

HSUK response to:

**A 'Call For Proposals' from
the Government
Airports Commission**

*(Extracts from **HS2: High Speed Trains, Slow Speed Brains**, available on www.highspeeduk.co.uk)*

Section 9 : HSUK Commentary (2018)

Appendix G : HSUK Response (2013)

9 Commentary on HSUK response to a 'Call For Proposals' from the Government Airports Commission

Responding Organisation	High Speed North #
Authors of Response	Christopher Quayle** and Quentin Macdonald
Date	July 2013
For full text of response see	Appendix G

For simplicity of narrative, the abbreviation 'HSUK' is generally used in the following text to describe either the High Speed North proposals as they existed in July 2013, the High Speed UK proposals as they exist today (2018), or High Speed North/High Speed UK in a corporate sense.

** Christopher Quayle is a pseudonym adopted by Colin Elliff to avoid accusations of conflict of interest from his then railway industry employers.

In 2012, the Government established the Airports Commission, chaired by Sir Howard Davies, to report upon options for developing new airport capacity in the South-East of England. In 2013, the Government issued a 'Call for Proposals', an invitation to the general public to contribute to the work of the Airports Commission. The HSUK input focussed upon the following key issues:

1. The Opportunity presented by the High Speed North Proposals
2. Importance of a Hub Airport to UK Economy
3. Adverse Consequences of Abandoning Heathrow
4. Alternative 'Systems' Approach to Hub Airport Development
5. On-site Expansion at Heathrow and Beyond
6. Heathrow / Gatwick Multi-Site Hub Operation

The HSUK input demonstrated that through developing Heathrow's surface access to provide direct rail links to cities across mainland UK, it becomes practicable to operate Heathrow and Gatwick as a multi-site hub, with a direct rail link between the two airports. This will enable 'landside' access to both airports from most UK cities, and also enable 'airside' transfer of transit passengers, luggage and cargo. With Gatwick far more suited to physical expansion with a second runway, this will avoid the need to expand Heathrow.

The HSUK response to the Airports Commission's 'Call for Proposals' is summarised in the following paragraphs, and referenced to the section numbering of the response **(2.)**.

9.1 Opportunity presented by the High Speed North Proposals (2.)

Heathrow's existing rail links are presently very poor, only connecting the airport to central London. Even with the planned addition of new rail links to the south (Airtrack) and to the west (Western Access), Heathrow will continue to be poorly linked to most of its regional hinterland, in particular the major cities of the Midlands, the North and Scotland.

Under HSUK proposals, the addition of a link to the north (the Northern Orbital Arm) and the full integration of all existing and planned rail routes to Heathrow will create a symmetrical

'Compass Point' network, and extend Heathrow's rail links to all main lines and placing Heathrow no more than a single change of trains from most major UK population centres.

The connection of the Compass Point Network to High Speed UK at Brent Cross will also create the possibility for through high speed services to Heathrow from all principal regional cities.

Together, the two interventions of the Compass Point Network and HSUK will create a 'hub and spoke' system for Heathrow in which the spokes will comprise rail services, operating at hourly frequency and extending across most of mainland UK. This will hugely improve regional connectivity to Heathrow, and it will also allow most if not all domestic flights to Heathrow to be discontinued, and replaced with more valuable intercontinental flights to emerging economies.

9.2 Importance of a Hub Airport to UK Economy (3.)

The presence of a hub airport in the UK results in a much larger range of international destinations than the country would be able to sustain without such a hub. It is therefore a matter of great concern that Heathrow lacks the capacity to add new routes to emerging markets, in particular India, China, Russia and Latin America and that, in the absence of this capacity, economic growth is likely to be diverted to other neighbouring countries with higher capacity airline hubs.

9.3 Adverse Consequences of Abandoning Heathrow (4.)

Whilst the imperative for higher capacity might seem to compel the transfer of Heathrow's hub function to another airport (eg Stansted Airport or a new Thames Estuary airport), this transfer carries a wide range of adverse issues which dictate that Heathrow remains the best site for London and the UK's hub airport:

- Economic dislocation of transferring over 100,000 Heathrow-dependent jobs to another location.
- Loss of connectivity for international firms already located close to Heathrow.
- Financial cost of new airport construction.
- Environmental impact of new construction, especially expansion into adjacent communities.
- Extra distance from central London.
- Greater difficulty in accessing UK regions.
- Hence North-South Divide exacerbated through reduced international connectivity to UK regions.

