



**SOLENT
LOCAL
ENTERPRISE
PARTNERSHIP**

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NIA Call for Evidence
National Infrastructure Commission
11 Philpot Lane
London
EC3M 8UD

Sent by email only to NIAEvidence@nic.gsi.gov.uk

10th February 2017

Dear Sir / Madam,

Re: Solent LEP Response to the National Infrastructure Assessment Call for Evidence

The Solent LEP is the key interface and lead for economic development in the Solent. It is a partnership organisation between the business community, the Further Education and Higher Education sector, three unitary authorities, eight district councils and one county council, all of whom are actively working together to secure a more prosperous and sustainable future for the Solent area. Meeting our growth aspirations requires the area to create the conditions that support growth in the business base and create jobs, whilst improving productivity, through facilitating the conditions for innovation and commercialisation, and making the Solent a destination for inward investment.

In formulating our response to this Call for Evidence, we have sought advice from our Land, Property, and Infrastructure Delivery Panel, which is comprised of private, public and FE/HE sector representatives. In addition, we convened and hosted a business roundtable at Southampton International Airport on the 24th January 2017 to ensure that this response reflects the views of business in the Solent. An attendee list for the business roundtable is attached as annex A.

A summary of our response is captured in the following executive summary:

A. Executive Summary

The Solent is an interconnected city region with two major economic centres in Portsmouth and Southampton, connected by the M27 corridor. The area as a whole has a complex socio-economic geography that is influenced by its 290 miles of coastline, high levels of urbanisation and population density, and skills and sectoral profiles that are contributing to a significant underperformance in productivity.

The Solent economy is positioned as the “Southern Gateway,” shaped by the three ports which are high performing economic assets of national significance (Port of Southampton, Portsmouth Naval Base, and Southampton International Airport). Clearly they are not only hugely important to the Solent area, but they also need to be positioned in terms of the wider contribution they make to the growth and prosperity of the UK economy as a whole. The Southern Gateway performs a vital role in delivering access to global markets supporting the UK industry and specifically the automotive sector, whilst having a key defence cluster of international significance as well as being the home for the Royal Navy. Alongside this, the Solent has three universities which are also major economic assets, providing the region with a world class research, innovation and science base as well as a strengthening skills base.

The economy of the M27 corridor, incorporating the two cities, is growing rapidly, driven by an emerging tech sector, further expansion of marine and maritime sectors, higher levels of consumer spending and population increases. This growth is now stalling and is constrained. There are already clear signs that it is underperforming as evidenced by the growing productivity gap. This sees the Solent lagging behind the south east average GVA by 9% and the UK average by just under half a per cent. This disparity is widening and is typically characterised by a lack of resilience in existing transport infrastructure on both road and rail, longer journey times and excessive congestion, poor air quality, significant unmet housing need, a lack of commercial space to support the expanding tech sector, breaches in flood defence, and challenges in energy supply.

Yet the intense growth of the area, in population terms, and of the two cities, its research, innovation and science base and its international gateways has not been matched by the provision of the modern infrastructure required to accommodate and fuel this growth, and this is holding back the economic potential of the Solent and its contribution to the wider UK economy.

On this basis it is vitally important that the National Infrastructure Assessment prioritises the following:

- **Support for the key Solent gateways** that underpin UK trading on both an import and export basis. This is vitally important as the UK establishes a new trading relationship with the world and it is critical that new infrastructure investment is targeted at road and rail in the Solent to upgrade and improve logistics connectivity and freight capacity to support our successful exporting sectors such as automotive.
- **Improving connectivity across the Solent and from the Solent to London** will lead to a greater pool of skills and talent being available, greater connections between businesses and supply chains and higher productivity in the area. Improving connections between our two cities and from the cities to London will drive growth, by improving economic proximity. Lowering travel times by rail to 30 minutes between Portsmouth and Southampton, and improving links between the Isle of Wight and the

mainland will lift productivity in the Solent by 10%. Significant gains can also be achieved by improving local transport links and reducing congestion.

- **Addressing unmet housing demand in the Solent** as the growing population and an acute shortage of housing impacts on affordability and consequently the recruitment of talent to support a shift to a more productive, high growth economy. There are increasing pressures on existing infrastructure (energy, wastewater, transport), which, when coupled with a legacy of underinvestment, challenges the viability of many developments and this has resulted in an infrastructure deficit.
- **Affordable Energy and clean growth including** energy security to support growth, and optimising the renewable energy potential of the Solent including the offshore wind manufacturing base on the Isle of Wight.
- **Ensuring that the Solent's digital infrastructure is prepared for the challenges of tomorrow** is pivotal to productivity. The Solent is home to an expanding tech sector which has grown by 33% in the past five years, outpacing the UK average of 29%. Southampton had digital turnover growth of 180% between 2010 and 2014, faster than any other UK city. The University of Southampton plays a key role in this with the Web Science Institute, and there is also a strong marine intelligence systems presence in Portsmouth. However significant investment in digital infrastructure to secure total superfast broadband coverage and 4G and, in the future, 5G networks, is necessary if we are to retain this capability.
- **Support for our key cities of Portsmouth and Southampton**, which require over £140 million investment in Flood defence to safeguard existing development as well as unlock new employment and residential land.

