

The following document has been prepared by Tees Valley Unlimited (TVU), the Local Enterprise Partnership for Tees Valley, in response to the National Infrastructure Commission's call for evidence. We are responding to the consultation on 'Connecting Northern Cities.'

1. Executive Summary

Transport for the North (TfN) has already developed the following shared vision statements:

- A core free-flow network with 'mile a minute' journeys on expressways and motorways in the North.
- Improved east-west major road links to ensure better and more reliable journey times.
- Radically improved rail journey times and frequencies between major cities.
- To build a single distribution freight network that looks across modal boundaries.

This short paper provides TVU's response to the key questions posed by the Commission's inquiry and highlights that there are significant parts of the Tees Valley's strategic transport infrastructure that do not meet the TfN vision. In summary it provides context, narrative and evidence in support of the Tees Valley's four major transport infrastructure priorities. These are:

- Enhancement to the A19 corridor and the requirement for an additional Tees River crossing.
- Darlington Station to be HS2 ready and improve the rail gateway into and across the Tees Valley.
- Delivery of improved East-West strategic road connectivity from the A1 to the international gateway at Teesport.
- Electrification of the Northallerton to Middlesbrough-Teesport rail line to improve connectivity for business, passengers and freight.

These four building blocks could cost £400 million in total over the next 10 years, but together, they are estimated to generate £1bn in economic benefit across the North and crucially each of these key infrastructure projects could be delivered very quickly.

The Tees Valley input to the TfN submission to the Commission contains further information on these four key infrastructure priorities and is attached as an Appendix to this document.

2. Background

The Tees Valley comprises the local authority districts of Darlington, Hartlepool, Middlesbrough, Redcar & Cleveland and Stockton-on-Tees, with a combined population of over 666,000 people. Tees Valley is a crucial part of the Northern Powerhouse, contributing £12.3bn to the UK economy each year, combined with a 417,000-strong highly skilled workforce, 292,500 jobs, a business base of over 16,500 firms and leading innovation centres.

We have world-class expertise and critical mass in key sectors vital to UK growth; including process/chemical, energy, advanced manufacturing (particularly oil and gas and automotive) and logistics, with emerging capability in new industries, such as biologics, subsea, digital/creative and the low-carbon economy. Our leading knowledge centres are at the forefront of skills development and innovation, and Tees Valley has England's largest exporting port, an international airport and direct road and rail routes to key locations.

Tees Valley Unlimited (TVU) is the Local Enterprise Partnership (LEP) for Tees Valley. We are a partnership of public, private and voluntary bodies striving to deliver jobs and economic growth across the Tees Valley. A key element of TVU's work is on strategic transport and positive working relationships with key partners such as Highways England and Network Rail have been forged in recent years to develop the evidence base which supports our infrastructure requirements.

3. Response to the key consultation questions

- 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)?**

Connectivity is vital to the Tees Valley and Northern Economy. It is crucial that, as the gateway to the North and with over 70% of major local businesses internationally owned, we remain globally competitive by offering effective transport links and resilient infrastructure. Connectivity enables businesses to start, invest, expand and trade, our workforce to access employment opportunities, our young people to get the skills they need and visitors to enjoy Tees Valley.

The Tees Valley is one of the most significant integrated industrial economies in the UK and houses its third largest port. With a positive balance of trade and GVA worth £12.3 billion to the UK economy, it truly is at the heart of the Northern Powerhouse. Feeding this heart are several transport arteries, both road and rail, running north-south and east-west. These connections are vital not only for the Tees Valley's growth sectors, but also for the North as a whole, given its position on both of these axes.

Our key transport assets are focused upon the A19, A1M and A66, the East Coast Mainline and Transpennine rail routes – all of which link the advanced manufacturing clusters across Yorkshire and Humber, the North West, Tees Valley and the North East – and the international gateways at Teesport, particularly vital for logistics including major expansion of the Northern Gateway Container Terminal, and Durham Tees Valley Airport.

Journey times by rail connecting the Tees Valley to neighbouring city regions are poor and not comparable with the private car. This leads to congestion and delays on the local and strategic road networks and limits productive business to business rail travel opportunities as well as restricting commuting access to wider labour markets.

Analysis undertaken by TfN shows that commuting flows between Tees Valley and the North East Combined Authority area are the fourth highest in volume across the whole of the North, exceeded only by flows between Manchester and its neighbouring Liverpool and Lancashire City Regions and is very close in number to the Leeds-Sheffield figure, which is third. A significant proportion of this commuting flow to/from the Tees Valley uses the A19 corridor.

