



National Infrastructure Commission: call for evidence

Royal HaskoningDHV Response

07/01/2016

1.0 Introduction: Setting the context for our response

Royal HaskoningDHV is an independent, international engineering and project management consultancy with more than 130 years of experience. Backed by the expertise and experience of 7,000 colleagues all over the world, our professionals combine global expertise with local knowledge to deliver a multidisciplinary range of consultancy services for the entire living environment from over 130 countries. By showing leadership in sustainable development and innovation, together with our clients, we are working to become part of the solution to a more sustainable society now and into the future.

In the UK, Royal HaskoningDHV's experience encompasses projects in several sectors including ports, flood risk, energy generation, transport, aviation and waste. Our collaborative approach means that our staff work outside, as well as within, sectoral silos and across geographic boundaries, ensuring that we identify opportunities or issues of mutual relevance to our clients and share project solutions from other sectors or countries. We firmly believe that working in partnership across sectors and disciplines delivers successful outcomes that cannot be achieved by those working solely within a sector.

We therefore consider that the sectoral and geographic split of the three initial challenges facing the Commission risks limiting the identification of links between these challenges (and others). The National Infrastructure Commission has a 'once in a generation' opportunity to seek to understand the drivers that shape the characteristics of the regions of the UK and how those drivers and characteristics interrelate. Transport and energy should be the facilitators of this grand vision instead of being pushed into the role of drivers of economic growth.

In our view, a National Infrastructure Commission should present the overarching picture of infrastructure assets and needs built from knowledge of connections, synergies, mutual benefits and the need to respect differences. The Commission should avoid starting with the status quo and considering only infrastructure that has already been identified from within the confines of regional, sectoral or administrative boundaries. Existing knowledge and expertise must be used, but a strategic UK Master Plan should be built in partnership from the ground up – not in sectoral isolation and then measures taken to try and join unconnected aspects together.

We call for an Integrated Master Plan delivering a vision for the country; what do we really want the UK to be? It must be more than the sum of the sector silos.

2.0 The Challenge: Improving connectivity between cities in the north of England

Well-functioning infrastructure helps societies to thrive and individuals to prosper. Get the infrastructure right and the benefits extend far beyond the functional.

Increasingly, it is not simply effective systems that are required. Whether it is in modernising historic structures, creating new systems to cope with growing populations, addressing the special challenges posed by mega cities, or tackling the basic infrastructure needs which are still not being met in many parts of the world, sustainability is becoming critical.

Novel technologies, construction materials and methods used in conjunction with high-level engineering approaches are enabling multiple goals and wider societal benefit to be realised.

It is our global application of this approach that means we are ideally placed to share our experience with the National Infrastructure Commission.

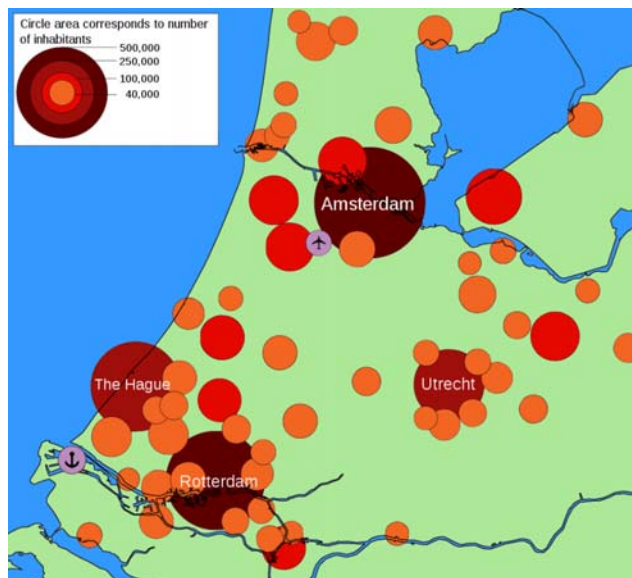
The Urban Challenge

Half of humanity today - 3.5 billion people - lives in cities. Experts predict that by 2050, three-quarters of the world's population will live in (mega) cities. The familiar challenges of pollution and consumption of energy, water and other resources, congestion and health and safety issues will grow accordingly; otherwise known as the Urban Challenge.

Today, the world's cities occupy just 2% of the Earth's land, but account for 60%-80% of energy consumption and 75% of CO2 emissions worldwide.

Connecting people

For us, a future city is Circular, Resilient, Smart and Clean. In achieving that, we are always looking for opportunities to collaborate with you to enhance society together. Without the involvement of our clients and our clients' clients, solutions can never lead towards sustainable, resilient cities. Therefore, connecting people and stakeholder engagement are at the forefront of our solutions and innovations.



The importance of connecting the northern cities is clear and we can look to the example of the RANSTAAD Netherland – image courtesy of Wikipedia – as an example of where this has worked. The 4 major cities each retain their own identity but act together as a megalopolis acting not in competition but together.

In responding to this challenge we have answered Questions 1-5.

Question 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)?

It is the poor inter and intra city connection that is holding back the economic resurgence in the northern cities, there is a lot of focus on improving the links between Leeds and Manchester for example but when it can take over an hour to take the train/bus from the suburbs of Manchester to the City centre then the appeal of living in the 'commuter belt' is diluted.

By improving these intra city connections and expanding the commuter belt, housing and enterprise creation will be encouraged both in the City Centre and the surrounding areas. A modern and reliable public transport system will encourage that growth and by making the train/bus experience more efficient will relieve some of the pressure on the congested road network and city centre routes.