9.4 Alternative 'Systems' Approach to Hub Airport Development (5.)

The HSUK response advocated an alternative systems-based approach to airport development which recognised surface access as a vital component of the airport 'system', with an importance equal to that of terminal capacity and runway capacity. With efficient surface access in place, offering good quality connectivity across all of the airport's hinterland (in the case of Heathrow, extending across all of mainland UK) the following benefits become possible:

- Most domestic flights eliminated, and replaced more valuable long-distance flights.
- Improved links to Heathrow across all of mainland UK.
- Proximity to key transport corridors to north and west of London.
- Lower carbon footprint for journeys to airport.
- Reduced congestion on road network around Heathrow.

9.5 On-site Expansion at Heathrow (6.)

The HSUK response stated that there appeared to be no possibility of physically expanding Heathrow without huge controversy. It was therefore necessary to consider 'smarter' solutions such as multi-site hub operation.

9.6 Heathrow / Gatwick Multi-Site Hub Operation (7.)

The HSUK response stated that previous 'Heathwick' proposals to integrate Heathrow and Gatwick had failed on account of its isolation from and lack of integration with other railways, either existing or proposed. However, the viability of multi-site hub operation would be transformed by the HSUK initiative.

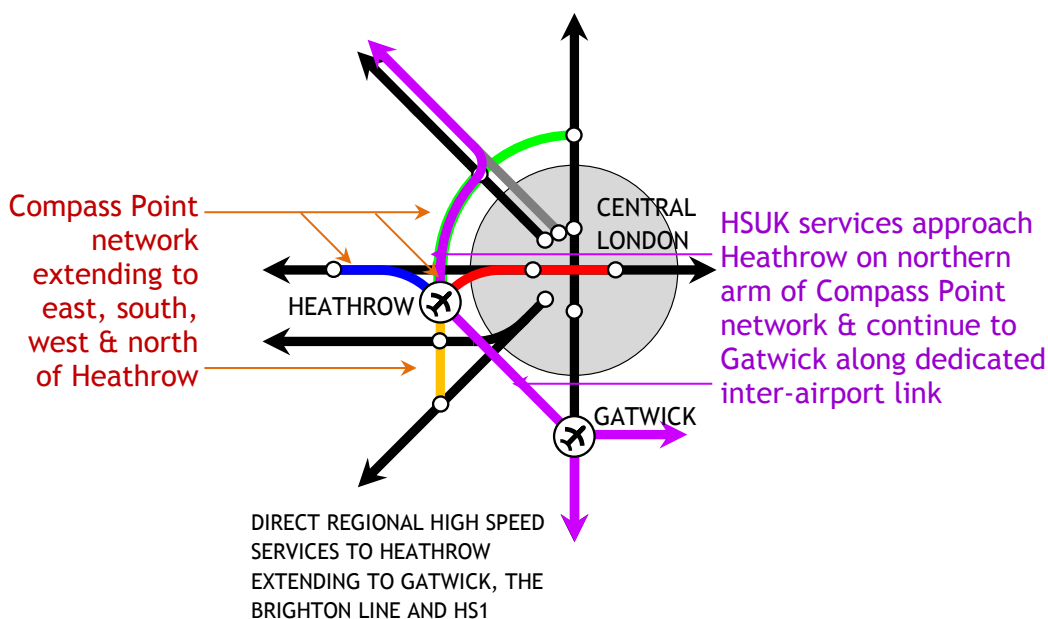


Figure 9.1 : Heathrow-Gatwick link and Compass Point Network

Multi-site hub operation would incorporate the following key features:

- Direct HSUK services to Heathrow from all primary UK cities would extend to Gatwick along new dedicated link. Thus both airports would enjoy **landside** connections across all of mainland UK.
- These trains could continue from Gatwick either to the South Coast or to HS1.
- A dedicated link 46km long could offer journey time of 14 minutes from Heathrow Terminal 5 to Gatwick.
- Shuttles operating along the dedicated link would transfer transit passengers, luggage and cargo between Heathrow and Gatwick. This would be an **airside** connection.
- Under these proposals, any extra runway required for London and the South-East could be constructed at Gatwick, with much reduced environmental impact.

