

## NATIONAL INFRASTRUCTURE COMMISSION

### Future Investment in the North's Transport Infrastructure - Response to the Call for Evidence by the Campaign to Protect Rural England (CPRE)

January 2016

#### Introduction

1. The Campaign to Protect Rural England (CPRE) welcomes this opportunity for early engagement with the National Infrastructure Commission ('the Commission'). CPRE fights for a better future for the English countryside. We work locally and nationally to protect, shape and enhance a beautiful, thriving countryside for everyone to value and enjoy.

2. In our [2015 election manifesto](#), we called for 'the right infrastructure for the right reasons', stating that '[w]e need to make better use of existing transport and energy infrastructure and smarter decisions on new investment - to reduce demand rather than drive it.' To address challenges such as climate change and minimising land take for development, we recognise the importance of investing in infrastructure to deliver a major shift towards rail and electricity, away from private motor transport and fossil fuels.

3. We make some general comments before responding to the consultation questions and then highlighting research gaps.

#### Context

4. We need transport networks that can deliver progress against multiple objectives at the same time.

##### *Agglomeration and intensification*

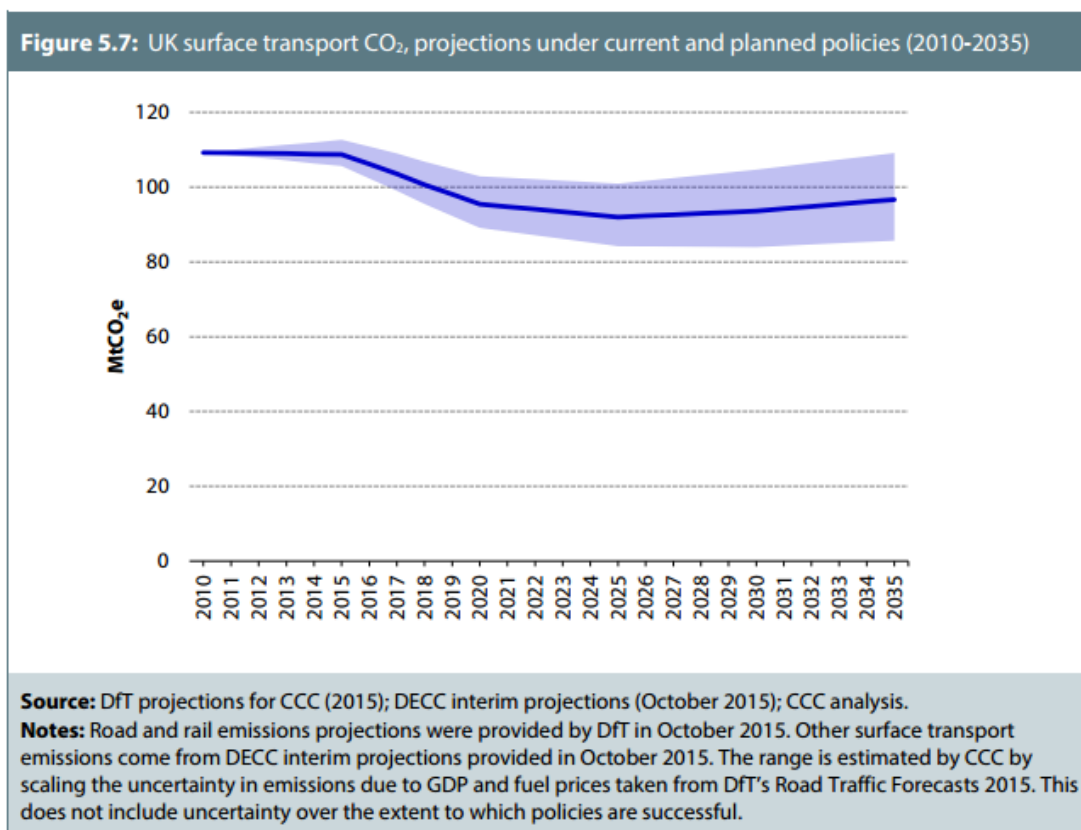
5. Increasing density development of employment and housing in cities is important, in order to maximise agglomeration while minimising greenfield land take. The case made in the submission by Greengauge 21 to the Commission regarding the need to induce densification of developed land (including brownfield) over development of greenfield sites leading to dispersion/sprawl is compelling. As our report [The Proximity Principle](#) (2008) demonstrates, increasing compactness is beneficial for towns and large villages too. This concept is known in German-speaking countries as "towns of short trips".

