

Response to Infrastructure Commission Call for Evidence: Questions relating to Greater London:

1. What are the major economic and social challenges facing London and its commuter hinterland over the next two to three decades?

Lack of housing, especially affordable housing within reasonable travel distance of employment and services.

Dependence on the private car, especially away from Inner London and, resulting from this:

The concomitant wasteful use of land (for roads and parking) that should otherwise be used for housing, other beneficial uses, biodiversity and flood mitigation;

Lack of opportunity (and safety) for walking, cycling and public transport, all of which would contribute to public health through less obesity, better air quality and less premature morbidity and mortality with significant effects on the costs of health care.

2. What are the strategic options for future investment in large-scale transport infrastructure improvements in London - on road, rail and underground - including, but not limited to Crossrail 2?

How should they be prioritised, taking account of their response to London's strategic transport challenges, including their impact on capacity, reliability, journey times and connectivity to jobs?

There have been far too many reports that have been shelved (e.g. the two immediate Post-War railway reports following the Abercrombie Plans, of which only a few fragments have been built, the proposals half a century ago for what is now Crossrail 1, the Bakerloo Line Extension, expected in the 1950s, and the inordinate delays on Thameslink "2000"). IMMEDIATE starts should be made on

- The elimination of bottlenecks on the radial rail network (e.g. E Croydon, Welwyn Viaduct, Clapham Junction and Woking [please see below])
- The provision of orbital or tangential routes serving outer London suburbs, town centres and locations beyond, on the model of Croydon Tramlink, and the provision of railway lines to improve connectivity (e.g. the Croydon link)
- The transfer of funding from increases in road capacity to public transport and traffic management, including the improvement of environmental conditions in neighbourhoods through the rigorous enforcement of (low) speed limits and restrictions on obstructive pavement parking etc.
- Crossrail 2 regional scheme and bringing forward radial line improvements such as reinstating four tracks in the Lea Valley and additional tracks on the SW Main Line.
- The safeguarding of land in rail corridors for improvement (e.g. if true, the reduction of the rail formation under Earl's Court on redevelopment to two tracks is incredibly short-sighted, given the likely capacity pressures on the West London route).
- Cross River provision downstream of Docklands to link **rail** services for passengers and freight north and south of the Thames (rather than the current preoccupation with road traffic crossings).
- Planning for a direct through link from HS1 to HS2, so that Old Oak and Stratford can play a fuller part in distributing national London-bound traffic, and direct Continental services can be provided from Birmingham and Manchester without stopping in London – both relieving Euston and bringing the "Northern powerhouse" to reality, rather than just adding to Central London congestion.

I also advocate in particular an orbital link for West / South West London which I have put forward in the SW Route Utilisation Strategy consultation – please see the **Appendix** to this note, which considers some of the wider issues related to the M25 corridor in this sector.

What might their potential impact be on employment, productivity and housing supply in London and the southeast?

Although the Commission is not including Airports in the request for comments, it has to be faced that a wrong decision here would make infrastructure provision well-nigh impossible. In particular, the huge housing demands from increased economic activity that a third runway at Heathrow would require would be unsolvable. The public's resistance to the development that would be needed on the green belt and beyond (including AONBs) and the near-certainty that air quality considerations would mean lengthy legal challenges would result in a collapse of planning in west London and beyond and affect London's performance as a whole. (It must be recognised that the Heathrow T5 Inquiry was unequivocal that T5 should be the last major airport development there).

Conversely, the early use of land currently blighted by proposals for the third runway for housing and integrated transport (building on present routes like Crossrail 1) could go a long way to make an impression on the SE's current long-term housing supply deficit, and safeguard areas beyond Greater London from over-development likely to be unsupported by infrastructure which is currently fairly poor.

3. What opportunities are there to increase the benefits and reduce the costs of the proposed Crossrail 2 scheme?

Better integration with regional rail routes, e.g. Lea Valley / Stansted and SW Main and Suburban routes, to reduce congestion at London termini and provide more journey possibilities, plus widening as suggested above.

4. What are the options for the funding, financing and delivery of large-scale transport infrastructure improvements in London, including Crossrail 2?

