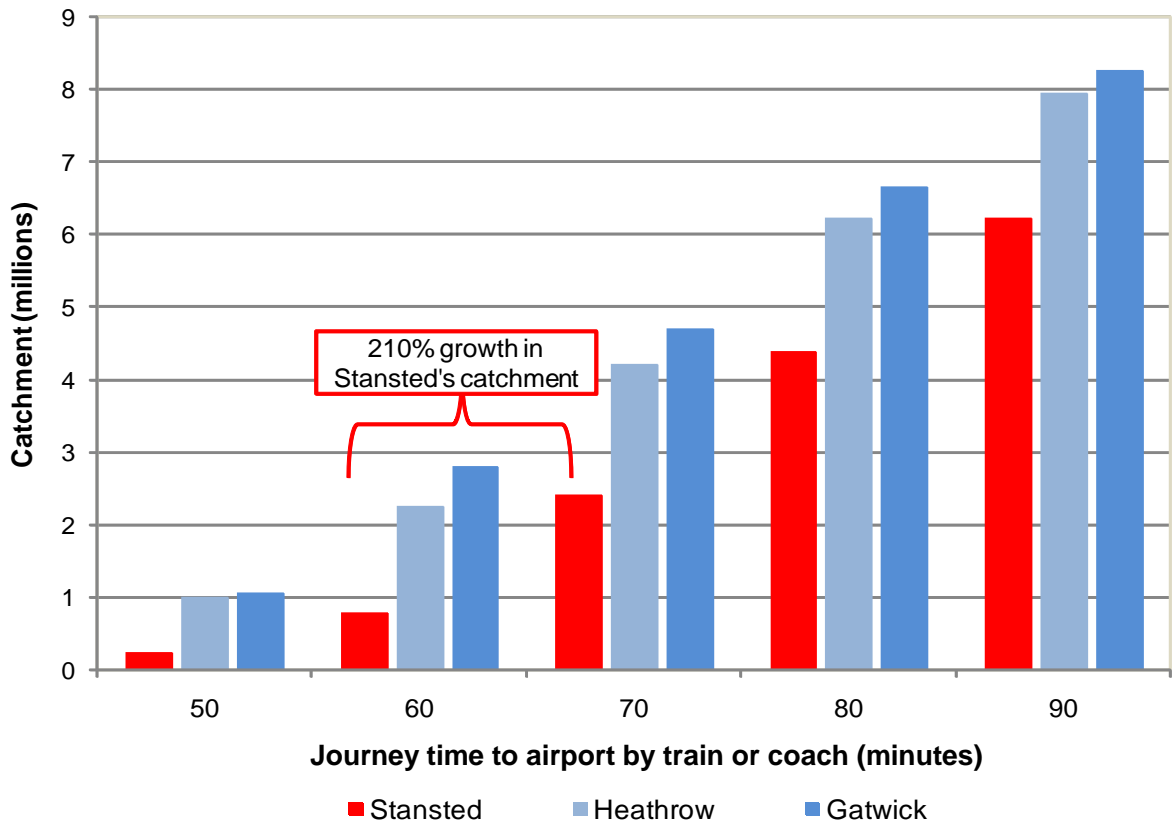
**Recommendation 1 – The Airports Commission should recommend in its interim report a step-change improvement to the quality of the Stansted Express and call on Government to commit to its delivery.**

**A ROUTE MAP FOR IMPROVEMENTS**

14.If developed and implemented, our practical proposals could deliver for the Stansted Express a journey time of under 40 minutes<sup>10</sup> and an average cut in journey time of 15 per cent across the day. These journey time improvements would come with substantially less variability and a near halving of delays.<sup>11</sup> And there would be new network resilience and timetabling freedom to adjust or extend services to meet changing patterns of demand for both the airport and local commuters.