There are 5 Transport priorities in the Tees Valley that can address weakness in Transport Connectivity in the Northern Powerhouse and create better economic conditions quickly and cost effectively.

- ***Enhancement to the A19 corridor and the requirement for an additional Tees River crossing.***
 - The A19 is the one of two north-south strategic road routes connecting the North East and Yorkshire.
 - At the point where it crosses the River Tees, it carries 96,000 vehicles per day—the parallel A1(M) only carries 43,000 vehicles at the same point.
 - Capacity is already constraining pan-northern connectivity and journey times.
 - The existing Tees Crossing is the only link on the A19 that does not meet Transport for the North's "mile per minute" objective for strategic highways.
 - This key strategic link has only 55% of journeys classed as "on time" with journey times over 100% what should be expected.
 - The A19 connects key centres of the commuting population in the Tees Valley and the North East, with the second largest flows east of the Pennines.
 - 11 of the 12 Tees Valley Enterprise Zone sites lie within 20 minutes' drive of the A19.
 - Constraints on the A19 corridor and the lack of appropriate diversionary routes, cause additional weak internal connectivity within the Tees Valley.
 - Speeding up this section of the A19, by providing additional capacity and resilience, is vital for the Northern economy.
- ***Darlington station to be HS2 ready and improve the rail gateway into and across the Tees Valley.***
 - Darlington Station is a key hub on the East Coast Main Line, serving 2.6 million passengers each year.
 - Darlington should be considered an essential part of the Northern Powerhouse Rail Network to ensure City Regions are well connected to optimise the Economic benefits of HS2 and NPR for the Tees Valley, North Yorkshire and South Durham.
 - East Coast rail services benefit the Tees Valley economy by £400 million, with station use set to double by 2033.

- From 2033, HS2 services will also use the East Coast Main Line north of York for onward journeys to the North East and Scotland.
 - Darlington needs to be a key node on the Northern Powerhouse Rail network.
 - This section of the ECML is now the most constrained on the whole route with the current configuration at Darlington compounding this due to all the crossing movements that are required by local, regional, long distance and freight trains. This is restricting future growth, service patterns, speed and capacity.
 - Additional services in the new Northern and Transpennine services will now add to the pressure at Darlington station.
 - Remodelling will create capacity and commence building HS2 from the North by creating a 21st Century gateway at Darlington for the Tees Valley, North Yorkshire and South Durham.
 - This is vital for the North East economy to balance the early advantages the North West will secure from earlier delivery of HS2 phases.
 - Line speed improvements on the ECML and the Tees Valley and Durham Coast lines would greatly enhance connectivity between Tees Valley stations and the wider powerhouse economic opportunities.
- ***Delivery of improved east west strategic road connectivity from the A1 to the international gateway at Teesport.***
 - The A66 is the principal trans-Pennine route north of the M62, connecting the M6, the A1(M) and the UK's third largest port at Teesport.
 - TfN recognise the importance of the A66 route in the Strategic Roads workstream between the M6 and A1(M) but have not yet recognised the importance of the A66 connection to Teesport from the A1(M)
 - The A66 east of the A1(M) around Darlington is single carriageway and reaching capacity impacting on growth in the city region.
 - The connection of the A66 and A1(M) at Junction 57 fails to enable full north south movements (Lack of north facing slips)
 - The freight industry in the Tees Valley supports 10,000 jobs and provides £450 million GVA each year.
 - Local Roads through Darlington are used as the strategic connections to the A66 & A19 (Large HGV content).
 - The A66 ceases to be a Strategic Trunk road at the A19 and is a Local Road through Middlesbrough/Redcar & Cleveland to Teesport but acts as a vital strategic connection to a key International gateway.
 - This strategic route has a major role to play in the economic growth of the North.
 - A true strategic link is required between the A1(M) and Teesport that is fast and reliable and truly opens the Tees Valley and the North to National and International gateways, to complement the outputs that will emerge from the TfN study of the A66 corridor between the M6 and A1M.
- ***Electrification of the Northallerton to Middlesbrough - Teesport rail line to improve connectivity for business and passengers.***
 - Northallerton to Teesport is part of the TransPennine rail line and carries high levels of both passengers and freight.
 - It is ranked in the First Priority Tier of routes not currently programmed for electrification.
 - The line is not currently part of the planned Northern Hub electrification works; but, would offer cost savings and efficiencies if this section is electrified as part of the committed scheme.
 - Journey times on the route are not competitive with other modes.
 - Transport for the North has a vision to build a single distribution freight network that looks across modal boundaries.
 - The freight industry in the Tees Valley supports 10,000 jobs and provides £450 million GVA each year.
 - The route is not maximising the potential offered by Teesport's ambitious investment.
 - Electrification is required to realise the full benefit of the new East Coast direct Middlesbrough to London service and the TransPennine Express direct Middlesbrough to Manchester Airport service.