With regard the intercity connections there has always been a problem with the east west links across the Pennines and there is still a parochial feeling between the east and west which does little to encourage collaboration across the north.

Too much reliance on old infrastructure – rail and road – most of the investment is upgrading what is effectively Victorian infrastructure, what we need to be considering during this period is how to act now for the future, more emphasis is needed on emerging technologies.

With the emergence of electric and autonomous cars are the investments today still going to be relevant in 20 years? As a country we are investing billions in high speed rail and yet this is a technology that has been around for decades.

We would like to see more consideration given to how these major infrastructure investments will shape the region as a whole at a more strategic spatial planning level and how they will prepare the region for the future. If we are building a tunnel under the Pennines let's think about how this would work with automated pods and charging lanes for example.

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

By focussing first on improvements to rail and reopening some of the smaller lines or by introducing further metrolink style systems commuters will be encouraged to use public transport as a first choice, this allied with more financial incentives for season tickets and smart ticketing schemes can help to take some traffic off the roads.

The road network is in the process of undergoing major work with the introduction of smart motorways and ITS measures but the demand on the roads remains high.

We have seen a resurgence in cycling over the last couple of years and by implementing cycle measures many shorter intra city trips could be diverted to that mode of transport, cycle infrastructure including bicycle parking as well as dedicated cycle tracks would be a relatively cost effective way to assist with a reduction in standard carbon based trips in the city centres opening up road space for those that choose travel City to City by car mode.

Better services between hubs and catchment areas and electrification of the lines would then make the rail network more attractive. We have seen that journey times between the major cities in the north takes too long, a journey time of an hour, particularly on an old out of date diesel train is not going to encourage people to travel greater distances.

Of course we also need to consider how future business will operate, improvements in digital connections, better 4G coverage and phone signals in rural areas would enable people to easier work from home thereby removing trips to the centre from any mode of transport.

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

The east west connections are currently a problem on all modes of transport, the M62 corridor runs all the way from Liverpool to Hull and should be a major benefit to northern connectivity. There are however always problems with this route and with no real alternative routes it causes pressure on the whole network.

The introduction of managed motorways is going some way to address this and should be incorporated over the whole route, however we also need to incorporate improvements and smart technology/ITS for the routes onto the City centres which can currently add major time and delay to any inter-city trip.

Improvements on all key road networks are required but priority should be given to the sections between Liverpool and Leeds as well as the final connection in to the City Centres. A second east west connection between Manchester and Sheffield would also be a major benefit, the links over the Pennines are not ideal and are very weather sensitive, the draft proposals for a trans Pennine tunnel could be a solution but we would like to see this as more than just a road connection. By including rail and utilities and digital infrastructure this could be a major corridor that really connects the north.

The floods in the North of England in December 2015 caused significant damage and disruption, including impacts on the transport network. It is self-evident that flood risk and climate resilience have to be taken into account in designing improvements to the transport system. However, there is an opportunity to do more: the new infrastructure itself could be designed to help reduce risk to property and people, and for particularly vulnerable places the investment could even trigger a redesign of the area for a more climate-proof future. We see this type of multifunctional integrated design as an important part of the solution for the UK's flooding crisis, inspired by the Rebuild by Design approach developed in New York after Super Storm Sandy.

Question 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?

With regard to international connectivity the introduction of HS2 will be a major benefit and driver for international visitors to choose Manchester airport as their primary destination even if then visiting other areas of the county. The planned expansions of Manchester Airport in terms of both freight and passenger numbers will only help to drive this growth as we have seen from the development areas around the airport city.

As mentioned earlier there are many train services though that would need to be upgraded to provide an adequate traveller experience, the multi-modal hubs need to be improved so that it is easier to transition from plane to train/tram.

Again the rail capacity/experience is a constraint, we need to do more to enable this growth, it is not acceptable to fly into Manchester and then have to stand on a train to Leeds and have to pay £28 for the experience.

For port traffic further extensions of Liverpool and Port Salford using the Manchester ship canal should be explored. But even when freight does arrive at Liverpool the rail connections in/out of

the facility are under pressure. Further improvements to those connections will make growth at Liverpool more viable.

Question 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?

What we need is a strategic body to oversee the delivery of transformative infrastructure, the difficulty with trying to centralise this is that it seems to go against the tide of devolution and there is the challenge to balance differentiation and integration. With City regions retaining their own identity and taking increasing responsibility for budgets in particular in relation to Infrastructure there will inevitably be friction between City and Regional focus.

We have started down the line of devolution but it is unclear how this will work when considering the wider region. If we take the road network for example the motorways and trunk roads are the responsibility of Highway England, but once Transport for North really takes shape will there be a conflict, there is then Transport for Greater Manchester for example which focusses on the key road network around the associated greater Manchester authorities, not to mention individual authorities, LEPs and Network Rail.

But the real question isn't just about connectivity it is about how we want towns, cities and areas to look, work and play in 20 years' time and that should inform our decision making. There is a real opportunity here for the government to support regional economic growth whilst protecting people, property and environment.

Further information

We would be delighted to engage with the Commission to provide further explanation and to participate in the discussion surrounding the challenges.

Our lead contact for the Northern Cities challenge is Craig Francis, Strategic Advisor for Transport UK based in Manchester. Contact details 0161 233 1961, craig.francis@rhdhv.com

www.royalhaskoningdhv.com
Facebook: Royal HaskoningDHV – UK
Twitter: @RHDHV_UK