- What is an appropriate local and regional contribution - given the potential distribution of benefits to business, residents, transport users and the wider economy - and how could this be achieved?
- What innovative funding mechanisms could be considered to support delivery of key schemes?
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From the land development of the first Metropolitan Railway, through the development of the New Towns, to the proposals for infrastructure financing worked out for example in the Cambridge Growth Corridor in the late 1990s, many proposals have been made for how development might be financed, mostly involving the capture of future land value benefits to assist current development. Proposals along these lines have been made by many of the professional Land and Planning bodies, who can be expected to be presenting them to you. The obstacles seem to be more "political" philosophy than practicality!

5. How have major metropolitan areas in other countries responded to similar challenges and priorities? Are there any lessons to be learned and applied in London?

I do not have direct information on these issues.

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Appendix:

The following response to the Wessex Route Study Consultation, made in February 2014, considers the application of some of the issues raised in the Commission's questions, and makes a specific proposal for an orbital rail route to improve infrastructure in the SW and W London and the M25 Corridor.

1. This is an individual response by a resident of Woking. I have a particular interest in the consultation as I am a retired town planner who has had direct responsibility over the years for, *inter alia*:

- Strategic planning, environmental and planning appraisal techniques for large infrastructure projects and sub-regional plans
- The interrelationship between transport and land use, including the geographic and time – accessibility of different modes of transport
- Specific policy issues relating to the needs of industry, the roads programme and rail freight (including at one time re-writing the Freight Facilities Scheme Manual)
- Working (successfully) to bring forward the proposals for South Hampshire electrification by identifying socio-economic benefits, so that the scheme was implemented earlier than originally proposed by the then railway authorities
- Regional planning – including RPG3 (London) and RPG9 (for the wider South East). This included ensuring that strategic reference was made in RPG3 to Crossrail and Chelsea-Hackney (when transport colleagues in government were advocating dropping both!)
- Housing demand and supply in these regions and subsequently the national growth area proposals
- The 700 conditions attached to the Heathrow Terminal 5 decision (as part of the T5 decision team).

2. I am not a railway industry expert, so please forgive any misuse of railway terminology in this response (I have however been a close follower of modern railway matters for over 50 years, and a regular rail and rapid transit user). However, I would like to record at the outset that the consultation document is admirably clear and readable.

3. This response concentrates on the SW Main Line and the potential for an outer orbital London rail service, for this is where I believe the greatest challenge and opportunities lie. Following general observations on the Study as a whole, I advocate the early implementation of:

- Grade separation and additional platforms at Woking and
- An orbital route from Guildford to west London via Heathrow, mainly on existing tracks or following the M25 – which I have termed “Airtrack plus”

General observations:

4. The Route Study appears to be concentrated on the current problems of congestion and ways to squeeze capacity out of a system running at a level which is less than wholly resilient (giving no room for even minor upsets in service). There is clearly an operational and “political” need to address this, but the danger is that opportunities for growth in rail usage and coverage are ignored. Major

timetable changes, new stock and train lengthening has ameliorated conditions more recently for the outer suburban services, (but often at the expense of frequencies of the inner suburban, as a comparison with published timetables from 50 years ago will show). Nevertheless, as is well recorded in the Study, overcrowding is rife and action is needed beyond mere tinkering even to maintain the status quo amongst a growing population.

5. What the Route Study underplays is the potential for further growth in rail traffic if current constraints on journeys (including journeys that cannot at present be made by efficient public transport) were eliminated. Transport demand modelling – and to some extent the current franchise system – tends to concentrate on existing flows and congestion, and underplays the potential for new journey opportunities. Derived demand approaches completely ignore the established contribution that, for example the “tubes” gave to the development of the London suburbs and the Metropolitan Railway did for “Metroland”. Planners have long known that improvements in accessibility can bring increases in usage. The growth of traffic on the SW main line has been well recorded. Past capacity increases have stimulated growth – the effect of electrification of the Southampton line and resultant reduced journey times was particularly marked in the Twentieth Century and stimulated commuting and development along the corridor.