In addition, a further important transport objective for the Tees Valley is:

- ***The development of bus infrastructure and service delivery models to improve services so that people have better access to jobs and can travel more easily around the area.***
 - Delivering better bus services for local people is one of the key aims for the Tees Valley recognising this a integral to a sustainable and integrated transport system.
 - Building on the success of Infrastructure investment to ensure the bus network supports the economy to connect our communities to the workplace, as well as vital public services such as Health and Education.

It is critical that appropriate intra-regional transport infrastructure investment is delivered to ensure that the effectiveness of inter-regional investments is optimised.

The weaknesses highlighted above mean that these transport arteries are not working effectively and will undermine the aims of Transport for the North and the ambitions of Tees Valley (to create 25,000 new jobs and £1bn of additional investment over the next decade) unless action is taken to complete our strategic road and rail infrastructure.

Alleviating these blockages is essential for the Northern Powerhouse if it is to realise its potential for substantial economic growth – not addressing them would have major consequences for the Northern economy. As a new Northern Transport Strategy is developed, investment to alleviate the blockages is a truly pan-Northern priority. This is particularly so given that our major assets and centres of excellence in Tees Valley are entwined with growth sectors across the North. Such assets include:

- The integrated chemical complex at Wilton, Billingham and Seal Sands (the second largest in Europe) with its links to the chemical cluster in the North West and the Humber.
- The Centre for Process Innovation, part of the Catapult for High Value Manufacturing, supporting innovative activity across the North, particularly in chemicals and biotechnology.
- Cutting edge research at CPI accelerating new industry growth, including the National Biologics Manufacturing Centre and planned Biologics Factory for the Future with its links to academic and industrial innovators in Manchester, York and County Durham.
- The UK's third largest port, Teesport, which, together with major distribution centres (Tesco, Asda, Morrisons, Clipper, Aldi and Argos) provides an international gateway distributing products across the North. This will increase further with the significant expansion of the Northern Gateway Container Terminal at Teesport.
- Nationally critical supply chains in oil and gas (leading English oil and gas hub), automotive (links to Nissan) and rail (Hitachi manufacturing plant on the border of Tees Valley).
- Major producer of energy, including supplying power to over 1.5m homes through Hartlepool nuclear power station (earmarked as a location for potential new build).
- Thriving digital and creative industries cluster that grew faster than any other LEP area in 2014, a key note of the North East based national Digital Catapult.
- Leading graphene expertise and scale up and demonstration facilities that link to the academic assets in Manchester, together creating innovative technology applications.
- Particular expertise in trialling, testing and validating advanced materials and metals, with the expertise of the Materials Processing Institute (MPI) and The Welding Institute (TWI) located in Tees Valley.
- Leading cluster of professional services and engineering design firms, employing over 5,000 people, and having close ties to Yorkshire and the North West.
- Growing low carbon investment destination with expertise in energy from waste; the world's largest advanced renewable energy plant is being built in Tees Valley and existing operators take waste from Merseyside and the North East.
- Centre for offshore renewable engineering due to a key cluster of subsea and fabrication firms and Tees Valley's ideal location to exploit opportunities from the Dogger Bank wind farm. Tees Valley is also developing the UK's first offshore wind validation centre.
- Innovative carbon capture and storage, with Tees Valley developing the UK's first industrial project enabling learning to be shared with manufacturing clusters across the North.

Tees Valley's ambition is to contribute to Northern economic growth by creating 25,000 new jobs and over £1bn of investment over the next decade. Our Strategic Economic Plan identifies infrastructure constraints as barriers to growth in our key sectors. Sustainable growth hinges on Northern cities and city regions unlocking the potential of economic assets by forging better links between economies across the North (particularly linking business clusters and people to centres of innovation and expertise) – by road, rail and freight – and

thus boosting business competitiveness, attracting foreign direct investment and opening up labour markets to access more and better job opportunities.