APPENDIX G

SUBMISSION TO:

**GOVERNMENT AIRPORTS COMMISSION chaired by
SIR HOWARD DAVIES**

(in response to a 'CALL FOR PROPOSALS')

RESPONDING ORGANISATION:

HIGH SPEED NORTH

AUTHORS OF RESPONSE:

**CHRISTOPHER QUAYLE &
QUENTIN MACDONALD**

DATE:

JULY 2013

**Detailed commentary on this submission is given in
Section 9 of this report**

Response to Airports Commission Call for Proposals

1. *Opening Statement*

This response is made by Quentin Macdonald and Christopher Quayle of Quaestus (Poppleton) Ltd., based at Manor Farm, Church Lane, Nether Poppleton, York, YO26 6LF.

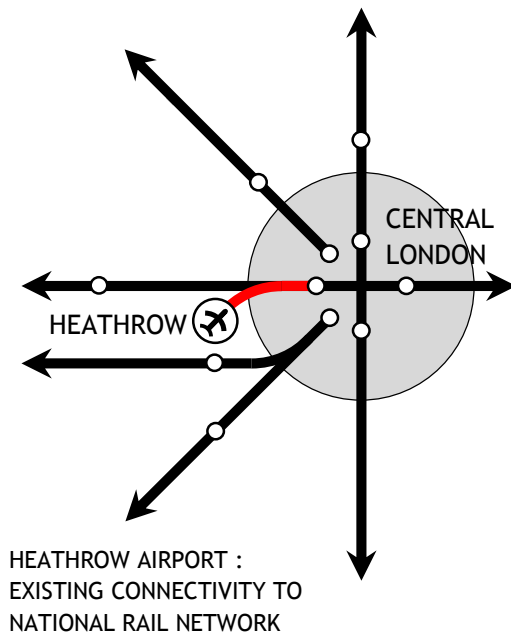
We are both career railwaymen, working in the allied fields of railway signal & telecommunications engineering (QM) and railway civil engineering (CQ). We have considerable experience in the development of railways and railway systems including high speed rail networks and airport access schemes. Clearly we do not have detailed knowledge of the development of airports but we believe that this consultation is about more than that. Of course as air travellers we are only too well aware that some airports offer a far better traveller experience than others with the reasons often not hard for a professional engineer to see. We hope that our knowledge of the UK rail network and our work over the last few years to create High Speed North, a serious and practical alternative to HS2, will be of interest to the Davies Commission.

We recognise that the Davies Commission may well be surprised that anyone should, at this late stage, be working on an alternative to HS2 when so much effort has already been spent on HS2. Please be in no doubt that our proposals are being taken seriously by a number of MPs, to the extent that we are giving a Parliamentary Presentation of our proposals to an invited audience at 14:00 on Tuesday 3rd September 2013 in the Grimond Room in Portcullis House. Nearer the time, we will be formally inviting the Davies Commission to send a representative to our presentation. Whilst it will primarily focus on the national rail network there will be much to say about better rail connections for Heathrow.

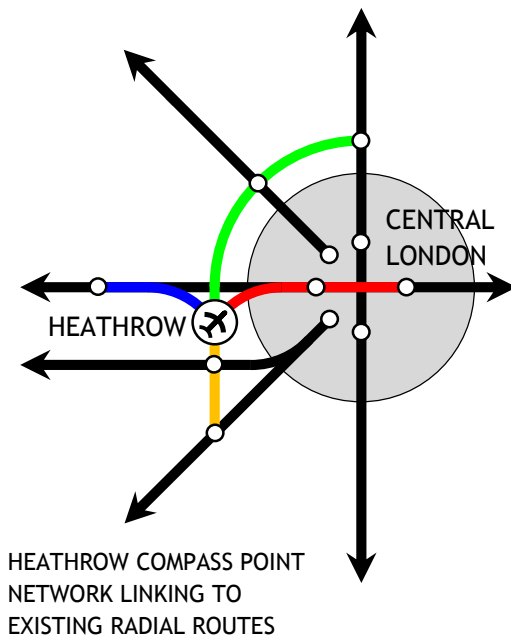
At the present time, our proposals for an interregional network of high speed lines have the working title High Speed North. However when we present on the 3rd September we will be using a different brand name. We hope that no confusion will arise and apologise in advance if it does. We ask the Davies Commission to note that all of our proposals have been mapped at 1:25,000 and every critical point from London to Birmingham, to Leicester and Nottingham, to Sheffield and Leeds, to Manchester and Liverpool, to Darlington and Newcastle and to Edinburgh and Glasgow has been carefully looked at on the ground. **We know that it is feasible to build the network we have proposed.**