6. Today there is a welcome recognition of the development opportunities of new transport links – redevelopment around Crossrail stations being an example – but transport planners still tend to belittle attempts to create new markets. An example is the history of the Overground, which, when first mooted (as RingRail) in the mid C20, was rubbished by transport planners as having no demand and by railway operators as completely infeasible. Indeed, transport planners at the time were seriously contemplating using the trackbeds of the supposedly redundant lines for urban motorways [I was involved in assessing the quite devastating impact of these routes]. The work of the new Deputy Mayor and others in the more recent GLA facilitated the development of the Overground, and its attractive services have led to the original concept being overwhelmed by passengers, so that trains and platforms have needed to be lengthened and frequencies improved.

7. A simple example of suppressed demand today is Clapham Junction, where the non-stopping of Main Line trains throughout the peak means (from timetabling and platform constraints) that otherwise entirely feasible journeys to such major traffic attractors as Croydon or Inner West London just cannot be made from main line stations as the interchange is not possible. Here, the issue of current capacity and future opportunities overlap – as dealing with one could unlock the potential and generate increased traffic (and revenue) to a wider range of destinations.

8. I would like to see an immediate Improvement of Clapham Junction. Pending a major rebuild, urgent consideration should be given to the conversion of the current Up Fast line to Fast Reversible, with platform extensions and the relief of severely restricted turnouts to platforms 7 and 9 to enable a reasonable number of peak hour direction main line services to call there (and be overtaken by non-stopping services if necessary). This should take place irrespective of the decision on Crossrail 2 (I support the earliest implementation of the regional scheme and additional tracks west of Wimbledon.)

9. A more difficult, but pressing, issue is the traffic opportunity of outer orbital services, represented (by road) by the M25 corridor, which in my view is an opportunity for rail waiting to be grasped, preferably immediately (please see below).

10. Capacity restrictions also inhibit the construction of new stations, on which the Study is silent. I assume that they have been ignored, from the statement given in section 3.6 *other conditional outputs*. However, there are significant opportunities for enhancement of the connectivity benefits

of rail and of attracting traffic at such locations as Burpham and Park Barn (both in Guildford) and these should be included as an early planning aim. These two, from the point of view of the local areas served, are well overdue. Others should be investigated, for example, Stoughton (Guildford) and Sheerwater (Woking – in tandem with current regeneration proposals).

11. It is understandable that, given the physical restrictions on train movements, train lengthening is the first resort of operators (or more fanciful ideas such as double decker carriages as expressed in section 6.3). However, lengthening is probably reaching its practical limits for suburban services, whilst it should also be remembered that the attractiveness of public transport in suburban areas increases as frequencies increase. (Waiting and Interchange times are “valued” more than in-transit time). A Turn Up and Go service is necessary to be attractive to users, as seen most dramatically on the growth in traffic on the London Overground and some “Metro” services. It is therefore encouraging to see the Study examining the potential for enhancing the services over the day. Southern Electric managers considered 20 minutes to be the maximum waiting time without journey planning using timetables. In today’s faster, more instant, world, a frequency of 15 minutes or less would seem essential for non-rural services.

12. Most of the significant proposals of the Study are over the longer term, yet, as we have seen in the past, rail planning has been bedevilled by delays, prevarication and abandonment. The post war plans for cross-London RER main line tubes following Abercrombie (the Greater London Plan) were never implemented (e.g. main line tube F became a watered down Jubilee Line, the Northern Line New Works including taking over some SW suburban branches were abandoned). Major proposals for two E-W lines in the London Traffic Study were forgotten, and – as I mention above – Crossrail was very nearly abandoned too. It is clear from the Study that the current – welcome – proposals for capacity are quite insufficient to provide a resilient service for just the current passenger forecasts – let alone suppressed demand – and that major capacity increases are required immediately. Comparisons with the provision of infrastructure in other World Cities show London and the SE to be incredibly slow, notwithstanding the fact that where there is a will, infrastructure can be implemented relatively quickly (the DLR and Overground extensions being examples).

Relief of congestion at Woking

13. I believe that the flat junction at Woking largely determines the pattern of rail services on the entire SW Main Line, and it seems highly unlikely that the service through this junction could be improved without major work. As the Study points out, existing services through Woking are already seriously overcrowded. Without commitment to improvement at Woking, the only possibility for the SW Main Line (long distance services) seems to be the diversion of a few of these at Basingstoke to Paddington, building on the freeing of capacity on the GW Main Line by the rebuilding of Reading and the platform space at Paddington freed by Crossrail. Whether this could provide an adequate level of capacity without further major expenditure seems doubtful, and would do nothing for the growth in traffic over the Portsmouth, Alton and Basingstoke Line corridors. The construction of Platform 3 at Woking has been a palliative for terminating services, but entails conflicts with the fast lines and additional congestion on the approach to Woking, as many travellers already experience.