15.We believe this step-change in quality would spur Stansted's ability to compete with other airports as it seeks to extend the use of its spare capacity; not least given a quarter of all passengers reach the airport by rail. Indeed a greater proportion of passengers travel to Stansted by public transport than to any other major UK airport. Research suggests that 800,000 people are within an hour's journey of the airport by rail and coach,<sup>12</sup> and that a total of 2 million people would fall into this catchment if their journeys were cut by 10 minutes, a catchment area comparable to Heathrow's today (Figure 2).<sup>13</sup>

**Figure 2: Catchment areas by public transport - Heathrow, Gatwick, Stansted**

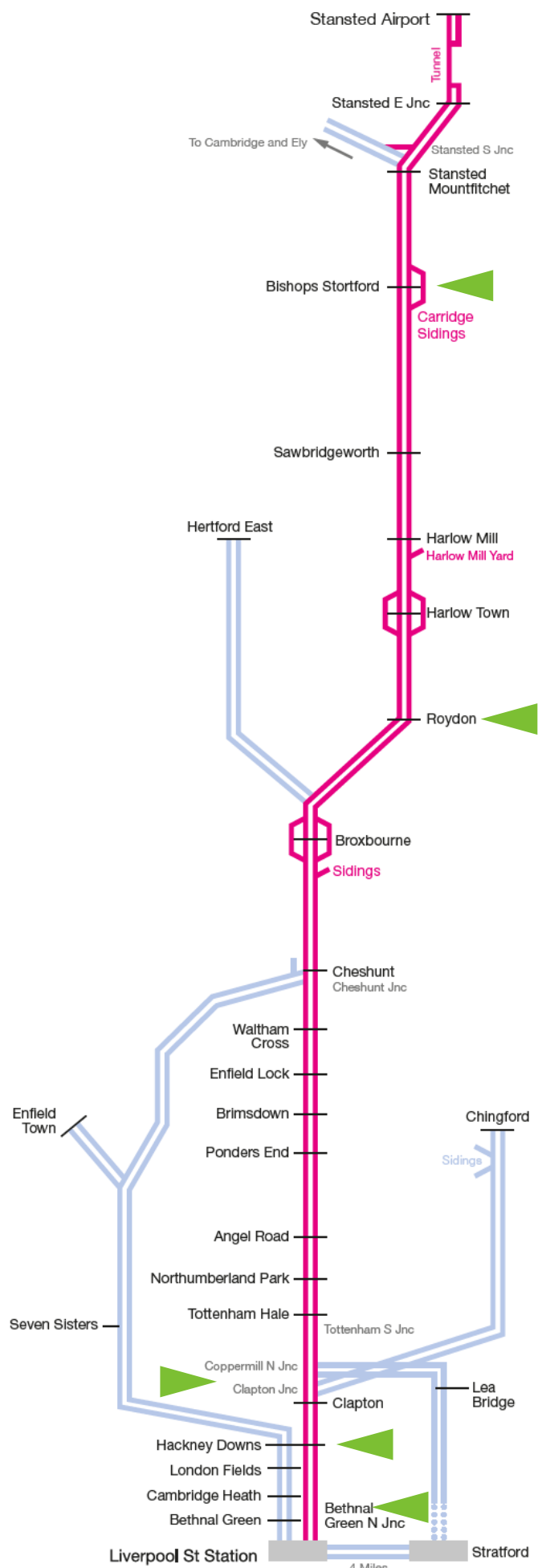


16. Our proposals are set against the backdrop of rigorous and ongoing efforts by Network Rail and Abellio to improve the reliability of services and cut delays<sup>14</sup> by 15 per cent by March 2015. We welcome these efforts and they should be maintained, as a necessary, but not sufficient, condition for success.

17. There are four planks to the improvements we propose:

- I. The removal of speed restrictions (rather than the significantly more expensive raising of overall line speeds)
- II. Greater anticipation of, and recovery from, network-wide delays with the new application of route-setting technology<sup>15</sup> and the creation of a storage siding at Stansted.
- III. The addition of new track infrastructure in the Lee Valley and passing loops north of Broxbourne to remove conflicts between express services and stopping services, and to create capacity headroom for resilience.
- IV. The realignment and timetabling of stopping patterns to take advantage of new infrastructure and greater operational efficiency.