2. *The Opportunity presented by the High Speed North Proposals*

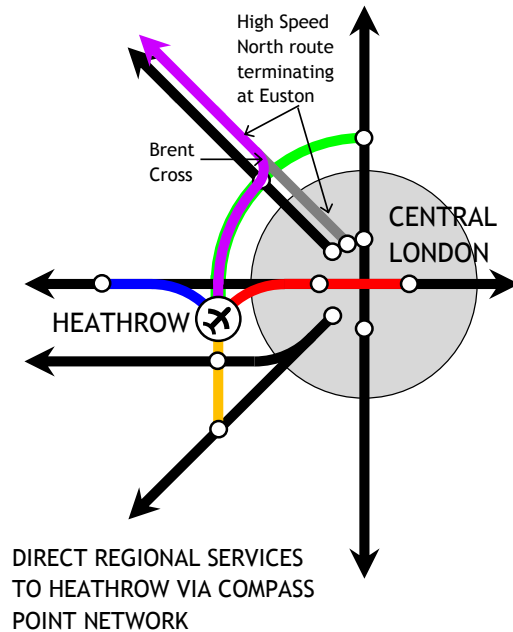
The problems of access to Heathrow will be well understood by the Davies Commission and the lack of national rail access to what is the UK's international hub airport is shown in the diagram below. It can be summarised as; "Excellent if you want to go to Paddington, Not Bad if you enjoy riding on the underground as a hobby and Non-Existent if you want to get anywhere else quickly". In short the rail access to Heathrow is poor. To be fair, we do recognise that Crossrail will change matters in the coming years, but only in an easterly direction.



In the diagram below we have added a link, shown in green, which will facilitate connections to the north. The green link, when coupled with the ‘Western Link’ (blue) and southern ‘Airtrack’ (yellow) extensions of the existing eastern facing Heathrow Express infrastructure (red) completes the ‘Compass Point’ connections from Heathrow into the existing national rail network. These ideas are not new of course and indeed Quentin well remembers working on a proposal for a southern facing rail connection some 40 years ago! The basic idea for linking into the existing rail network is shown below:



To those basic ‘Compass Point’ connections shown above, we then add our proposal for High Speed North services shown in the diagram next below which will allow direct ‘head on’ running of fast services into Heathrow from all the major cities and conurbations north of Milton Keynes. The route of the High Speed North services to Heathrow will be as shown in purple. We believe that it is this feature of our High Speed North proposals which will allow most if not all of the domestic flights into Heathrow to be discontinued.



These links effectively become the rail ‘spokes’ to the intercontinental airline hub at Heathrow, and should have the effect of transforming the international connectivity of the UK regions.

3. Importance of a Hub Airport to UK Economy

Before coming to the final part of our High Speed North proposal we would like to take the opportunity to comment on various aspects of the vexed question of the ideal location of the UK’s international hub airport. We understand that the fundamental purpose of the Davies Commission is to identify a potential site and to set the strategy for the development of an international hub airport located in the London & South-East region. We believe that good connectivity to our trading partners around the world is vital for UK prosperity, and that the presence of a hub airport in the UK adds greatly to this; attracting flights to a range of destinations that this country could not, on its own, sustain.

It is therefore a matter of great concern that Heathrow lacks the capacity to add new routes to emerging markets, in particular India, China, Russia and Latin America and that, in the absence of this capacity, economic growth is likely to be diverted to other neighbouring countries with higher capacity airline hubs.

4. Adverse Consequences of Abandoning Heathrow

All the discussion above presumes a continuing role for Heathrow. However, we would question the somewhat simplistic logic, implicit in much of the public debate surrounding the work of the Davies Commission, that a new 4-runway hub airport, either at Stansted or in some Thames Estuary location, is the only viable solution to the lack of capacity at Heathrow. This relocation strategy gives rise to the following major concerns:

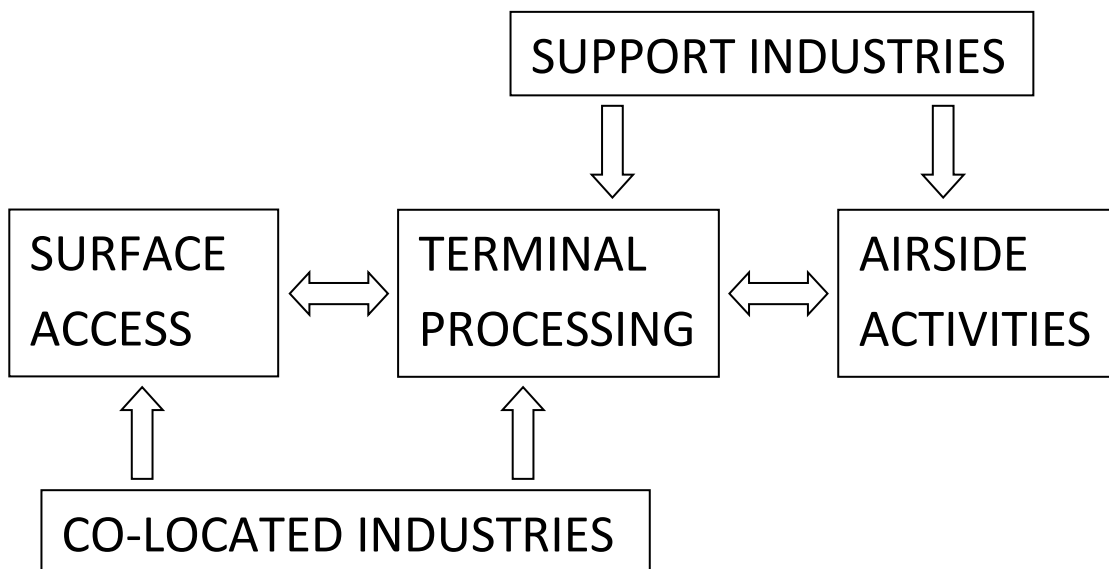
- Huge economic dislocation seems certain to result from the transfer of hub activities at Heathrow to another facility on the far side of London. At least 140,000 jobs, probably more, (both at the airport and in supporting industries) would be displaced, and major local unemployment would seem certain to result, with the majority of workers either unwilling or unable to relocate.
- Many ‘co-located’ multinational companies who have set up their UK headquarters in the Thames Valley, i.e. close to Heathrow, would lose this crucial international connectivity, and it is quite likely that a significant proportion of these co-located firms would choose to relocate not to East London, but to the Continent.

- The establishment of a new hub airport, and all of its dedicated supporting infrastructure, is projected to carry huge multi-billion financial costs. Much of this cost seems certain to be public expenditure, rather than private expenditure.
- A new 4-runway hub airport plus supporting infrastructure, whether constructed onshore or offshore, seems certain to carry huge environmental impacts with the high likelihood of major public opposition. That kind of opposition would appear to fly in the face of contemporary environmental best practice (which generally calls for ‘smart’, low-intervention solutions) and principles of ‘localism’.
- Any feasible site for a new hub airport will be considerably further from central London than Heathrow, probably resulting in longer journey times.
- London’s hub airport is by default the UK’s hub airport; and the current poor rail links between Heathrow (and hence to the rest of the world) and the UK regions is a significant contributor to the North-South Divide that afflicts the UK economy.
- Any eastward move of London’s hub airport, either to Stansted or to a Thames Estuary site will tend to make the relocated airport less accessible to the UK regions. Such a new airport will be on the wrong side of the mass of the London conurbation requiring far more people to pass through or round London exacerbating the disparity between the economies of London and the South-East, and the UK regions.

Although various proposals have emerged for M25-aligned high speed rail lines to connect putative Thames Estuary airports to HS2 and/or other northward-oriented high speed lines, we do not consider such proposals to be attractive. The problem is that they are likely to have very high infrastructure costs and would need to carry travellers from all over west and south western England, south and north Wales, the home counties to the west of London, the west and east Midlands, the north west and north east of England, and Scotland. The result is likely to be a road traffic jam and the rail equivalent. Going east seems to us to be the equivalent of a suicide note.

5. *Alternative ‘Systems’ Approach to Hub Airport Development*

We therefore believe that the mind set of those proposing to abandon Heathrow in favour of a more easterly-located site comprising 4 or more runways, is fundamentally misguided, carrying far more negatives than positives. This has come about through placing excessive focus upon achieving runway capacity on one site as the primary goal. Insufficient attention has been paid to the other aspects of the system that comprises an airport i.e. surface access, and co-located industries. This system might be characterised in Figure 1.