This consultation response has been shaped by engagement with the private and public sectors and is underpinned by a detailed published evidence base as set out in the following documents:

- [Solent Strategic Economic Plan](#)
- [Solent Productivity and Growth Strategy Update 2017](#)
- [Solent Strategic Transport Investment Plan](#)
- [Transforming Solent: Marine and Maritime Supplement](#)

In addition, the LEP is currently developing an Island Infrastructure Investment Plan, which will set out the key infrastructure priorities to support the specific economic challenges of the of Isle of Wight - themselves influenced by its Island geography. This is expected to report in the summer of 2017, and will be forwarded to the NIC to support your work.

Whilst the Solent has a range of local challenges to economic growth, the area also has a range of challenges that are of national significance; this response focuses on those that are considered to be of national significance. It is within this context that we would strongly contend that the National Infrastructure Assessment Vision and Priorities document reflects the role of growing conurbations, such as the Solent, and includes the following five priority projects to support the role of the Solent and its key economic assets in supporting increased productivity, competitiveness and the export profile of the UK:

- Improved rail connectivity within and to/from the Solent, focussed on:
 - Delivery of an integrated high frequency Solent Metro service transforming journey time between Portsmouth and Southampton (including Southampton Airport) and better connecting our polycentric settlement structure; and

- Improved rail journey time to London from Portsmouth.
- Improved highway and rail access to / from the Port of Southampton;
- Improved Highway access to support major housing developments adjacent to the M27 Corridor and also on the M275 to improve access to the centre of the City of Portsmouth
- Flood defence to safeguard residential and business properties and unlock development opportunities in Portsmouth and Southampton;
- Future-proofing digital connectivity; and
- Providing energy security to support growth, and optimising the renewable energy potential of the Solent.

B. Solent LEP Economic Profile

The Solent economy has a population of over 1.3 million, 50,000 businesses, local GVA of £27 billion. It has a range of assets that are globally renowned, a strong SME and skills base, and a thriving research community through its universities and research institutions. The coastal location and marine business base provide us with immense strengths on which we can build, taking advantage of global growth in maritime trade, the rapid expansion of the cruise sector and automotive exports, rising demand for leisure marine and specialist vessels, expansion in marine renewables and in technology-led industries.

The Solent has two large, growing, densely populated cities (Portsmouth and Southampton), and the mainland part of the Solent is the most urbanised area in southern England outside London. This, coupled with 290 miles of coastline, habitats of international significance three islands and two peninsulas, present unique infrastructure challenges around digital connectivity, transport, flood defences and provision of utilities. Between 1981 and 2014 the population across all 12 local authority areas of the Solent has grown by 264,000 residents, a total increase of 20%, or 0.6% annually, which is equivalent to adding around 8,000 people each year. The long term growth trajectory has seen the not only growth of our cities but also the emergence of an increasingly polycentric settlement structure, which has left the Solent in a position where the historic supply of infrastructure is unable to cater for the current and forecast demands of a highly urbanized and growing economy.

Whilst this complex economic geography gives the area its unique character, it also provides both opportunities and challenges with regard to local economic growth. Overlaid on this complex economic geography are the three major economic assets; the International Gateways of the area.

The Port of Southampton is strategically positioned in relation to the UK automotive industry based in the Midlands Engine and Northern Powerhouse, and is just 20 nautical miles from the key Shanghai to Rotterdam shipping superhighway. It is the UK's prime export port, and is strategically placed to support the changing flows of international trade. It alone handles exports worth more than £40 billion, with 90% of exports going to destinations outside of the EU. The Port of Portsmouth (including the Commercial Port and Naval Base) provide the anchor points for our globally leading marine and maritime sector, contributing 20.5% of our GVA, 5% of our private sector jobs and 7% of all manufacturing in the area. The Naval Base will see the first of two new QE Class Aircraft Carriers this year, which will be the largest and most complex warships in the history of the Navy. These are significant strategic national assets, and will require reliable and upgraded infrastructure (most notably transport and energy). Their arrival will result in associated peaks and troughs in infrastructure demand

and draw on a pool of skilled labour that will be nationwide - requiring strong connectivity to the Solent.

Southampton International Airport plays an important complementary role in the south east's aviation offer, and has significant capacity for growth, which would free up capacity at other airports in the south east. In 2017, the airport is expected to surpass 2 million passengers, and plans for Southampton becoming an aerotropolis. Southampton Airport's Masterplan highlights plans to increase capacity at the airport on a phased basis to meet increasing passenger demand initially up to 3 million passengers per annum, and ultimately up to 6 million passengers. All three international gateways play an important role in the national infrastructure provision and, therefore, are national infrastructure assets.