14. Woking is therefore the key to both improved rail services throughout the SW Main Line and the additional services needed to support Surrey and Hampshire. There is an additional opportunity to use this capacity to facilitate an orbital service meeting the unmet demand for access to Heathrow and the West of London (see below). In addition, planned proposals for development in Guildford,

Woking and the Blackwater Valley will add to travel demands. Significant commercial and residential developments are already proposed in the sub-regions, recognised in the Local Plans (emerging or adopted) for the area. It is very doubtful whether this level of growth can be sustained on the basis of road traffic alone without severe environmental and congestion implications, themselves fuelling strong opposition to any proposal for growth.

15. The draft Surrey Rail Strategy set out various proposals for additional rail services using the SW Main Line, but none would appear feasible without increased capacity at Woking (with the exception of a proposed terminating service into Platform 6 from Gatwick).

16. I therefore strongly support the Study's proposals for capacity enhancement at Woking by a flyover and extension of Platform 6 to be a through platform (section 6.1), but would advocate consideration of further enhancements, specifically the provision of, or passive provision for, a second additional through platform. Work on this should start as soon as possible.

17. Although development has encroached on some land that might be used for major improvement – which can be seen as incredibly short-sighted by both the past rail authorities and the planning authority – the potential still exists, helped by the fact that the Victoria Way bridge is multi-tracked, and there are abundant railway lands around the station area. It seems perfectly feasible for two new platforms to be located on the southern side of the station on the the up side, continuing the existing Platform 6 track and adjoining siding. In order to reduce impact on the Centrium residential complex, the platforms would begin at about the site of the present booking hall, but would extend over railway lands in the London Direction. (If necessary, appropriate screening of these approach tracks could take the form of a “green roof”.) There may be issues on the historic façade of the booking hall, but this could probably be rebuilt and incorporated in any new development. There is considerable potential for development over the station.

18. Proposals already exist in principle for a new development at the station to provide a bus interchange. Woking Borough Council has an entrepreneurial approach to development, as seen in the extensive proposals for further development of the town centre, and development of the airspace above the station could contribute significantly to its enhancement. A local advantage of any development could be the replacement of the totally inadequate public subway under the station by a convenient over-deck starting at grade from the existing station forecourt, leading to access to the town centre by escalator or lift and incorporating an over-track concourse (itself facilitating retail opportunities for the railway).

A proposal for an orbital railway for Outer West London –“Airtrack Plus”

19. The study refers in passing to the Southern Rail access to Heathrow (section 2.1.5), but in my view misses the much greater case for an orbital rail service, based mainly on existing tracks to link major traffic generators throughout the SW and W London sectors. At present, it is almost impossible to move around Outer SW and W London without going by private road vehicle. There is constant pressure to widen the M25, and the issue of air pollution (see below) is additional to the carbon contribution of road traffic, which is significant in contributing to climate change. The almost total dependency on roads also has considerable repercussions for the structure of the Western and South Western approaches to London, with spreading congestion adding to business costs and sprawl inhibiting efficient and sustainable land use patterns. This is not just a Heathrow issue, but one that affects all the major traffic generators and town centres in the sub-regions.

20. There may be a procedural difficulty, in that consideration of an orbital service is wider than the remit of the SW Trains Alliance, and falls into the category of cross boundary services (chapter 4), which clearly do not exist in this corridor at present. However, improved rail access to Heathrow and beyond is long overdue, and should be seen as a component of a transport strategy to facilitate orbital movements by integrated public transport - movements which can only at present be made by private road transport (with the exception of the rail air coaches which provide a minimal premium service to small numbers of passengers between the airport and selected stations). Moreover, the key to such a service is capacity at Woking and around Staines – both SW Trains’ territory.