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

Transport for the North (TfN) has already developed a number of shared vision statements. These include:

- A core free-flow network with 'mile a minute' journeys on expressways and motorways in the North.
- Improved east-west major road links to ensure better and more reliable journey times.
- Radically improved rail journey times and frequencies between major cities.
- To build a single distribution freight network that looks across modal boundaries.

The strategic transport network in the Tees Valley does not meet these vision statements in a number of areas, due to the weaknesses already identified in Question 1 above, namely:

- The A19 Tees Viaduct, known as the Tees Flyover, is the only link on the A19 expressway, recognised by TfN as a route of pan-northern significance, which does not meet the 'mile per minute' vision.
- The A66 between the A1(M) and Teesport has only 55-66% of journeys classed as "on time".
- The East Coast Main Line between Northallerton and Darlington is operating near capacity now, with a major pinch point at Darlington Station.
- The North Transpennine electrification scheme stops at York, meaning some key long distance high speed passenger services and the third largest port in the UK are not served.

Four strategic transport infrastructure investments will remove the current blockages and help fulfil the vision statements:

- a) An additional crossing of the River Tees as part of a wider A19 upgrade to provide vital extra capacity and network resilience.
- b) Improved east-west road connectivity from the A1 to the international gateway at Teesport.
- c) Darlington station to be HS2 and NPR ready with new platforms and links to adjacent developments, to fully cater for projected growth.
- d) Electrification of the Northallerton to Teesport rail line.

These four building blocks could cost £400 million in total over the next 10 years, but together, they are estimated to generate £1bn in economic benefit across the North. Crucially each of these key infrastructure projects could be delivered very quickly to be significant early wins as part of the longer-term TfN investment strategy. A new A19 Tees Crossing is a logical and necessary addition or extension to the committed widening scheme on the adjacent Norton-Wynyard section and could be delivered in RIS1 or early RIS2. It would further strengthen the case for the existing widening scheme which itself will deliver significant benefits to the Northern economy. Similarly works to significantly upgrade sections of the A66 could also easily start in early RIS2. The Darlington Station scheme could be an early CP6 priority for Network Rail, given the existing and forecast increased constraints on the ECML in the short-term, and therefore be a real statement in terms of building HS2 from the North. Finally, given the work recently undertaken by both the Electrification Task Force and Network Rail, there is now a compelling case to include the line to Middlesbrough-Teesport as part of the core Transpennine electrification scheme, to be delivered in CP6.

More detail on each is outlined below.

a) **Additional Tees Crossing and A19 Upgrade**

The A19 is a strategic growth corridor, of pan-Northern significance, which links the advanced manufacturing clusters across North Yorkshire, Tees Valley and the North East, including in key industries, such as oil and gas, automotive, life sciences and logistics. It links economies up and down its corridor, both within Tees Valley and to the North and South, a stretch particularly crucial to the UK's attempt to revitalise and grow its advanced manufacturing base. Very few areas in the UK can demonstrate a density of key growth sectors vital to the UK economy located along a single major strategic routeway; these include world-leading expertise in; oil and gas, automotive, nuclear, IT, rail, professional and business services, offshore wind, life sciences and logistics.

Major investment is needed to increase capacity and improve reliability in this vital strategic routeway due to pressure points around the Tees Flyover. Key junction interchanges at A19/A689 (Wynyard) and A19/A174 (Parkway) have benefitted from recent investment to alleviate two congestion pinch-points. Thus leaving the Tees Crossing as the remaining constrained link for which no current improvements are committed. Existing infrastructure limitations, with A19 being only two lanes and lacking a hard shoulder, are already stifling growth which could be further accentuated if major new housing and employment sites are delivered. To catalyse growth, motorway standard is required and a three lane solution needs to be explored. The commitment by Highways England to widen the A19 to three lanes between Norton and Wynyard is therefore a welcome start. Such measures, incorporating a large package of improvements, would increase capacity, alleviate current constraints and position the North at the centre of growth in advanced manufacturing and related industries.

Associated to this, the A19 is the pressure point for internal connectivity in Tees Valley, particularly on the Tees Flyover, which carries nearly 100,000 vehicles per day. This is proving a major bottleneck on a significant arterial route, particularly for peak time traffic between Middlesbrough and Stockton, which has significant travel to work flows. Such pressure makes our road network potentially vulnerable and, additional capacity is needed through a new Tees crossing.

b) Improved East-West road connectivity

To strengthen the Tees Valley economy and allow our thriving sectors to access economic assets and labour markets across the North, we need to ensure that east-west connectivity is quick, easy and reliable for our businesses and residents, primarily to allow access to our two key routeways, the A1M and A19.