6. Intensification can, however, lead to disadvantages, such as congestion, noise and air pollution plus poor public realm. Air quality is increasingly a constraint and, with control of particulates (increasingly generated by tyre and brake wear rather than from exhausts), expected to increase, we need to pick policies and technologies that are future-proofed.

7. The challenge is therefore to secure intensification while minimising these costs and constraints. While congestion is often seen as the biggest priority, the economic costs of physical inactivity (due to unfavourable conditions for cycling and walking), collisions and road noise are each comparable. Defra, for example, estimates the cost of road noise in urban areas of England to be as high as £10bn per year.

##### *Climate change*

8. The Climate Change Act 2008 and the National Planning Policy Framework require ‘radical reductions’ in Greenhouse Gas Emissions. The Committee on Climate Change’s December 2015 report to Government notes that current policies (see chart below) are not setting us on the correct course and that an end to traffic growth is required. There has been a worrying lack of read through between climate change and transport in the north. The only mention of the climate in the November 2015 Trans-Pennine Tunnel (TPT) interim study referred to the ‘investment climate’, for example.



#### Visitor economy

9. According to [2014 figures from Visit Britain](#), 54% of all inbound tourism spending in the UK was in London. Despite such an unequal distribution, spending from tourists is one of the most important sources of income for many rural areas, including in the north. With bus networks being cut back and increasing numbers of urban households giving up cars, there are risks that this gap could widen further. There is growing evidence that areas cut off from the rail network are cut off from major tourism markets<sup>1</sup>. Investment rural rail could in particular make a contribution to spread tourism better across the North, an area with stunning landscapes and great untapped visitor potential.

#### Conclusion

10. CPRE believes the Commission should adopt a ‘smarter travel first’ approach to transport. Road-building to provide additional capacity should become the option of last resort, with rail becoming the longer distance mode of choice. New technologies backed up by policies can deliver much more efficient use of the road network, such as through shared vehicles and more efficient logistics. It is critical that infrastructure policy is integrated with land use planning to maximise agglomeration benefits and labour markets. Government proposals to amend the National Planning

1 See for example [Rural reconnections](#) (CPRE, 2015)

Policy Framework to encourage denser development around commuter hubs are a step in the right direction but needs to be strengthened with complementary policies to support walking and cycling.

**1. To what extent are weaknesses in transport connectivity holding back northern city regions (specifically in terms of jobs, enterprise creation and growth, and housing)?**

11. Some forms of transport infrastructure are as good in the north as in London and the south east. Others simply are not and feel as if it is a different country. The road network in the north is very developed, with less congestion than in London and motorways leading directly into the centres of some northern cities. By contrast, public transport networks are much less developed and are hampered by lack of investment and integration, not least in terms of ticketing outside the major cities.

12. In terms of the major cities, there is a lack of rail capacity for commuting. Local services on some Cheshire lines had to be cut back in 2008 to make way for more frequent intercity services to London, for example. The gap between smaller cities and towns in the north versus comparable settlements in the south east is even bigger than that for large cities. It will be at least as important to resolve this if the north is to function as one economy and the productivity gap is to be narrowed.

*Land use and transport interaction*

13. Many brownfield sites, particularly in the north west, are suitable for housing developments, in order to reduce pressure on greenfield sites as well as secure agglomeration benefits. Some suggest many of these unused brownfield sites are simply in places people do not want to live but often this is due to poor connections to jobs and services. Investing in transport infrastructure such as rail, tram, bus priority and cycle facilities can be key to unlocking these sites by making their development viable - and can be cheaper in the long term than building on car-dependent greenfield sites that would generate gridlock.

14. The relationship between transport infrastructure and development or economic growth is not always straightforward, however. A number of transport schemes in London score poorly on conventional methods of economic appraisal, such as the Jubilee Line Extension, HS1 and more recently, the east-west cycle superhighway. These schemes have been approved due to their role in increasing land values, housing and employment density not to mention the liveability and vitality of London.