18. All four sets of measures are detailed below. Their phased delivery overlaps and together would, with detailed planning, provide by 2020 more than the sum of their parts. Their total indicative cost is £620 million<sup>16</sup> and early analysis suggests they would deliver over £1.2 billion in Net Present Value benefits.<sup>17</sup> Incremental funding will be required in the next five years, as we do not propose that Government, the regulator and the rail industry re-open Network Rail's settlement for 2014-19 (Control Period 5).



## I. The removal of speed restrictions

- At the congested southern end of the route, the merging of services at Bethnal Green, and the constrained (flat) junctions at Clapton and Coppermill weaken service performance and reliability.
- At the northern end of the route, seven level crossings and the cumulative impact of intermingling stopping and non-stopping services, further degrades journey time.
- The impact of this constrained infrastructure could be mitigated by the removal of speed restrictions at the points highlighted in the map, namely Bethnal Green and Hackney Downs; Coppermill and Clapton Junctions; Roydon; and Bishops Stortford.
- All but two of these sites (Bethnal Green and Hackney Downs) are being examined by Network Rail as part of its efforts to increase overall line speeds. All the highlighted sites should be prioritised, examined and restrictions removed, with the support of Network Rail's Line Speed Improvement Fund.

**Timescale: 2014- 2016**

**Indicative cost: £40 million**

## II. Greater anticipation of, and recovery from, network-wide delays

- The technology used to predict and recover from delays – Automatic Route Setting (ARS) – should be enhanced at Liverpool Street and elsewhere along the route. This would allow system-wide delays to be tackled more quickly with the more sophisticated, real-time prioritisation of conflicting needs on the network.
- Greater resilience would result, going some way to protecting the Stansted Express from system-wide delays.
- Enhanced ARS could be put in place ahead of, and in preparation for, Network Rail's planned Traffic Management System.