The best way to do this is to create similar quality East-West links to complement our North-South ambitions (through the A19, as outlined above, and the current improvements to lift the stretch of the A1M to Darlington to Motorway standard). This is particularly important for access to Teesport and Durham Tees Valley Airport (DTVA), opening up logistics, freight, container market and aviation-related opportunities for both businesses in Tees Valley and to encourage investment (at DTVA, Wynyard, Faverdale in Darlington and other key logistics sites). It can also help to unlock further housing and employment growth sites across the Tees Valley.

There are currently significant constraints associated with moving from east to west, and vice versa, on the road network which include pinchpoints on the A689 and A174 accessing the A19, on the A66 network between Teesside and Darlington and between Darlington and the North West, combined with the lack of access North from Darlington on Junction 57 of the A1M and the fact that the strategic road network between Tees Valley and the A1M to the North actually runs through urban areas of Darlington. Solutions to the various weaknesses in East-West connectivity are currently being evaluated as part of a major study that is being jointly funded by Highways England and TVU.

All this means that our existing strategic east-west links are not fit for purpose and do not meet TfN's objective for reliable journey times on east-west major road links. For example, the A66 around Darlington witnesses high levels of delay with only 55-66% of journeys classed as 'on-time', which is well below the national average of 78% for strategic routes. Investment is needed in these routes to bring them up to the required standard to ensure that the Tees Valley has appropriate access to the motorway network.

c) Darlington station to be HS2 and NPR ready

Darlington Station is a key hub on the East Coast Main Line (ECML), currently serving 2.6 million passengers per year and acting as a critical rail gateway to the Tees Valley. Existing East Coast services benefit the Tees Valley economy by more than £400m, while the regions served by the ECML annually contribute over £300 billion to the national economy.

The role of Darlington Station as a major growth catalyst for the Tees Valley and the wider North will only increase as existing service levels grow on the ECML (East Coast, Cross Country, Transpennine, Freight). The use of Darlington is forecast to double by 2033 and then HS2 will play a critical role in further enhancing connectivity to London and Scotland from the North and in particular to the Midlands, so it is essential that Darlington Station is a fundamental HS2 growth hub, providing excellent HS2 connectivity for the whole of the Tees Valley. HS2 through Darlington could add £12.8m of GVA per year to the Tees Valley economy. NPR is TfN's new ambitious plan to improve rail services and reduce journey times across the North which will also further impact on infrastructure at Darlington. It is vital that Darlington is integral to the NPR network to ensure that all parts of the North, in this case Tees Valley, North Yorkshire and South Durham, are fully incorporated

within the vision rather than disadvantaged by a desire to improve links/reduce journey times between core cities only.

This section of the rail network clearly has a major role to play in the economic growth of the North so provision of adequate capacity is a necessity to allow for the demands of NPR, HS2, 'classic' rail and freight (with the links to Teesport and Hitachi's manufacturing facility at Newton Aycliffe particularly essential) to be met in full.

Through its on-going work on the East Coast Route Network Study, Network Rail clearly now recognises the short-term capacity constraints on the ECML north of York, including the Darlington Station pinch-point. It seems certain that additional capacity will be needed well in advance of the introduction of HS2 and NPR services, with Network Rail looking at priorities for CP6 (2019) onwards.

Darlington Station is already witnessing constraints that limit the opportunities for increased/improved services on the ECML and that are also limiting the growth and connectivity for local rail. Yet it is clear that Darlington lies at the heart of the one of the most critical pieces of rail infrastructure in the country. Resolving capacity issues here is fundamental in delivering future Northern and national growth strategies. The time is therefore right to develop a long-term solution that will re-model Darlington Station to make it work more effectively and efficiently and future proof the infrastructure so that it can facilitate all the growth identified. Building HS2 from the North by creating a 21st gateway at Darlington is vital for the Northern economy.

d) *Electrification of the Northallerton to Teesport rail line*

The Tees Valley rail ambitions to enhance connectivity will benefit the Northern economies by providing annual economic boosts of £14m of additional rail revenue, 1million extra rail trips, 600 new jobs and £26m of additional GVA every year. In order to achieve this and to improve journey times to other key Northern Powerhouse centres in Yorkshire, the North West and wider North East, boosting competitiveness, rail infrastructure needs to be improved. Capacity on the ECML has been discussed in c) above, but electrification is also crucial to this aim, with electrification of the line between Northallerton and Middlesbrough/Teesport a top priority for the Tees Valley, bringing with it huge benefits to the North. The benefit of this investment was recognised Electrification Task Force (ETF) in its report of March 2015.