15. From this perspective, motorways depositing large volumes of motor traffic into city centres, which were once seen as an advantage, are likely to be holding northern cities back. Indeed a number of cities internationally have been removing major roads ('highways to boulevards' movement) without the damage to connectivity that some have feared. If so, we need to ask how better public transport, land use planning and public realm policies across wider areas could help facilitate such changes in the north's city regions.

*Open data*

16. Looking forward, there is a real risk that lack of investment in data infrastructure will hold back the North. Although Manchester with its [MappingGM initiative](#) is a world leader, the rest of the region risks becoming a relative open data desert. With the concept of 'Mobility as a Service' relying on real time open data and the sharing economy, there is a risk that cities will be cut off from their wider regions. Manchester has, for example been added to apps like Citymapper, but beyond its Combined Authority's boundaries the data largely stops. We agree with the [Open Data Institute and Royal Statistical Society's call](#) for this to be a priority for the Commission.

*Cycling and Walking*

17. A new funding gap is being created by the pace of delivery of cycle facilities in London. Although Leeds, Manchester and Newcastle have funding from the Cycling Cities Ambition Grant, levels of funding are less than London and not guaranteed beyond 2018. Elsewhere, cycle funding is running at less than £1.50 per head per year, compared to the £10+ these cities currently benefit from.

18. Developing an excellent public realm and network of cycle routes around new and upgraded stations is critical to spread benefits well beyond forecourts and maximise impacts on land values. Yet is often an afterthought, for example plans to pedestrianise Oxford Street were not integrated with the development of surrounding Crossrail stations. The first Cycling & Walking Investment Strategy (CWIS), due later this year, is an important opportunity to narrow the gap and raise level of ambition. Yet there has been no integration with the Northern Transport Strategy so far. The Commission could focus initially on opportunities for synergies between the CWIS and major rail upgrades.

**2. What cost-effective infrastructure investments in city-to-city connectivity could address these weaknesses? We are interested in all modes of transport.**

19. Conflicts between short and longer distance travel can hinder the overall efficiency of transport networks. Short distance journeys often clog the Strategic Road Network, due to weaving between junctions, while a mix of local stopping services and long distance services can lead to poor utilisation of railway and station capacity.

20. In some circumstances improvements to city-to-city connectivity may be secured best by investing in intra-city or rural connectivity rather, freeing up space on longer distance routes, than additional inter-city connections. England suffers from a lack of integration between national and local transport bodies, different transport modes, different funding cycles and sources, as well as a preference for long-held aspirations over innovative thinking. As a result sub-optimal solutions are the norm. More longer-term, cross modal planning is needed to ensure the best option is chosen for each corridor.

*Rail*

21. CPRE is concerned that there has been a lack of long-term ambition and planning in the rail industry. As our response to the Shaw Report consultation set out, Network Rail's planning seeks only to keep up with demand and existing customers, rather than secure modal shift or new markets, such as through by reopening railways. The success of schemes like the Borders Railway highlights how the industry consistently underestimates the potential.

22. We can learn from continental long-term planning. The success of SMEs in the German 'Mittlestand' is often held up as an example: [global players are not only found in large metropolises and there is a particular concentration in the south west](#) of the country. Although this does not in itself prove causation, it is striking that these are the areas where [S-Bahn networks are most concentrated](#). These dense networks of turn-up-and-go rail services generate agglomeration benefits across smaller cities and towns, enabling them to compete with larger areas. There is particular potential for such investment to be a benefit in the north east.

23. Linking of minor rural lines to urban tram networks with tram-trains can be a cost effective means to free up station capacity for more frequent inter-city and regional passenger services, if not more rail freight. This is a similar model to Crossrail in London and the RER in Paris, albeit at a much smaller scale and with on-street running as opposed to tunnelling because of lower land values and densities. Assuming the South Yorkshire tram-train is a success, similar schemes should be rolled out across the north.

24. The potential of rail freight is being held back by bottlenecks and a focus on delivering very large Strategic Rail Freight Interchanges. Not only can these be difficult to find suitable sites for, they fail to minimise transshipment distances. Despite the enormous changes in consumer habits with the rise of internet shopping, Information requests by CPRE revealed that DfT's evidence base still dates from 2004. We believe there should be a renewed focus on smaller freight interchanges linked to consolidation centres, in the same way that smaller format stores have become more popular than out-of-town superstores.