As a result, the Solent is widely regarded as the Southern Gateway economy, with strengths across a range of industries in the private sector. As a consequence of these economic assets, the three Solent "ports" and their respective cities contain important clustered sectors and concentrations of economic activity and smart specialisation, most notably in the marine and maritime sector, and also in defence, logistics, and advanced manufacturing (including advanced materials and photonics), aerospace, digital (creative and cyber security) and tourism. These are some of the principal industries which benefit from the unique and beneficial economic environment in the Solent.

Despite our existing strengths and opportunities, the Solent economy is yet to reach its potential and productivity remains a major challenge. Measured by GVA, the area is lagging behind the south east average by 9% and the UK average by just under half a percent. Strong polycentric population growth combined with clustered economic development means that infrastructure will play a critical function in:

- providing satisfactory links between homes and jobs and key economic centres; and
- maintaining the critical artery for the automotive industry in the Midlands and the North and the Port of Southampton in the South.

A growing population and an acute shortage of housing, which impacts on affordability and consequently the recruitment of talent to support a shift to a more productive, high growth economy, mean that there are increasing pressures on existing infrastructure, which, when coupled with a legacy of underinvestment result in an infrastructure deficit. Ease or difficulty of commuting, and thus quality of the transport and digital network, is frequently highlighted as a key factor in our economic competitiveness whilst also being important to the locational decisions of high skilled and highly mobile labour in the Solent.

In an era of global competition, economic assets are only ever relative and require continued investment in order to maintain their international attractiveness. Efficient and effective infrastructure is an essential component in the success and survival of economic clusters and the Solent must continue to act to strengthen its comparative advantages across its key sectors to realise economic value.

Accordingly, economic infrastructure (defined by government as transport, energy, water, waste, flood defence and digital) are areas that are of significant importance to the Solent economy.

The Solent has particular transport connectivity challenges, which are, in part, influenced by the urbanised and polycentric nature of the area, population growth and the presence of key international gateways as described above. Within the Solent, Portsmouth to Southampton

rail connectivity is slow (45 - 60 minutes for a 20 mile journey) and infrequent, as is rail connectivity to Southampton airport from the east, when compared to other dual city areas such as Nottingham - Derby and Newcastle - Sunderland (both 15 miles apart with rail journey times of circa 20 minutes). This results in the parallel M27 being the default option, resulting in chronic peak period congestion. Rail access between Portsmouth and London is also unacceptably slow (between 96 minutes and 129 minutes). This erodes the geographic proximity of Portsmouth to Southampton Airport and on a wider basis to London, which is becoming even more pronounced as rail access to London from other towns and cities is enhanced.

Our response has been drafted within the context of the [Building Our Industrial Strategy Green Paper](#) and its focus on the role of infrastructure in unlocking place-based growth through increases in productivity and competitiveness, and within the changing landscape of international trade as a consequence of the decision of the UK to leave the European Union.

It is clear that the provision and performance of economic infrastructure in the Solent area does impose challenges to business growth and productivity and that future investment in economic infrastructure provides significant opportunities to support sustainable economic growth; improve competitiveness; and improve quality of life. It will therefore be important that the outputs from the NIA support the Solent to:

- Build on our strengths and extend excellence into the future;
- Close the gap in productivity between the Solent and the wider south east and the UK; and
- Ensures that the Solent plays its full role in making the UK one of the most competitive places in the world to start or grow a business.

Our response considers the following thematic areas:

- Cross-Cutting Issues
- Transport
- Digital Communications
- Energy
- Flood Risk Management

We provide links to evidence documents, as requested, which support our position.

C. Cross-Cutting Issues

1. What are the highest value infrastructure investments that would support long term sustainable growth in your city or region?

The highest value public infrastructure investments that would support long term sustainable growth in the Solent and contribute to broader growth in the UK are:

- Improved rail connectivity within and to/from the Solent, focussed on:
 - Delivery of an integrated high frequency Solent Metro service transforming journey time between Portsmouth and Southampton (including Southampton Airport) and better connecting our polycentric settlement structure; and
 - Improved rail journey time to London from Portsmouth.
- Improved highway and rail access to / from the Port of Southampton;
- Improved Highway access to support major housing developments adjacent to the M27 Corridor and also on the M275 to improve access to the centre of the City of Portsmouth

- Flood defence to safeguard residential and business properties and unlock development opportunities in Portsmouth and Southampton;
- Future-proofing digital connectivity; and
- Providing energy security to support growth, and optimising the renewable energy potential of the Solent.

Solent Metro

Solent LEP very strongly contend that government should increase investment in the commuter rail network and other public transport in the Solent to ensure the economic development of our cities and urban centres is not constrained by overcrowding and congestion. Currently road congestion in our area severely delays commuting and other economic activity, and the city of Southampton is currently in breach of air pollution limits. This is exacerbated by an under-provision of public transport in our area and as a result the Solent area now needs to take the bold decision to focus on the development of an integrated and expanded public transport network - Solent Metro.