We believe that good quality surface access is as important to the efficient functioning of an airport as its terminal processing and airside activities. An efficient surface access system offers a hub airport such as Heathrow the following advantages:

- **Elimination of most if not all of the domestic short-haul routes.** With appropriate connections to a new high speed rail system bringing most UK cities within 3 hours or less of Heathrow, domestic flights often operating at poor frequencies from regional airports can be eliminated in favour of hourly train services to a much wider range of regional cities. Runway slots can, instead, be dedicated to higher-value international flights to emerging markets.
- **Spreading of Heathrow's effective hinterland across all of mainland UK.** Heathrow's poor connections to its UK hinterland (either by surface public transport or domestic air routes) have led to most English regions being better connected to international/intercontinental aviation at nearby European hubs, in particular Amsterdam/Schiphol. Efficient rail 'spoke' connections to its mainland UK hinterland will allow Heathrow to gain much greater market share from the UK regions.
- **Heathrow's Connectivity.** It must be emphasised that Heathrow has real potential for advantageous connectivity to the UK hinterland to north and west of London. This is entirely due to Heathrow's favourable westerly location, very close to the Great Western Main Line and relatively close to a north-west oriented high speed line along the M1 axis. Such connectivity is impossible to replicate for a new London hub airport located either at Stansted or in the Thames Estuary.
- **Significantly lower carbon footprint of airport access.** The proposed 360-degree range of rail destinations to and from Heathrow for both airline travellers and airport workers should result in a major shift of journeys from cars to public transport. It is clear that major savings in transport CO₂ emissions are possible as a direct consequence of improved rail surface access when compared with current higher CO₂ modes of airport access
- **Current Surface Access Issues at Heathrow** On most primary axes (i.e. south, west and north), road transport is dominant in surface access to Heathrow. This has been greatly facilitated by the development of the motorway network, with Heathrow located close to both M4 and M25. As previously noted, Heathrow's surface access by rail is poor, with direct links to central London only by using Heathrow Express or the Piccadilly Line.

On all other axes (i.e. south, west and north) Heathrow is effectively disconnected from the national rail network. This has greatly contributed to the endemic congestion on the road network surrounding Heathrow.

These deficiencies persist, despite several main lines (eg Waterloo-Reading, Great Western Main Line, and Chiltern Line) passing close to the airport. Although it is a matter of deep regret, even national shame, that these links have never been established, it is reasonable to assert that such links are eminently achievable, requiring short lengths of new railway at relatively modest cost. By contrast, the new build requirement for rail links to and from a Thames Estuary airport to access routes to the north and west of London would carry costs of one or two orders of magnitude greater.

6. *On-site Expansion at Heathrow and Beyond*

It is of course Heathrow's present lack of runway capacity that is driving the current quest for an alternative, larger aviation hub for London and the South-East. There are no easy, low-impact solutions for on-site expansion at Heathrow. This is clearly evidenced by the massive public opposition to previous proposals for a third runway, and sixth terminal, at Heathrow. Even greater opposition can be anticipated, if expansion to a 4-runway facility were ever to be attempted.

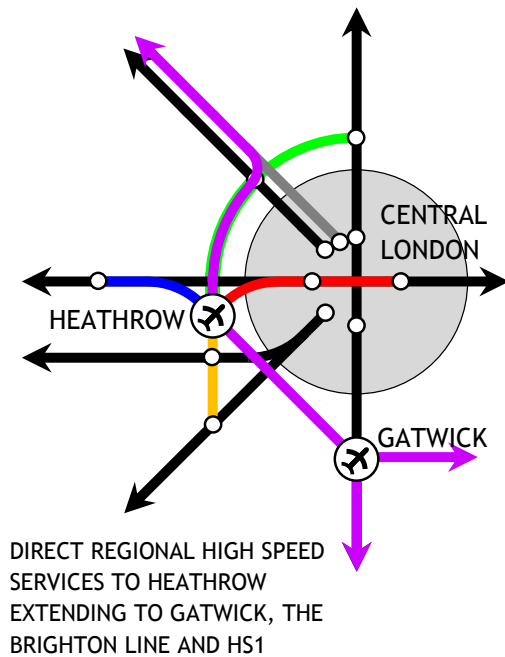
We would comment that there appears to be no realistic prospect of expanding Heathrow on its existing site without bulldozing significant numbers of domestic properties at a time when there is a major shortage of housing stock in the southeast generally. This is certain to provoke an intense and continuing outcry that is likely to cripple any such Heathrow expansion project and the government which proposes it. We believe that smarter solutions are available whereby the benefits of 4 runway operation can be achieved through multi-site hub operation.