Upgrading the line to Middlesbrough/Teesport will position Tees Valley more favourably to access growth markets (such as Leeds and Manchester for professional services and engineering design), improve East Coast links (to London via HS2 and a new Middlesbrough direct service) and open up freight networks from Teesport. This should then be followed by the electrification of the whole network in Tees Valley, up the Durham and North Yorkshire Coasts – unlocking growth potential through Hitachi (Newton Aycliffe), Cleveland Potash (Saltburn) and York Potash (Whitby) – is vital to ensure trade routes are maximised.

Electrification is also essential to overcome Tees Valley's perceived isolation from other parts of the Northern economy (particular the major centres of Leeds and Manchester) and could add £12.8m in GVA every year to our economy. Following the ETF report recommendations, further work undertaken by Network Rail, the confirmation that direct Middlesbrough to Manchester Airport services will be retained/improved in the new Transpennine franchise and with new East Coast services coming to Middlesbrough by 2020, the case is now compelling to include the line to Middlesbrough/Teesport as part of the now unpaused Transpennine electrification project. It is now an obvious missing link and we would urge the Commission to consider this.

Furthermore, further rail loading gauge improvements are needed, despite recent progress between Teesport and Darlington, allowing access to Northern markets. W12 gauge clearance is critical on the line to Middlesbrough/Teesport to ensure that further high frequency intermodal rail freight services from Teesport, linking to the the North West, Yorkshire and the Midlands, can go ahead. At present both capacity on the network and loading gauges on key routes (particularly from the Tees Valley via Yarm and to and from the North West) mean that freight expansion is constrained. Logically, electrification and rail gauge improvements should now be delivered on this key strategic route at the same time.

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

The Tees Valley priorities that have been identified all provide pan-northern benefit and as most have had a degree of design and development work completed already, as discussed above in Q2 can be delivered relatively quickly within the next round of rail and road investment periods. These cost effective interventions

will improve economic growth in the Tees Valley and provide improved city to city connectivity between the Tees Valley City Region and the other cities.

- *Enhancement to the A19 corridor and the requirement for an additional Tees River crossing.*
- *Darlington station to be HS2 ready and improve the rail gateway into and across the Tees Valley.*
- *Delivery of improved east west strategic road connectivity from the A1 to the international gateway at Teesport.*
- *Electrification of the Northallerton to Middlesbrough - Teesport rail line to improve connectivity for business and passengers.*
- *The development of bus infrastructure and service delivery models to improve services so that people have better access to jobs and can travel more easily around the area.*

As has already been outlined in the Executive Summary and Q2, TfN has already produced its vision statements for transport so in order for this to be delivered, infrastructure investment should be prioritised in areas/corridors where these stated outputs are not currently being met.

As outlined in response to Q1, Tees Valley has key links to the North East and North Yorkshire (via the A19, which is a strategic growth corridor for advanced manufacturing), across to Cumbria (through the A66, a key connection for engineering skills) and across the Pennines (by road and rail, with key UK sectors reliant upon the academic expertise in the North West and Yorkshire and the demonstration and pilot facilities and innovation centres in Tees Valley). In this regard, the DfT North Transpennine Study is considered particularly important for the Tees Valley as it is looking at options to enhance the A66 which will improve connectivity to the North West and to South West Scotland. It is also vital that the DfT Study is consistent with and incorporates recommendations from the Highways England/TVU A66/A689 Study to ensure that a full corridor solution is developed all the way to Teesport. When major strategic infrastructure schemes are being planned and developed (eg improved Transpennine road/rail links, etc), it is vital that the need for easements for utilities to facilitate the transmission of gas/energy/broadband, etc along the same corridors, is fully considered. There are major existing and potential new markets for such pipelines (eg between the North East and North West) so it is vital that these are planned in full conjunction with the transport infrastructure.

Our expertise in key sectors vital to Northern economic growth mean that investing in the schemes identified in Q2 will, in fact, be an investment in initiatives which will have both pan-Northern significance and substantial economic impact for the whole of the 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?