*Roads*

25. The Government's vision is for the biggest road-building programme since the 1970s to lead to 'mile a minute' journeys being 'increasingly typical' on the Strategic Road Network (SRN). Its forecasts show dramatically increased congestion on the SRN. Journey time reliability is likely to

degrade even more in practice once increased congestion on the rest of the road network is factored in. Indeed the Eddington Transport Strategy<sup>2</sup> highlighted that congestion has particularly damaging economic costs in agglomerations.

26. The strategic case in the interim report on the Trans-Pennine Tunnel (TPT) mentioned earlier is another good example of the inconsistencies involved. It fails to consider the negative impacts of generating inter-city motor traffic and then depositing it into agglomerations. While Manchester and Sheffield seek to learn from London's success, encouraging more traffic is the opposite of what London is trying to do.

27. Park & Ride (P&R) is sometimes promoted as a solution to this problem, for example in *One North - A Proposition for an Interconnected North* (2014). Large scale P&R frequently requires a subsidy and research into the impact of Cambridge's P&R system suggests it increases overall vehicle mileage rather than reduces it. Meanwhile traffic accessing Oxford's P&R is jamming its ring road. It is better to focus on intercepting drivers early through smaller car parks as well as improving accessibility of stations by other means.

28. With the pace of autonomous vehicle technologies increasing, it is appropriate to start questioning the case for the Trans-Pennine Tunnel from the perspective of an autonomous vehicle rider (as in ex-driver). So long as the cost, safety, reliability and journey time for getting from A to B can be comparable, they are unlikely to have a particular preference as to whether their vehicle crosses under the Pennines in the TPT (road) or on a Eurotunnel style vehicle transporter using a new rail tunnels.

#### *Valuing packages of smaller schemes*

29. Recent research is calling into question conventional appraisal of cost-effectiveness, such as WebTAG. CPRE welcomes moves away from relying on small journey savings aggregated over decades to justify investments, typically road schemes. Some suggest this means the benefits of smaller schemes have been historically overvalued compared to larger schemes<sup>3</sup>. Certainly there are examples where smaller transport schemes have conflicted with each other rather than generating synergies.

30. Co-ordinated packages of smaller schemes could however be just as transformative as larger schemes. Regional rail upgrades<sup>4</sup>, programme of cycle superhighways across a county region and networks of consolidation centres to tackle the increase in van traffic all have potential for strategic impacts. Countries like Germany and Denmark are building networks of fast cycleways, designed to harness growing numbers of e-bikes. Combined with good land use planning, such schemes could deliver significant modal shift from the private car in cities, towns and villages, while widening catchment areas.

### **3. Which city-to-city corridor(s) should be the priority for early phases of investment?**

31. The Manchester-Sheffield-Leeds triangle should be prioritised for rail. as the core of a wider northern intercity rail network, which unlocks trans-Pennine connectivity for passengers and freight in a sustainable way. It needs however to be designed from the start as a network around which further improvements can be added incrementally, such as reopening Harrogate to Northallerton. In particular the Manchester and Leeds HS2 stations should not be designed as dead ends.

32. Our mapping in annex A and B shows the currently proposed service frequency and design speeds for HS2. This demonstrates:

2 Paragraph 1.27 in [Eddington Transport Study](#) (DfT, 2006)

3 See page 29 in [Investing in City Regions](#) (Voltera Partners, 2014)

4 [Destination Growth: the case for Britain's regional railways](#) (pteg, 2015)

- significant spare capacity on the eastern arm and the western arm north of Crewe, suggesting that the current proposals are failing to maximise benefits of the proposed investment;
- unnecessarily high design speed, potentially hindering integration of fast intra-regional services with high speed intercity services.

33. It is not good enough to simply state, as was suggested by the Higgins Review, that HS2 phase 2<sup>5</sup> could link up with HS3. Given the costs involved and the length of time before work is planned to start on phase 2, we should be aiming much higher and maximise both inter-city and regional rail connectivity. A wider review of plans for phase 2 is therefore required. There is a particularly strong case for a fundamental rethink of the western arm beyond Crewe. This could enable more equitable sharing of the benefits of high speed rail between Liverpool and Manchester, while improving capacity and journey times further north.