A Solent Metro network spanning the Solent would support the delivery of new housing and employment development opportunities along the M27 Corridor and in our two cities. Solent Metro will transform the Solent economy through: improving labour mobility; broadening the labour pool available to employers; supporting growth at our nationally important international gateways; improving productivity and competitiveness; improving agglomeration and economic interaction between Portsmouth and Southampton; improving connectivity of the Solent with London, the wider UK and international markets to enable the Solent to maximise its proximity advantage; and improving the attractiveness of the area to new investment, including foreign direct investment.

This is in line with the [Solent Strategic Transport Investment Plan](#) (STIP) published in 2016.

The STIP focuses on the more economically transformative and longer term investments necessary to support and unlock the Solent's growth potential over the next 30 to 40 years and ensure that the Solent's economic assets continue to play a key role in the wider UK supply chain. Over this timescale an additional 300,000 to 400,000 residents could make the Solent an area of 2 million people – equivalent to dual cities such as Nottingham/Derby and Newcastle/Sunderland. In order to accommodate this growth and to strengthen the role of our economic assets such as the Port of Southampton, there will be a requirement to address the transport deficit and invest in a modern metro-style transport network, to relieve pressure on our highway network.

The STIP concludes that in the long term the Solent LEP's business-led transport strategy should aim to “increase economic proximity“ through the following elements:

- Increase dual city (Portsmouth to Southampton) linkages around public transport and business critical movements to integrate labour and consumer markets.
- Support clustering and agglomeration around key local strengths and competitive advantages that other areas cannot replicate (e.g. port functions).
- Develop a corridor of development nodes based around an improved public transport offering between the cities and across the urban network to 2040
- Optimise and integrate the transport network (ticketing, information and operation) using next generation solutions so travel demand load can be spread to improve resilience and peak capacity accommodated especially in more constrained cities with pinch points.

- Secure improved strategic connections to London, the south east (airport passenger market), the UK (especially for port freight) and internationally for airport leisure and business market and “European” inward investment
- A greater focus on Transport Orientated Developments (TODs). Increase residential densities around new and underutilised transport nodes to accommodate additional housing development while protecting natural assets and addressing affordability with the same land take.

Feasibility work on the initial phase of Solent Metro is being taken forward by the LEP and is focussed on a route connecting Southampton Central Railway Station with Eastleigh Town Centre, via Town Quay, development sites along the River Itchen, and Southampton Airport. This will help optimise private sector investment in the area and will support the delivery of new housing and employment developments such as Itchen Riverside, Southampton Waterfront, Southampton Airport Economic Gateway, the former Ford site (now Mountpark), and respond to increasing congestion and air quality issues in the Southampton¹ / Eastleigh area. This will provide a catalyst for the delivery of the future phases of the wider Solent Metro network.

Improved Highway and Rail Access to the Port of Southampton

The NIA should identify priority routes for capacity improvement on the strategic road, primary road and rail networks.

In relation to this, there is an opportunity for the NIC to draw on the work of the University of Southampton, which is presently building the National Infrastructure Laboratory. One of the major focuses will be on rail transport, to meet challenges such as improving resilience to the effects of climate change and the increasing demands on the network, through the efficient maintenance and upgrade of existing infrastructure and the cost-effective design and construction of new infrastructure.

Our response to question 2, below, sets out the national strategic importance of the Port of Southampton. The Port of Southampton plays an increasingly important role in the UK automotive supply chain. Handling 1m vehicles per annum (the vast majority for export), Southampton is the UK's international automotive hub and therefore performs a key role in the UK automotive supply chain. It is also the UK's premier cruise port, handling 1.77m passengers per annum and is the UK's second busiest container port, with 90% of exports going to non-EU destinations. Whilst 40% of freight traffic is transported by rail, the scale of forecast growth is such that additional highway and rail capacity will be required, even within a context of increasing mode share for rail. The Port has already surpassed its 2009 Port Master Plan forecasts for 2020 for Cruise Passengers and for 2030 for automotives and has set out that within the period to 2035 it will need to expand to accommodate growth. This reflects the scale and pace of growth in these sectors and the market preference for the Port of Southampton.

The M3/A34/M40 spine is a critical artery in the UK supply chain, providing access to the UK's growing automotive industry to global markets. Investment is planned at the M3 Junction 9 / A34 interchange, which is key bottleneck along this route - but the scheme is not expected to commence until the end of the decade. Whilst funding was identified for the project in 2015, the pace of progress, is frustratingly slow, and is failing to build on the back of over £150m private sector investment to enable the UK to accommodate the world's

¹ http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/.

largest cargo and cruise ships through the DP World operation, which has a capacity for 35,500 containers.

Conversion from DC to AC of the freight route between Southampton and Basingstoke, as part of the route to the Midlands was planned as part of the Network Rail Control Period (CP) 5 Enhancements Programme, but will now be considered within CP6 (2019-24). This would have enabled faster and more efficient rolling stock to operate the route. Opportunities for decking container trains should be considered, to make best use of finite rail pathways.