We believe that there will be two major drivers of international connectivity in the North over the medium to longer term and they are those identified by the commission; mainly through air – and particularly strong links to London and to other international hub airports – and via ports, with the latter able to act as a key vehicle for export-led growth and for intra-Northern supply chain activity.

a) Aviation

Firstly, on aviation, Tees Valley is home to Durham Tees Valley Airport which provides vital routes to the Amsterdam Schiphol hub, facilitating vital worldwide links for our businesses, and to Aberdeen, a key link for oil and gas activity. We believe that further growth in key sectors could be harnessed through further support for regional airports in the North.

Smaller regional airports are a key ingredient in Northern economic growth, through the connectivity they offer for businesses (worth up to £37m a year in the case of Durham Tees Valley Airport) and the contribution they make to the growth of local economies, through the facilitation of export activity and the attraction of inward investment. This is particularly the case in an area like Tees Valley which is leading the way on export-led advanced manufacturing, logistics and renewable energy.

We recognise that in order to thrive, smaller airports need to develop as clusters of specialist and complementary activities. The DTVA Master Plan sets out the vision to do this here in Tees Valley, maximising the airport's assets and competitive advantages to ensure that the local economy – and the UK – can become

a leader in freight and logistics, fire training and safety, advanced manufacturing and aircraft maintenance, repair and overhaul.

We believe that smaller regional airports, such as DTVA, have an essential role to play in easing the pressure on an overheated London and the South East. Already, specialist services, such as fire training, take place at DTVA and serve the whole country, including the South East. In order to ensure a true national aviation offer that helps to rebalance the economy, a national hub airport needs local spokes in order to benefit the whole country.

To ensure that the full potential of smaller airports in the UK is realised, the Government needs to support airports by providing more flexible route support, including the new Air Connectivity Fund, and by reforming Air Passenger Duty. The latter currently acts as a disincentive for the use of intra-country flights. There is clear demand for re-establishing the London link from DTVA, which would provide local businesses with access to two of the biggest hubs in the world (Amsterdam and London) and help to boost business investment.

Therefore, extra capacity in London and the South East must come with guarantees of access to local economies: We believe that any extra capacity in London and the South East – vital to ensure that the UK can access the growing markets across the globe that we need to retain and enhance national competitiveness – must mandate those airports with increasing capacity to ring-fence a certain proportion of flights to regional airports. This will be small in comparison to the total extra capacity granted, but will make a big difference to airports such as Durham Tees Valley and to the North. It will also help to rebalance the economy and address the historic trend of a lack of investment in infrastructure in the North of the country.

Improved rail links to Manchester Airport are also important for the Tees Valley international businesses. Improved journey times with higher quality rolling stock on a full length electrified route would boost inward investment opportunities and enhance connectivity to the Tees Valley's globally owned companies.

b) Ports

Secondly, the Tees Valley SEP places a major focus upon the provision of appropriate infrastructure to grow our freight and logistics sector, which currently supports over 10,000 jobs in Tees Valley and provides over £450m in GVA a year. Improvements to freight capacity and connectivity across the North are vital to enable growth in container markets at Teesport, expand major distribution centres already here (such as Tesco and Asda) and encourage further investment in bio-industries (following the £600m Air Products energy from waste project). Teesport is the largest exporting port in the UK and the third largest by volume, making it a critical infrastructure asset for the whole of the North.

The freight links to strategic international gateways at Teesport and to Durham Tees Valley Airport can help to develop and complement the North's offer on logistics, attract investment and employment, provide for growth in sectors that require quick and easy movement of goods, such as advanced manufacturing and low carbon, and help ease the pressure on the overheated South East. To achieve this, the development of fast and efficient east west infrastructure is critical to future growth at Teesport, as well as the wider northern economy.

Teesport handled 40 million tonnes in 2014, making the port the 3rd largest in the UK. It is also the 'export port'; handling more export volumes than any other UK port.

A major growth area for the port is unit load traffic, particularly on lift-on / lift-off (lo-lo) feeder services.