**4. What are the key international connectivity needs likely to be in the next 20-30 years in the north of England (with a focus on ports and airports)? What is the most effective way to meet these needs, and what constraints on delivery are anticipated?**

#### *Ports*

34. A primary aim should be to reduce proportion of goods with an origin or destination in the north using ports in southern England. A smarter travel first approach to investment in port connections should be adopted, so that electrified, gauge cleared rail connections between ports and main markets are prioritised, including a route across the Pennines.

#### *Aviation*

35. The evidence base produced by the Airports Commission assumed that the gap between economic growth in the north and south east would continue to widen. The building a new runway in the south east would accelerate this, contrary to the aim of the Northern Powerhouse. [CPRE believes that the gap in aviation connectivity](#) between the south east and north should be decreased. There is plenty of spare existing capacity in airports across the North and Midlands without the need to expand any runway in England.

36. As [analysis of the Manchester “Airport City” Enterprise Zone](#) (MTRU, 2011) produced for CPRE Cheshire by demonstrates, economic development around airports can be abstractive rather than additional. Some continental airports, such as Zurich and Frankfurt-am-Main, have limited car parking to secure higher densities.

37. A smarter travel first approach is also needed to improve rail access to airports, particularly east-west connectivity to Manchester Airport, which is currently poor. New development around airports on greenfield sites in Green Belt should be avoided, instead development on brownfield sites in built-up areas should be stimulated through better public transport connections to airports.

#### *International Rail*

38. Integration between the North and the European High Speed Rail network is important. The completion of HS2 was supposed to enable journeys between some northern cities and Paris / Brussels within about three hours. This is not just important to increasing choice and resilience while reducing carbon, it would help put the north on the map.

39. The cancellation of the HS1-HS2 link now puts that into question, with those wishing to travel between the North and the continent expected to walk through London to St Pancras International, which will be bursting at the seams. Extending some continental services to Old Oak Common via a link would enable seamless cross-platform interchange for those using HS2 and build the case for direct services.

5 See [CPRE's response to the HS2 phase 2 consultation](#)

40. Currently rail freight from the Channel Tunnel conveyed using standard European wagons cannot proceed beyond Barking due to gauge limitations, while lack of electrification and network capacity constraints around and within London hinder rail freight between the North and the Continent. The Commission should prioritise developing solutions to these problems.

**5. What form of governance would most effectively deliver transformative infrastructure in the north, how should this be funded and by whom, including appropriate local contributions?**

#### *Funding*

41. There should be a greater contribution from goods vehicles, based on the user pays principle. Unlike road, rail freight users already pay their way for the damage caused by greater weight. With increasing numbers of European countries switching to a distance based HGV user charging, consideration should be given to how this would lead to benefits in England. Indeed, with decarbonisation of road freight still a major challenge, financial incentives should favour rail and water transport, rather than be against them.

42. The capacity of road networks in and around Major Urban Areas is mainly under pressure during peak hours. Funding mechanisms such as road user charging not only have the scope to pay for more of the costs of the road network and road transport, they are also likely to be essential if congestion is to be managed better. This is particularly important due to DfT forecasts that the cost of driving would otherwise decrease by 30% by 2040, leading to very significant increases in motor traffic and congestion.

#### *Governance*

43. CPRE called for Sub-national Transport Bodies (STBs) to be put on a statutory footing and welcomed the amendment to the Cities and Local Government Devolution Bill enabling this. Nonetheless it is critical that there are mechanisms to ensure new forms of governance represents all within their areas, rather than just a few big cities. We very much welcome the inclusion of representatives of rural counties on Transport for the North but the effectiveness of such arrangements will need to be kept under review, including possible representation for statutory environmental bodies like National Park Authorities.

44. In addition STBs need to ensure effective engagement with representatives of Non-Governmental Organisations. This was an increasingly valuable element of previous arrangements for regional bodies as it enabled them to build consensus effectively. With the additional powers given to neighbourhoods as part of the localism agenda, there should also be representation of the interests of local councils (i.e. parish and town councils).