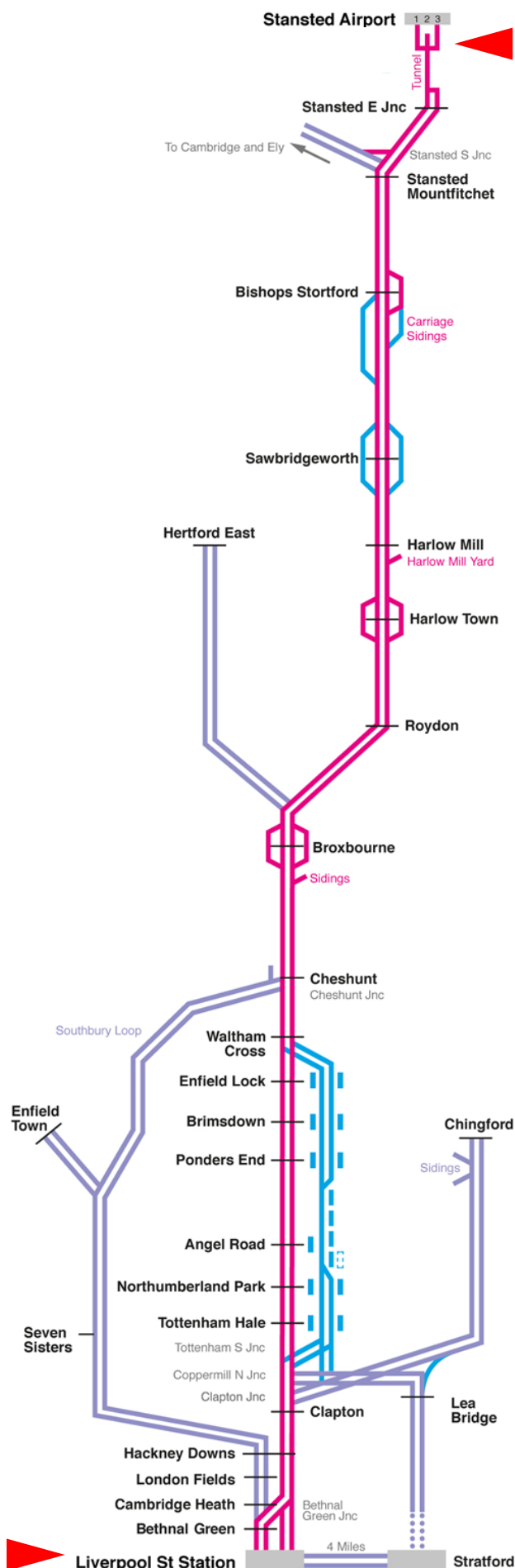
**Timescale: 2014- 2015**

**Cost: assumed already to funded in Network Rail's control period (CP5) settlement**

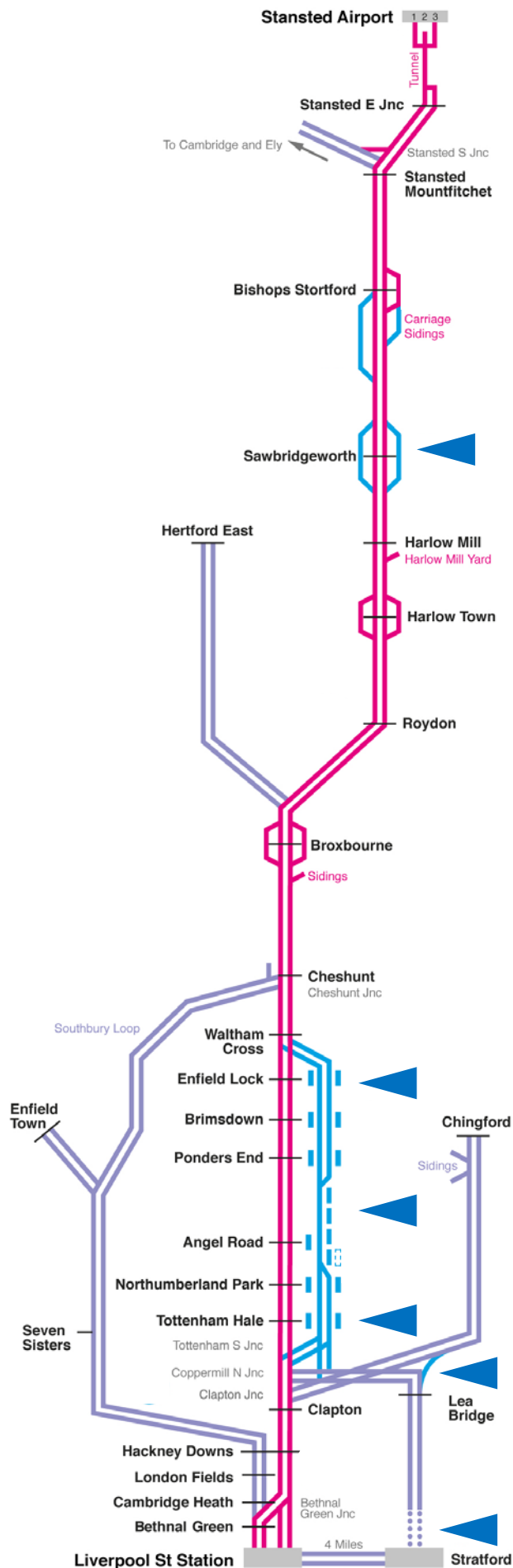
- Moreover, the creation of a storage siding at Stansted (in an extended track on Platform 1 beyond the existing buffer), would allow failed trains to be parked without occupying an operational platform, thereby avoiding disruption to subsequent services.