21. In addition to the geographical attractions of giving access to major traffic generators – which is recognised in the Study as “conditioned outputs” to existing stations but not potential new services – there is the issue of externalities and benefits, which do not seem to have been explicitly considered. There is a very strong case for including in any work on rail service assessment the many environmental benefits delivered by electric railway – from less polluting power supply to lower land take than other forms of transport. The main motorway corridors are significant contributors to poor air quality in outer SW London. There are dangers in underplaying the polluting effects of transport, and not just in respect of breaching European Directives designed to minimise the harm to the health of the population. The Environmental Audit report (HC212) in its recent overall conclusion, states:

Urgent change is needed in transport and planning policy to save lives and ensure that the UK meets European safety targets much sooner than the expected dates indicated by Defra. Air pollution is an invisible killer and a public health imperative. A fresh approach is needed for the health challenge we face, coordinating action by local authorities and communities as well as the Government.

An effective orbital rail service taking traffic from the M25 in particular would go a long way to mitigate the adverse effects of unrestrained road traffic in this sector of the South East.

22. Air quality is of particular concern in the area around Heathrow. It is not generally known that Heathrow T5 only just received planning permission. Senior officers of the government departments concerned considered that there was a very high risk of successful legal challenge from opponents, because of the effects of the environmental impacts of the terminal and its associated infrastructure. In particular, the combination of aircraft and road traffic had a wholly unacceptable result on air quality. This was resolved in the ministerial approval by the requirement in the planning conditions of an air quality management plan. It was also envisaged that some of the pollution from road vehicles would be mitigated by the transfer of trips to rail. In addition to the requirement to extend the Heathrow Express and Piccadilly Lines, specific provision was given in the conditions for a provision in the T5 station box for rail access to the west / south west, where the current modal split was particularly poor. In the event, the rail access was not constructed and air quality remains appalling in the M25 and M4 corridors. (The relevant files were declassified on the publication of the T5 decision and should have been kept as a historical record of the longest inquiry.)

23. Over the years, various proposals have been made and abandoned for rail access to Heathrow. SWELTRAC, Airtrack, the Western Connection and others have been made. These proposals have been seen as a means to serving the airport alone, not for more general travel, so they had limited objectives and potential. Airtrack in particular was conceived as a small addition to the existing infrastructure, with links to Guildford and Staines. It was not surprisingly abandoned in the light of the opposition of local interests in Egham and Staines objecting to more frequent closures of level

crossings, and the limited scope for services - curvature of the track at Staines and Virginia Water, the inherent limited track capacity of the Windsor lines through the junctions, and the almost complete lack of capacity at Woking meant that it would never have been a sufficiently attractive service, especially at commuter rush hours. However, the need has been recognised for years, and is there now, not in some far flung control period future.

24. A revived, but extended “Airtrack Plus” route as part of national railways (not an airport concession), serving destinations both south and north of the airport would have two benefits:

- It would mitigate the pollution caused by the road traffic emanating from Heathrow in the short term, as well as providing an alternative to road traffic over a much larger area (including the opportunities for easy interchange to the main rail radial lines)
- It would provide a resilient solution to movement around the West and South West of London in the medium to long term. Whether or not Heathrow was extended, it would provide rapid and frequent services across a wide catchment to HS2 at Old Oak Common (and then proposed development area around it), as well as facilitating future urban development over the Heathrow site (or land to the north of Heathrow) were Heathrow to be wound down.

In addition, if Crossrail 2 goes ahead, and / or Waterloo and its approaches are remodelled, relief will be needed during the period of construction to the South West Main Line, which could be provided by services via “Airtrack plus” to inner West London and, if necessary, Paddington.

25. Whether or not Heathrow expands, there will be significant demand in the M25 corridor for access from the west and south west for the foreseeable future. Even if the Airports Commission does not recommend an additional runway at Heathrow, the existing airport will continue to be busy for years, and modal split from the west and south west is already very poor – a high quality rail service would be attractive. On the chance that (as the London Mayor and some strategic planners such as the TCPA have suggested) Heathrow is wound down in the longer term and replaced by a new town, the significant housing and commercial development would provide many traffic opportunities for rail in all directions – not just to central London (as at present). The background “planning parameters” for an orbital railway are therefore very robust.