Whilst investment in the Strategic Road Network (SRN) is critical to support access to the Port of Southampton, it is the final leg of the highway journey that can take a disproportionate amount of total journey time. This is the case in Southampton; congestion on the M27 and M271, as well as the A33 Redbridge Road / Millbrook Road (which is a local road) form the local access to the Port of Southampton, but are also used by commuters, businesses and visitors, which add significant delays to journey time and contribute to significant air quality issues experienced on the western approach to Southampton. Consideration of highway access to international gateways should reflect the whole route, not just the SRN.

Flood defence

There is an ongoing need to analyse flood risk at the scale of catchment and coastal cells such as the Solent. Resources should be allocated so as to minimise the economic risk of flooding and there is a very strong case to invest in flood defence in the Solent as it is clearly cost beneficial to do so.

Two schemes are of particular significance in the Solent: along the western bank of the River Itchen in Southampton, adjacent to the city centre, and at Southsea in Portsmouth. The former reduces flood risk to 1,157 properties and 679 businesses, whilst the later reduces flood risk to £649m of assets, 8,013 existing homes, and 1,035 businesses. In addition, the Itchen scheme enables over 2,000 new homes, and the Southsea scheme enables 1,000 new homes.

Energy

Ensuring secure, affordable and low carbon energy supplies requires a range of actions to manage energy demand and provide new energy generation capacity. Uncertainty over energy policy has dis-incentivised investment. In the Solent area, population increases, the growth of the economy, and increasing demand from the defence sector provide upward pressure on energy demand. As part of the NIA, there should be a commitment to set out alternative strategies for energy security post 2030 and this should include the use of technologies such as carbon capture and storage, electricity storage and low carbon generation.

In relation to the Solent, powerful ships such as the new QE Class Aircraft Carriers that will be base-ported in Portsmouth need strong power supplies and work is underway to create a new high voltage substation at Portsmouth Naval Base to support the energy requirements of the ships whilst in port. Each ship will host an independent distribution network capable of managing enough energy to power 5,500 family homes. It is unknown if this upgrade will be sufficient to provide for the rare occasions when both Aircraft Carriers will be in Port at the same time.

The Solent has immense potential with regards to marine renewables, and in particular tidal stream technology. The UK currently has a competitive advantage in the development of this emerging technology, as significant research and development capacity has taken place. However, the increased costs of developing such new technology result in more mature renewables being more cost effective, and there is a danger that the expertise the UK has in relation to marine renewables could be lost to international competitors. As such, there is a need to nurture this competitive advantage to scale-up and realise its potential

Digital Connectivity and Technological Innovation

Technological innovation provides an opportunity to use new and existing infrastructure capability more productively and efficiently and the Solent area would strongly support an infrastructure policy which combines and increase in capacity with optimisation of existing infrastructure through technological innovation. Some of the greatest opportunities for innovation are in people's homes and work places and ultra-fast digital connectivity would reduce and/or remove the need to travel as well as encourage smarter use of energy and storage as well as utilise sensor technology to deliver significant cost-savings in new construction and the ongoing management and maintenance of infrastructure.

There is a need for significantly enhanced digital connectivity (both fibre and 4G/5G) to ensure that all areas of economy can access opportunities for growth. Yet, like many areas, and in particular rural areas, we have so called internet "not spots" and areas where the market size make delivery unviable. This disadvantages some businesses and holds back growth. Furthermore, digital connectivity along key rail routes - including to London - is unacceptably poor, with large sections offering no connectivity. This reduces productivity.

There is an opportunity to provide the private sector with incentives to roll-out ultra-fast broadband and the NIA should fully explore the digital communication requirement of new and emerging infrastructure systems and ensure that enabling digital technologies are put in place at the same time.

2. How should infrastructure most effectively contribute to the UK's international competitiveness? What is the role of international gateways for passengers, freight and data in ensuring this?

It is clear that the nature of the UK's trading relationship with Europe and the wider world will change. However, this is within a context of changing trade patterns brought about by globalisation.

The Port of Southampton is a major private sector contributor to the Solent economy, and plays a critical role in UK trade - which is expected to become more pronounced following the decision of the UK to leave the EU, with Southampton in close proximity to the major shipping lanes linking Europe to the rest of the world, and in particular the key Shanghai to Rotterdam route. The Solent benefits from the natural advantages of a double high tide and sheltered berthing and is a sought after location for shipping.

The Port supports 15,000 local jobs, contributes £1 billion to the UK economy and handles over £71 billion of international trade each year. The Port of Southampton is the most productive port in Europe and plays a crucial role in UK trade as the number one export port handling over one quarter of the UK's seaborne trade with non-EU countries, exporting £40 billion of British manufactured goods including £36 billion of exports destined for markets

outside of the EU. The Port performs a critical role within the UK supply chain, handling 900,000 vehicles in 2015, including around 520,000 for export, making Southampton the leading UK Port for car exports.