7. *Heathrow / Gatwick Multi-Site Hub Operation*

We are aware of previous 'Heathwick' proposals to integrate operations at Heathrow and Gatwick. This entailed a dedicated rail link between the two airports, operating essentially in isolation from other railways, to transfer passengers between the two airports. The 'Heathwick' concept has so far attracted little support among the aviation industry, and the idea appears to have generally been dropped.

We believe that the crucial fault of the 'Heathwick' concept so far, was its isolation from other railway systems. This made its ability to transfer passengers between the two airports its only purpose and nothing else. It thus offered little other benefit which combined with its significant costs of implementation, will have resulted in a low Benefit Cost Ratio.

The diagram below gives our idea for the full exploitation of a new dedicated Heathrow Gatwick link directly connected at Heathrow to our proposal for a northward link to the national rail network and High Speed North.



We believe that the through connection proposed, transforms the prospects for a southward high speed rail connection to Gatwick and beyond. A flavour of our proposals in more detail is given in Annex A (Drawing ACD 7) and Annex B (ACD 11). Such a route would the following results:

- Direct rail connections to Heathrow from all primary UK cities (as previously described) now extending to Gatwick. These services would be land side services.
- A running time from passing Brent Cross to stopping at LHR 1/2/3 of 15 min (distance 27km and maximum speed 160km/h);
- An LHR 1/2/3 arrival time to LHR 5 departure time of 8 minutes (LHR 1/2/3 dwell of 3 min + LHR 1/2/3 to LHR 5 transit of 2 min over 1.5km + LHR 5 dwell of 3 min);
- A running time of 14 min from LHR 5 to LGW (distance 46 km, maximum speed 225 km/h);
- An overall Brent Cross to LGW timing of 37 min including two 3 minute stops at Heathrow;
- In addition a dedicated shuttle service transferring transit passengers, luggage and cargo between LHR 1/2/3, LHR 5 and LGW (and vice versa) in 15 minutes. We propose that this would be an air side service to integrate the two airports allowing passengers and their checked in luggage to transfer seamlessly between the two airports without going through immigration;
- Onward connections to the South Coast, thus effectively tying in southern communities to the national high speed rail network formed by High Speed North;
- By transferring a significant element of Gatwick’s European holiday traffic to Stansted and/or Luton, the existing runway pair at Gatwick would effectively become Heathrow’s third runway. Gatwick already has clearly developed plans for a second operational runway by 2019 to the south of the existing ‘one at a time’ pair, and this would effectively become the fourth Heathwick runway.

There would of course be some environmental impact inherent in the new Heathrow to Gatwick high speed rail link. However, as noted above, we have prepared detailed 1:25,000 alignments for this route, and we are convinced that it can be achieved without too much environmental damage. However more detailed work will be required to confirm that assertion and we recognise that we may have to resort to the mitigation of additional tunnelling.

Beyond that position, there is the prospect of connecting the LHR to LGW link to the Redhill to Ashford line which lies only 7km to the north of Gatwick. This in turn gives access to eastern Kent and HS1. There is enormous scope in this proposal; in short, the world is your oyster!

8. Conclusion

Taken overall, we believe that our proposals

- to establish 'Compass Point' rail links from Heathrow to the national intercity rail network;
- to connect to our proposed High Speed North national high speed rail services into the 'Compass Point' thus providing direct high speed services from Heathrow to all primary UK regional cities;
- to extend these links southwards from Heathrow by means of a dedicated high speed rail route to Gatwick and beyond and to facilitate multi-site hub operation between the two airports;

will establish a virtual 4-runway hub airport for the UK, fully connected to its UK hinterland, at a fraction of the cost - both financial and environmental - of any of its rivals. It will demand collaborative working between competing airports (along with many other stakeholders) but this should be to the mutual advantage of all.

We know from the work of others that the east facing and west facing and parts of the south facing spokes of the 'Compass Point' are perfectly feasible. To establish the same degree of credibility for the Gatwick link and the north facing link we have mapped our proposals at a scale of 1:25,000 which gives us complete confidence to say that such routes are buildable and affordable. This is the same mapping scale that we have used for the whole of our High Speed North proposal from London right up to Edinburgh and Glasgow.