26. I therefore propose a semi-fast orbital rail service from Guildford via Woking to Watford Junction and Brent Cross (and other destinations) as suggested in the annex below. The proposal is compatible with possible through running of Crossrail to Staines or any SW Trains Southern Airport access arrangement, as well as any possible Crossrail branch to the London Midland lines through Watford Junction. It would replace the less reliable Rail Air connections by coach. Clearly, some of the existing rail infrastructure is inadequate, but with comparatively modest improvements as noted below (especially in comparison with other major rail and road schemes) many benefits would be unlocked. Capacity improvements are in any event either in train or necessary on existing radial lines that would mean that the incidence of costs would be shared and not wholly attributable to “Airtrack Plus”. The extensive opportunities for interchange with local and main line rail, Underground and Overground, coaches and local buses, would enable very many journeys to be made that are not feasible at the moment, as well as giving opportunities for rail access from other destinations to main centres and traffic generators, many of which are now only accessible by road in the orbital corridor.

Annex: A proposal for an orbital railway

The Core Service for planning purposes would be 4 semi-fast trains per hour over the central section (Woking to Acton Wells/Old Oak Common). Much of the route already exists, but construction is needed at the main junctions and a section by-passing Staines. Additional local services would be provided from the interchanges (many of these local services already exist as part of radial services).

The core route would involve a semi-fast service calling at the following stations:

Guildford: Interchange with Portsmouth, Redhill – Gatwick lines and Blackwater Valley local services. Major town centre, hospital and university town.

Woking: Interchange with SW main lines to Salisbury and Southampton and outer suburban services. Major town centre.

Chertsey: Interchange with Weybridge – Staines services. Major hospital nearby could be served by short bus shuttle.

Heathrow T5: Interchange with proposed Heathrow – Reading service and possible “AirtrackLite”/Crossrail extension to Staines. International Airport.

Heathrow Central: Interchange with Piccadilly Line.

Hayes and Harlington: Interchange with Crossrail and Thames Valley services. Crossrail regeneration potential.

Ealing Broadway: Interchange with Crossrail, Central and District Lines. Major town centre.

Old Oak Common (Acton Wells): Interchange with HS2, Crossrail, Thames Valley and Great Western Main Line, potentially also Overground. Significant future national transport interchange and redevelopment area.

The core service would then split into routes to:

Wembley Central: Interchange with London Overground, Bakerloo Line and potentially London Midland local services (again possibly Crossrail in future). Town centre and international sporting facilities nearby.

Harrow and Wealdstone: Interchange with London Overground, Bakerloo Line and London Midland local services / Crossrail

Watford Junction: Interchange with West Coast Main Line, Metropolitan Line (committed diversion), London Midland and London Overground. Major town centre.

And [via Dudding Hill line]:

Brent Cross (proposed station): Interchange with Thameslink and potentially East Midland services. Major retail centre and redevelopment area.

Potential extensions of services and options:

Basingstoke – Farnborough – Woking

Gatwick – Redhill – Dorking - Guildford

Brent Cross – Mill Hill Broadway – St Albans – Luton Airport – Luton (Major town and airport)

Watford Junction – Hemel Hempstead – Bletchley – Milton Keynes. (Major town and links with E-W rail corridor)

Main Infrastructure Requirements (apart from possible signalling and pointwork where needed to enhance track capacity and subject to detailed engineering studies):

Guildford – potential additional platform already under consideration

Woking – Flyover and additional through tracks and platforms (as discussed)

Chertsey – Heathrow: A new line following the M25 from the existing M25 rail overbridge to the Heathrow T5 station box. The most sustainable solution would be tracks built on the inside lane of the M25, as the capacity of a railway is far higher than a lane of road, although this might seem, under current policies, outlandish! Politically, construction alongside or under the alignment of the M25 is likely. As tunnelling expertise has advanced, this is probably the easiest solution, as we have seen on the Northolt section of the HS2 proposal, and would be plain tunnel, so would not involve any expensive station construction on route.

Acton Wells: New station with interchange to Old Oak Common, and either connection to Euston AC slow lines NW of Willesden or additional tracks to join DC lines at Wembley Central.

Brent Cross: provision for platforms on existing freight lines (which join slow lines at Silkstream Junction)

[redacted]