The significant role of the Port of Southampton in relation UK trade is clear and the combination of geographic location and the markets the Port is engaged in it is strategically positioned to perform an increasingly important role for the UK economy within a new international trade landscape.

The container trade is a key facilitator of UK exports and the Container Terminal in Southampton has been a leader in the UK in terms of productivity and customer service, which in turn has led to significant volume growth over the recent years. Substantial investment in the rail infrastructure has allowed close to 40% of containers to be transported to and from the port by rail, however the remaining 60% still depends on transport by road and is suffering from a road infrastructure which is heavily used and often congested.

ABP has invested significantly in Port infrastructure and this has both underpinned its rapid growth as well as the growth experienced by its customers. Investment has enabled the Port (and the UK) to accommodate the largest container vessels and cruise liners in the world, within the context of increasing length and tonnage of vessels operating in both markets. More generally, the Port plans to invest a further £200m of private sector investment over the next five years, including £50m in vehicle handling facilities to support the continued growth of UK automotive exports through Southampton.

Outline planned growth forecasts for the port show that further growth is forecast across all markets, further placing demand on the SRN, Local Highway, and rail infrastructure. The Port is of the view that significant port expansion will be required, opposite the existing port estate, in this timeframe, which may well require upgrades to the existing highways and rail network to optimise this potential.

The [National Policy Statement for Ports](#) states that Government policy is to encourage sustainable port development to cater for long-term forecast growth in volumes of imports and exports by sea with a competitive and efficient port industry capable of meeting the needs of importers and exporters cost effectively and in a timely manner. It is also noted that there is a compelling need for substantial additional port capacity over the next 20 to 30 years. Within this context it will be imperative that transport infrastructure continues to be invested in to support the important role of the Ports of Portsmouth and Southampton.

Portsmouth International Port is the second largest cross channel ferry port providing a gateway for over 2 million passengers and up to 1 million cars and freight vehicles to France, Spain and the Channel Islands. In addition Portsmouth Naval Base is a strategic national asset, and is at the heart of the sub-regional defence cluster providing, directly and indirectly, 20,000 jobs across the sub-region and contributing over £1.6bn GVA of output. The Naval Base is the base port for half the Royal Navy surface fleet and there is a strong maritime services function offering: integrated ship support; complex software engineering and advanced manufacturing solutions; equipment management; training; and estates and logistics service. It encompasses: the Naval Base; associated Naval establishments; the defence industrial base and other dependent firms.

The first of two new Queen Elizabeth Class Aircraft Carriers will arrive in Portsmouth in 2017. Each will have a 50 year lifespan and at 280m long, 70m wide, 56,000 tonnes and rising 56m out of the water, will be the largest surface warship ever for the Royal Navy. With

crews of 733 each, 500 support staff and others, the ships will require around 2,000 personnel providing links into the local economy and wider supply chains. There are good multiplier effects with every £1 million spent by the base triggering £0.75 million of additional spend locally, and every 100 jobs support up to 66 jobs elsewhere.

Southampton International Airport serves up to 49 short-haul UK and European destinations for business and leisure travellers (e.g. Glasgow, Manchester, Amsterdam, Jersey and Mallorca). About 1.4 million people live within 30 minutes of the airport and 3.5 million within an hour. The airport has one of the closest rail stations to a terminal in the UK and is adjacent to the M27, yet a number of transport constraints affect the economic performance of this asset:

- The airport runway length is shorter than many other regional airports limiting the range of aircraft that the airport can handle.
- Despite quick and direct rail connections to Southampton Central (7 min) and Winchester (10 min), there is no direct rail connection between the airport and Portsmouth (the journey time is 55-67 minutes for a journey of 20 miles) and eastwards along the South Coast.
- Locally the road network around the airport and surrounding development sites (including a major development opportunity at the former Ford manufacturing site) is comparatively constrained with a number of narrow and/or old bridges.

Despite this the airport is set to surpass 2m annual passengers in 2017. With plans for a high-tech development cluster centred on the airport, excellent transport connections (just 63 minutes to London Waterloo) and good links to local Universities, there is potential for Southampton becoming a future aerotropolis - a combination of airport, city, shipping and business hub.

The airport was built for 1.5m annual passengers, and currently handles 1.77m (30% of which are business travellers) and aspires to grow to 3m annual passengers through increasing connections through Southampton for onward destinations.

3. How should infrastructure be designed, planned and delivered to create better places to live and work? How should the interaction between infrastructure and housing be incorporated into this?

The availability and affordability of housing poses a major challenge to the Solent area. Demand for housing is projected to grow and the planned increase in housing supply is unsurprisingly increasing demand across all sectors in the Solent including transport, energy, digital, flood defence and energy. Much of the Solent's infrastructure such as sewage systems, rail networks, highway links water based connections and housing stock have been serving the area much longer than originally designed for. Many of these assets need replacement or investment to extend their lives and given current fiscal constraints a strategic asset management approach is required to provide clear prioritisation and better performance. On this basis the Solent would encourage the development of an infrastructure pipeline to support economic assets of national significance. This should be managed by the Infrastructure Projects Authority and should provide the private sector and investors in general with a forward view of upcoming infrastructure programmes and projects. A long term programme approach to infrastructure development is needed to address stop start investor concerns and it will be particularly important to the Solent given that our international gateways including the Port of Southampton and Southampton Airport are developing new Master Plans for the next 50 years. Part of the approach to national

infrastructure investment should be inclusion of a whole life assessment to infrastructure investment.