#### **Research needs**

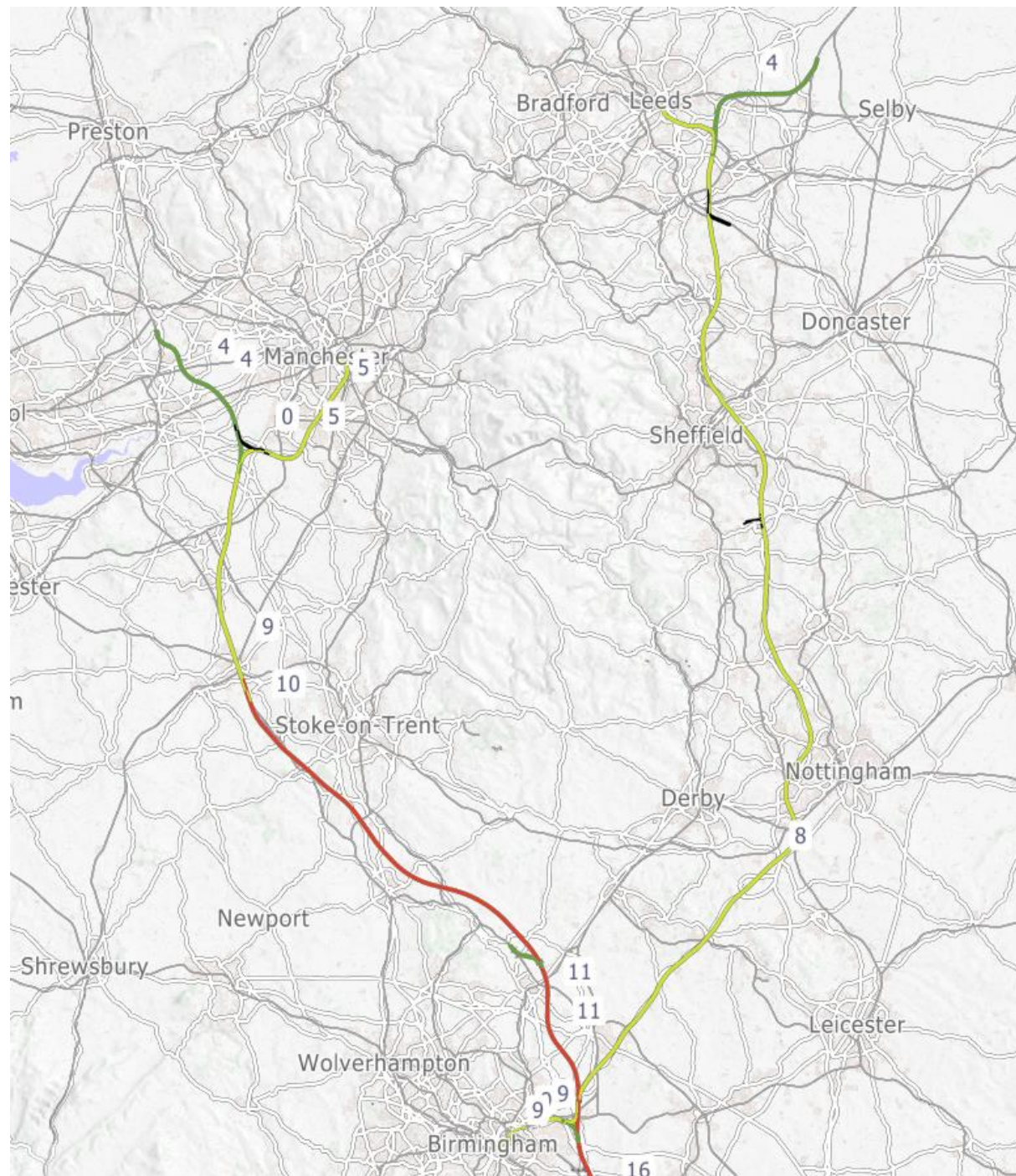
- Review of international best practice on minimising conflicts between short and longer distance travel on inter-city links, specifically on how to maximise benefits from investment in transport infrastructure and how to share them equitably between cities and the areas in between.
- Extending Mobility as a Service (MaaS) beyond Major Urban Areas - examination of the potential requirements to enable this, as well as the future scenarios for impacts on transport networks.
- Review of international best practice on integration of sub-national transport infrastructure and planning policies to create networks of compact 'towns of short trips'.