**Timescale: 2015 onwards**

**Indicative cost: £10 million**







### III. The addition of new track infrastructure in the Lee Valley and passing loops north of Broxbourne

- Fundamentally, the lack of network capacity overwhelms all other efforts to improve the Stansted Express.
- Between Liverpool Street and Broxbourne, and north of Harlow Town, there are few opportunities for fast and express services to overtake stopping services. This is particularly true in the Lee Valley between Clapton and Enfield Lock, where the network is reduced to two tracks and is heavily utilised.
- The addition of a third track, for a six mile stretch from Lea Bridge to Enfield Lock (and amongst other things a fourth platform at Tottenham Hale), would dramatically increase the ability of express services to overtake stopping services, allowing the easy swapping of lines for services to Liverpool Street and Stratford. This separation of stopping and non-stopping trains would bring shorter and more reliable journeys to the Stansted Express, and greater headroom in the network's timetable.
- These improvements could be complemented at the northern end of the route by passing loops at Sawbridgeworth at Bishops Stortford, where there is currently only one opportunity for a following train to pass.
- Finally, the re-opening of the Hall Farm Curve (allowing Chingford services to Stratford); a turn-back platform at Stratford (allowing more terminating services); and the re-modelling of Bow Junction after the opening of Crossrail, could bring new timetabling freedom and the option to consider directing some services from Liverpool Street via Stratford. Airport passengers and commuters would benefit from greater network resilience.

**Timescale: 2014-2020 (phased)**

**Indicative cost: £570 million**

#### **IV. The realignment and timetabling of stopping patterns**

- A more resilient timetable for the Stansted Express could be developed immediately, building on the progress made by Network Rail and Abellio, and hard targets for fewer delays on the Express be mandated by the Government when it re-lets the Greater Anglia franchise in 2016.
- Thereafter this timetable should be reviewed to respond to infrastructure improvements as they come on stream. The capacity headroom created by the changes outlined above would offer the chance to adapt and extend Express services to meet changing patterns of demand for the airport (particularly pre-rush hour), while cutting journey time and delays.
- At the same time, new capacity would protect and improve long distance and peak commuter services, cutting their journey times while creating the option to consider off-peak timetable changes. The opening of Crossrail will provide further opportunities to examine changes in the use of Liverpool Street station platforms by the Stansted Express.
- Finally, new capacity and timetabling could meet the Mayor's aspiration for a metro-style rail service of four trains an hour in the Lee Valley, both to support growing economic activity and to define the suburban services that recently devolved to his control. New track infrastructure from Stratford to Angel Road is funded and planned to be delivered in the short term. This will begin the rollout of a metro-style service and should not be delayed.

**Recommendation 2 – The Government should establish a taskforce with Ministerial leadership to oversee the development, funding and implementation of better rail links to our major airports, starting with the creation of a world-class rail link to Stansted.**

#### **WIDER ECONOMIC BENEFITS**

19. Our proposals would bring benefits beyond the Stansted Express, both to commuters and to the wider economy. To commuters, our proposals could cut delays and bring greater network reliability, preserving local services to Liverpool Street and creating the potential for more frequent services to Stratford. Average journey times for medium distance commuters could fall by around 16 per cent (by 5 minutes), and for long distance commuters by around 12 per cent (by 7 minutes).
20. With new network capacity, our proposals would underpin the regeneration of the Upper Lee Valley, a part of London forecast to see its population grow by 24 per cent by 2031, with a commensurate rise in rush hour journeys.<sup>18</sup> This area is the focus of considerable efforts to create jobs and spur new housing. The Mayor's recently published Upper Lee Valley Opportunity Area Planning Framework<sup>19</sup> seeks by 2031 the creation of 15,000 new jobs and over 20,000 new homes. It sees the opportunity for new economic activity at Tottenham Hale, Blackhorse Lane, Meridian Water and Ponders End; and identifies the need for significant transport improvements with, amongst other things, four trains an hour on West Anglia Main Line.
21. Our proposals would help release the latent potential of the London-Stansted-Cambridge corridor, a region home to approximately 2 million people and 700,000 jobs that could, with further policy change and investment, further drive the UK's economy. It is the focus of sustained efforts to attract investment, building on the success of burgeoning hi-tech, new media and biomedical companies located in and around Cambridge, Harlow and East London.