It is recognised that there is a national imperative to build new homes. This imperative is particularly pronounced in the Solent with an assessed housing need for the Solent, published in June 2016, identifying a need to deliver 121,500 homes over the period 2011-2036. Given the limited geographic scale of the Solent, the existing densely populated geography, the large amount of MoD land, areas of flood risk, and our coastal location, this is a considerable challenge, yet critical to ensure the pipeline of employment to fuel economic growth and attract the talent to this area.

Infrastructure is often required to unlock and/or mitigate the impact of new housing development. This can significantly increase costs and reduce viability, or make projects uncommercial. However, the Solent does suffer an acute housing shortage, and the new funds announced as part of the Autumn Statement 2016 to accelerate housing delivery are welcomed and new opportunities to accelerate house building through up-front infrastructure funding are encouraged.

4. What is the maximum potential for demand management, recognising behavioural constraints and rebound effects?

Solent LEP has identified that the nature and scale of demand will be driven by long term changes in population, economic growth, technological change and the environment. In the Solent area demand will be influenced by population growth as already acknowledged, forecast increased in economic activity in our key centres and economic assets, and technology and digital communication.

The Solent is becoming increasingly polycentric and therefore there is already a demand to improve the proximity of our two cities as well as the urban centres along the M27 corridor and linkages from the Island to the mainland.

A key priority for the area is smart motorways, which offers potential to better manage current and forecast demand on our motorway network. Highways England have committed to delivery Smart Motorways along the M27, and parts of the M3 this will contribute to mitigating existing levels of chronic congestion.

There is also potential for demand management in the energy sector to ensure that best use is being made of a finite supply and that people and businesses are incentivised to draw energy in a way that does not compromise supply.

Technology advances have the potential to dramatically improve connections from isolated communities to urbanised areas and markets. This is particularly relevant for the Isle of Wight, where it is recognised that digital communication could play an important role in shaping work habits and supporting high quality connection through fixed and mobile digital networks.

5. How should the maintenance and repair of existing assets be most effectively balanced with the construction of new assets?

Capital investment in new infrastructure as well as revenue for the maintenance of existing infrastructure is equally important. Capital investments in new infrastructure can only deliver an overall uplift in provision if accompanied by the maintaining existing assets.

We would encourage a fresh approach to capital investment in new infrastructure and maintenance that considers infrastructure in the round. For example, investment in rail that encourages mode shift from the car / HGV can reduce highways maintenance costs, which could be offset against the rail capital investment. However, presently, strategic rail and strategic road investment plans are developed in isolation and on differing timescales, and are not able to factor in reduced costs on other infrastructure within their value for money assessments.

The adoption of advanced materials and intelligent infrastructure provides an opportunity for reduced through-life costs, which will enable maintenance to be more targeted, and informed by real-time information.

6. What opportunities are there to improve the role of competition or collaboration in different areas of the supply of infrastructure services?

Competition should be encouraged to support innovation and value for money. Regulation should be light touch to encourage private sector investment and new entrants, but ensure fairness and customer responsiveness.

Opportunities for collaboration should also be encouraged, in particular where this will deliver efficiencies and better value for money. An example would be the way in which rail and strategic road infrastructure are delivered in the UK, as highlighted above. In many instances, investment in one will influence demand on the other - yet the investment plans of Network Rail and Highways England are created separately and on differing timescales. Within the Solent context, rail and SRN infrastructure between Portsmouth and Southampton run, broadly, parallel. The supply of one influences the demand for the other, and locally the inadequacy of rail infrastructure and services is a contributory factor to chronic peak congestion on the M27. There is a broader need for the integration of investment and planning in rail and SRN infrastructure, which is something the LEP would encourage Highways England and Network Rail to pursue.

7. What changes in funding policy could improve the efficiency with which infrastructure services are delivered?

Please see response to question 6, above.

In addition, in funding policy terms currently it is recognised that a mix of private and public investment pays for infrastructure programmes and projects. Regulated sectors enjoy a high level of private investment as they benefit from a high level of certainty. As previously advised, providing a forward view of upcoming infrastructure programmes and projects across all sectors would improve investor confidence, particularly for locally based infrastructure investment. This would complement the current approach to programme planning that we see in certain areas of government such as DfT / Highways England through the Roads Investment Strategy.