CPRE

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## Annex A - currently proposed HS2 phase 2 service frequency

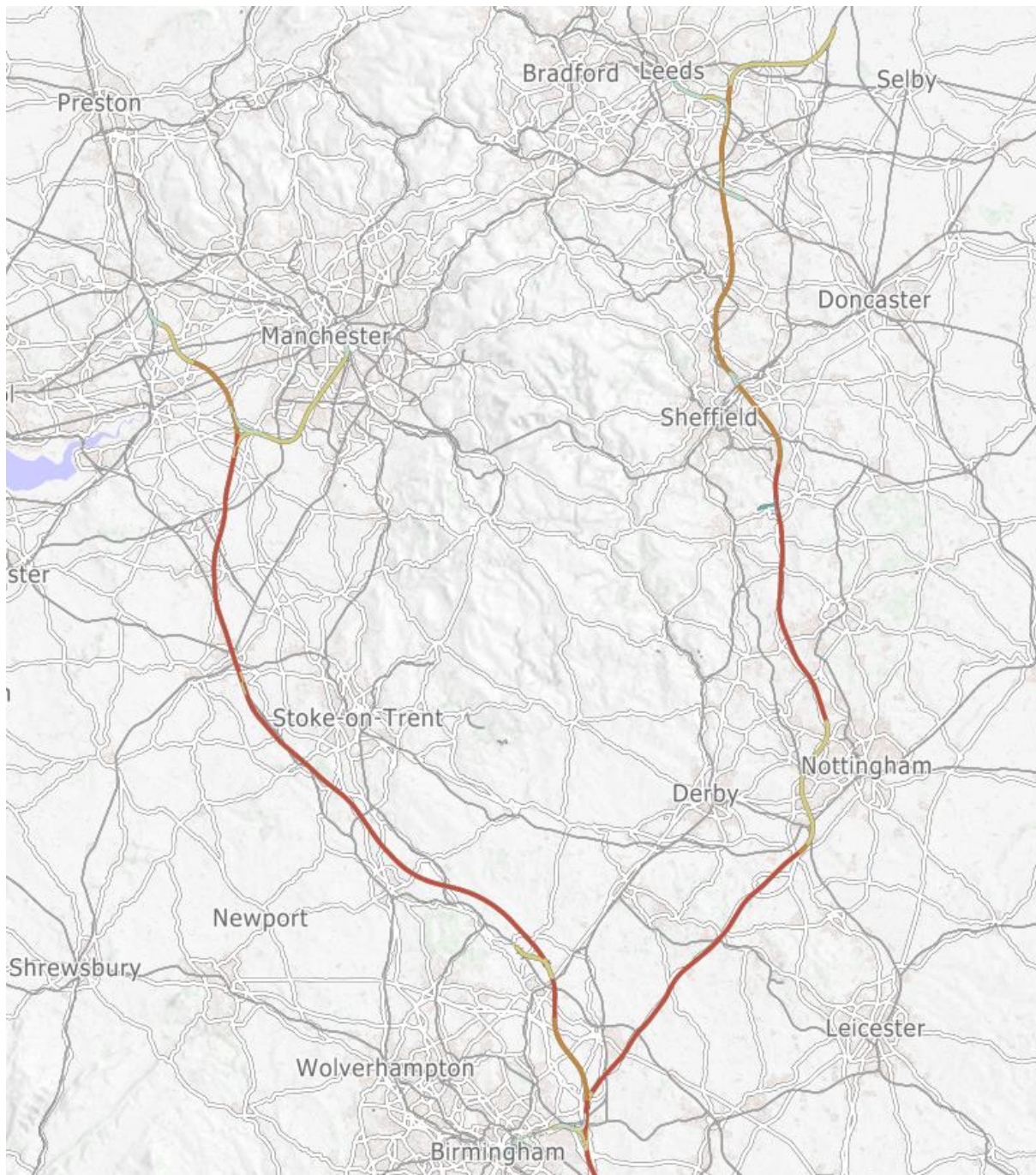


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Dark red shows over 10 passenger services per hour each way, full key available at [maps.cpre.org.uk](http://maps.cpre.org.uk)



## Annex B - currently proposed HS2 design speed



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Dark red shows 400km/h, full key available at [maps.cpre.org.uk](https://maps.cpre.org.uk)