22. Finally, these short term measures would prepare the ground for Crossrail 2, should Government, TfL and Network Rail conclude this vital new rail line for London be best delivered with suburban and regional services. We strongly support Crossrail 2 as a regional link. The north east section of its route offers strong potential to relieve crowding on the Victoria and Piccadilly lines, as well as on West Anglia, Thameslink and Great Northern rail services through interchanges at Seven Sisters, Tottenham Hale and Alexandra Palace. TfL and Network Rail should consider Crossrail 2's potential to improve Stansted services yet further, whether through a direct link or indirectly. Crossrail 2 could, in tandem with other infrastructure changes, further play a role in delivering a journey time closer to 30 minutes.

## **CONCLUSION**

23. In 2006 the Eddington Study highlighted the urgent need to improve the UK's key international gateways with better road and rail access. It is hard to avoid the conclusion that transport policy has paid insufficient attention to this need, particularly in regards to Stansted. Our economic competitiveness demands that the UK's links to global markets continue to grow with a greater range and frequency of flights. We think the measures outlined above could, if implemented, remove a significant barrier to greater competition between London's major airports, and spur the more extensive use of Stansted's assets to grow Britain's global links.

24. These measures are of course no substitute for a successful strategy for new runway capacity serving London. But given new capacity is at least a decade away, action is needed now if the growing economic cost of deferring new runways – already too great – is to be halted.

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<sup>1</sup> The train operator, through its Greater Anglia franchise.

<sup>2</sup> Aviation Policy Framework, Department for Transport, March 2013.

<sup>3</sup> In 2010-11, franchised passenger journeys in London and the South East increased by 9%, Long-distance by 5.6% and Regional by 4.7% when compared to 2009-10; National Rail Trends 2010-11 Yearbook, ORR, 2011.

<sup>4</sup> Demand outstrips supply by almost 10% in the busiest hour. Total peak time capacity in central London is 775,000 passengers. Only 42% of peak capacity is supplied in the busiest hour between 8–8.59am. London and South East Route Utilisation Strategy, Network Rail, July 2011.

<sup>5</sup> DfT statistics, based on autumn 2009 figures.

<sup>6</sup> Increasing Passenger Rail Capacity, DfT/ORR/NAO, June 2010.

<sup>7</sup> 100mph Class 379 trains.

<sup>8</sup> The Public Performance Measure (PPM) is the percentage of trains arriving at their final destination within 5 minutes of their scheduled arrival time. Greater Anglia's Moving Annual Average (MAA) PPM was 92.4% (at the end of Period 6 in 2013/14).

<sup>9</sup> The PPM for the Stansted Express on a Moving Annual Average (MAA) basis is 90.2% (at the end of Period 6 in 2013/14).

<sup>10</sup> In the airport's peak period which usually corresponds to the commuter off peak period.

<sup>11</sup> With the Public Performance Measure (PPM) rising to 92.5%.

<sup>12</sup> Door-to-door.

<sup>13</sup> Source: Halcrow on behalf of Manchester Airports Group. Public transport catchment figures include rail and coach users but not users of local bus services (services which are more likely to serve local demand and employees in the immediate catchment). Figures including buses services would increase the catchment population of all airports substantially.

<sup>14</sup> The Joint Performance Improvement Plan (JPIP) seeks to reduce Delay Minutes (caused by any incident that causes 3 minutes or more lateness) from 935,000 per annum to 805,000 per annum.

<sup>15</sup> An enhanced version of Automatic Route Setting (ARS)

<sup>16</sup> Capital costs. In 2012 prices.

<sup>17</sup> In line with Government appraisal methodology, and over the appraisal period of 60 years after project opening. This outline appraisal is partly based on work undertaken by Network Rail which concluded that network expansion in the Lee Valley - with the addition of a third and fourth track from Lea Bridge to Brimsdown - had a Benefit Cost Ratio of 2.7:1. London & South East Route Utilisation Strategy, July 2011, Network Rail.

<sup>18</sup> Upper Lee Valley Transport Study, Transport for London, November 2012.

<sup>19</sup> Greater London Authority, July 2013.