Teesport is now the 5th largest container port in the UK and has 25 container vessel calls a week serving coastal feeder trades, the Continent, Baltic States and the Mediterranean. Throughput on lo-lo services has seen a dramatic rise from 42,000 TEU in 2000 to 304,000 TEU in 2014 with an average annual growth rate in the last five years of 12%. The Port also handles a significant number of containers as unaccompanied traffic on roll-on / roll-off services. This traffic is enjoying a sustained annual average growth rate of 5% giving a total TEU throughput across the Port's whole container platform in 2015 of over 0.5 million. The rate of growth appears to have been sustained in 2015 and if growth continues at current levels, the Port's throughput is expected to reach 1 million TEU within 5/6 years. To accommodate the levels of growth, Teesport has invested £30m 2010-15 in lo-lo handling facilities with a view to a major expansion of the current riverside terminal in the coming years as demand outstrips capacity. The £300m Northern Gateway Container Terminal will double the size of existing facilities and create deeper berths which will meet the needs of shippers requiring a multimodal interface between the North of England, Scotland, the Midlands and global markets.

The growth in container throughput at Teesport, and the scale of investment, demonstrates the Port's strategic importance to a thriving logistics market. An expanded Portcentric logistics platform will play a key role in

supporting economic growth as it is expected to create 300 direct jobs and a further 1,500 indirect jobs. This must now be matched by appropriate investment in road and rail connections that ensure that the Port's potential is fully realised. The Teesport estate is currently served by a single carriageway connection to the A66 and an on-site intermodal rail terminal which was upgraded in 2014. The rail terminal currently handles approximately 3% of container throughput via connections to Felixstowe, Southampton and Scotland. As volumes over the quay grow, the Port would like to see this grow to 20% and is already looking at new connection to the Midlands to commence in 2016. Although W10 gauge is achievable on current connections this only provided by a combination of route deviations and mixed wagon sets which include low-liners for high-cube containers. This does not offer shippers the most efficient services in terms of guaranteeing space and optimum transit times. To compete more effectively with road and maximise the advantages of the rail option, the Port needs more robust rail-freight connections. Further gauge clearance work locally has been estimated at £10m would enable trains to be routed more directly and up to W12 gauge and to compete effectively with road. Electrification work between Teesport and Northallerton would also provide greater levels of reliability. Even with 20% of containers on rail, this would still leave significant new volumes being added to the road network. For example, based on current projections for an additional 500,000 TEU by 2021, this could equate to an additional 1,200 road trips per day. This further reinforces the need for capacity and resilience improvements to address the current weaknesses already highlighted on the A66, A19 (including Tees Viaduct) and A1M strategic network and also on the local road network across the Tees Valley.

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?

The governance model should reflect the overall aims and objectives of TfN and its Transport Strategy, but crucially must ensure that the needs and interests of all partner city regions are fully met. This is vital if the benefits of transformational infrastructure are to be truly pan-Northern and builds on the more recent process for Rail North.

It also crucial to have a model that reflects economic geography, that reflects capacity of local areas to fund infrastructure, that is firmly directed towards re-balancing the economy and that has proper democratic oversight. Governance needs to be mindful of the Devolution Deals already signed, as well as further phased devolution or greater regional influence on national infrastructure planning and delivery.

TfN and the upcoming Transport Strategy should seek to determine the transport priorities that help meet the outputs set out in the shared vision statements that all partners have agreed and put forward a costed programme of works to deliver the required improvements to achieve the vision statements. This programme would be agreed by the TfN partners before publication.

Rather like rail and road funding settlements, TfN and Government should then agree this programme and the funding envelope required, either on a 5 year, 10 year or rolling programme basis. This would be outside the Local Growth Deal arrangements.

TfN can then become joint Client (with the Government) for the delivery of this programme, again learning from the experience of Rail North. The Client would commission delivery agencies, including Highways England, Network Rail, Combined Authorities and Local Authorities, to deliver the programme through a series of agreements that ensure efficiencies and promptness. Having a greater influence in investment through the national agencies (Highways England, Network Rail and DfT) would maximise the economic growth opportunities at the heart of the northern powerhouse ambitions.

This approach would then allow the TfN partners to develop Local Growth Deal packages of work to "plug into" the TfN priorities, which will be essential to maximise the benefits from the transformative infrastructure. This is why the Tees Valley has included its bus services network within its five transport priorities described in this submission, and why we see it as a fundamental part of our future transport infrastructure needs. Where there is a degree of overlap between the TfN priorities and the City Region priorities, scope exists for discussions around local contributions and future investment opportunities that that may open up.

We feel that this model makes best use of the capabilities of each of the organisations involved from the outset, and does not require significant legislative or regulatory change. It may not be a final governance model, but it is one that can get crucial early momentum in delivering the transport infrastructure required to connect Northern cities effectively and reliably.