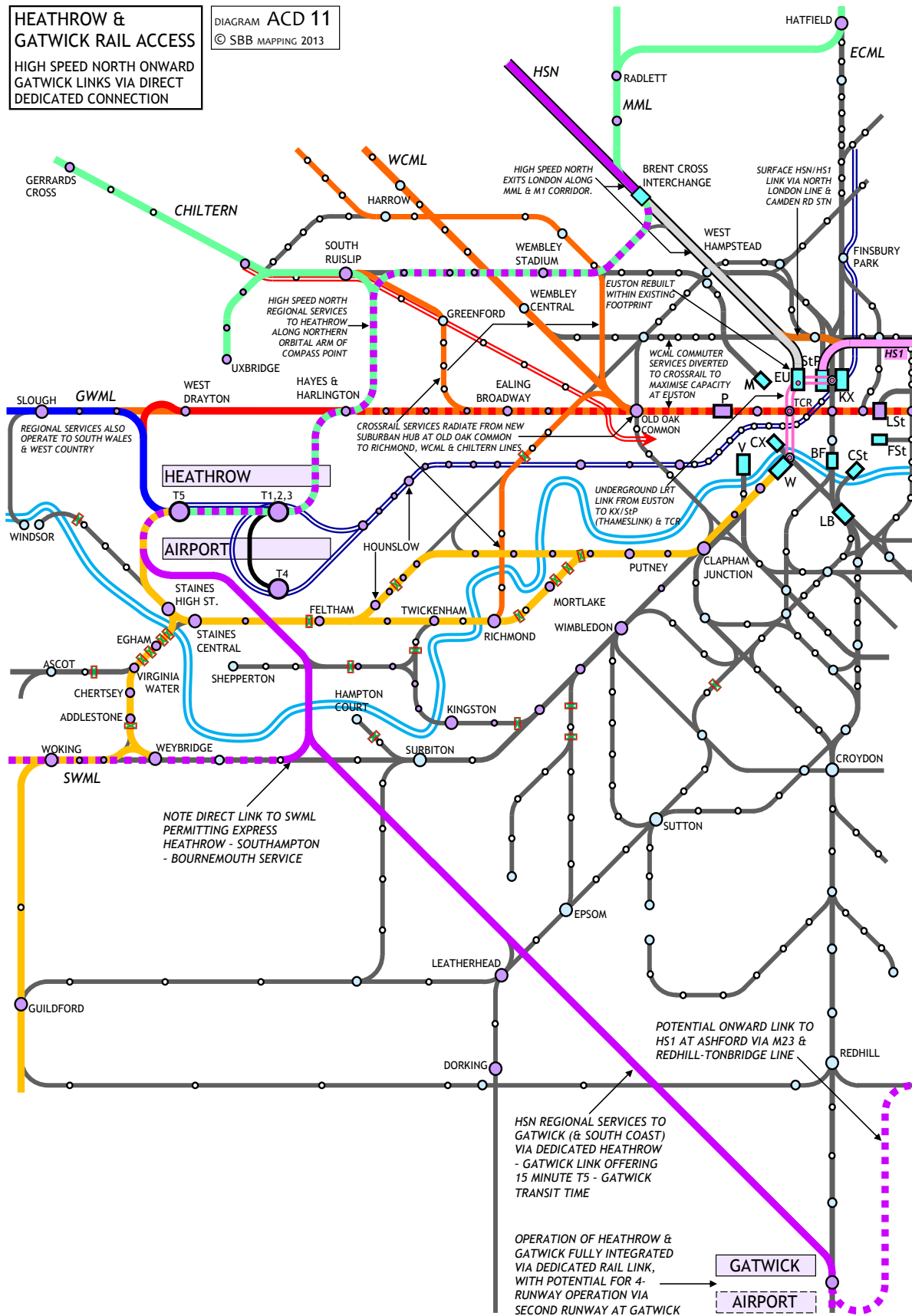
We believe that our proposals comprise a sensible, 'smart' and sustainable solution to achieve the desired expanded aviation hub in the London and South-East region. We restate our invitation to the Davies Commission, to attend the High Speed North Parliamentary Presentation in Portcullis House on September 3rd. After that, we hope that the Davies Commission will be encouraged enough to want to question us in detail about our proposals.

Sincerely,

Quentin Macdonald and Colin Elliff

HEATHROW & GATWICK RAIL ACCESS
 HIGH SPEED NORTH ONWARD GATWICK LINKS VIA DIRECT DEDICATED CONNECTION

DIAGRAM ACD 11
 © SBB MAPPING 2013



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