8. Are there circumstances where projects that can be funded will not be financed?

There can be a need for forward funding, to accelerate or unlock private sector investment, where cash-flow may be a blockage. This can be particularly relevant in relation to new employment and housing developments, which may require new or upgraded transport infrastructure. Locally, in the Solent, flood defence infrastructure can also be an essential

up-front capital requirement to unlock a site for development in advance of a cash-flow being realised. In addition, many brownfield sites can require decontamination and up front funding to de-risk such sites can ensure that sites become more commercially attractive for new development.

Locally, the Solent has a range of MoD sites which no longer form part of strategic defence requirements, and are expected to become available for commercial development. Typically, such sites can require significant investment to de-risk them to make them commercially viable. As public estates, there is a key role for public funding to unlock these opportunities to regenerate areas.

9. How can we most effectively ensure that our infrastructure system is resilient to the risks arising from increasing interdependence across sectors?

Infrastructure in the Solent lacks resilience. This is most acutely felt in relation to highways infrastructure. The M27 suffers chronic peak hour congestion, but there have also been a number of instances when whole sections of the M27 have been closed recently, which, given the geography of the Solent, has brought the area to a standstill and impacted on Port Access.. This lack of resilience has the potential to present significant problems for the automotive sector, as the lead time for vehicle manufacture to export is just one week.

The current approach to infrastructure investment does not always recognise the interdependence between different types of infrastructure and it is widely felt that there should be a stronger commitment to integrated infrastructure investment planning across modes of transport, such as road and rail. In the Solent, poor rail connectivity between Portsmouth and Southampton has resulted in severe congestion on the M27 and investments on both networks are considered independently. The establishment of a single funding pot to improve connectivity across city-regions would undoubtedly improve the overall infrastructure system in the Solent, reduce the over-reliance on one mode of transport (i.e. the Motorway), and improve overall resilience.

We would also suggest that the NIC should consider the opportunities for using new technology to improve information and network management, giving users the information they need, when they need it.

10. What changes could be made to the planning system and infrastructure governance arrangements to ensure infrastructure is delivered as efficiently as possible and on time?

As noted above, the pace of infrastructure delivery both by the private and public sectors can be frustrated by the planning process. This can result in delays to benefits being realised, and a failure to optimise and build on investment. Feedback from business, in particular, is that the current spatial planning framework can work against market demand, and so stifle growth opportunities.

In relation to the growth of strategic national assets we would encourage the introduction of a long-term approach to infrastructure provision for such assets and the NIA should identify priority routes for capacity improvements on the strategic road, primary road and rail networks. At a national level, the government should increase investment in the commuter network, as well as public transport, to ensure that the economic development of our key gateways and cities is not constrained by overcrowding and congestion. Alongside this,

substantive funding for transport and housing should be devolved to local areas to allow them to invest in the growth of their economies.

The Local Growth Deal has been an important and welcome introduction in this regard. We would also strongly support closer working and the development of new delivery models between key agencies such as Network Rail, Highways England and the HCA, working with Local Authorities to deliver new housing on sites around stations or adjacent to the SRN. This would facilitate the development of housing in areas supported by appropriate economic infrastructure. This is particularly important in the Solent, where we have seen extensive residential development along the M27 corridor encounter delays due to the need to introduce significant new junction improvements to ensure that infrastructure is in place to support housing growth.

On the assumption that economic assets such as ports and airports are considered nationally important infrastructure, we would recommend that the planning systems provides greater certainty and more responsive consideration of planning applications, recognising that the growth of such assets needs to be supported by the delivery of up-front enabling infrastructure to accommodate forecast growth and that arrangements for the financing of this investment will need to be put in place. This means that the lead in time for delivery of infrastructure ahead of forecast growth can be considerable, and that delays or indecision, does create a hiatus and planning blight. This can result in uncertainty in both UK markets and on a broader basis, global markets.

Greater autonomy for local areas in terms of funding and decision-making for smaller scale (or local infrastructure) projects is encouraged, to support planning decision-making and land allocations on a basis that reflects the economic geography of areas. The LEP also supports, consideration of sub-national architecture to enable local economic areas come together to plan for infrastructure that is of mutual benefits - for example the role out of 5G, or the planning or key sub-national transport infrastructure.

11. How should infrastructure most effectively contribute to protecting and enhancing the natural environment?

A balanced approach should be taken to protection and enhancement of the natural environment. Economic growth should be allowed to come forward in a way that is not overly stifled or slowed by environmental considerations.

In the Solent, through the Solent Growth Deal, we have supported a green infrastructure project, which has enabled the purchase and upgrade of green assets to enable and mitigate the impact of new housing. Collectively the five projects have enabled Natural England to agree to these as mitigation for 10,000 new houses.

12. What improvements could be made to current cost-benefit analysis techniques that are credible, tractable and transparent?

We agree that infrastructure analysis techniques should be credible, tractable and transparent. Whilst value for money is important, it is clear that the government is seeking to rebalance the economy spatially, but it is not clear how this is captured in cost-benefit analysis. This needs to be more transparent and apply to all areas of the country that underperform relative to more successful areas. We have described, above, how the Solent, despite being part of the south east economy, does underperform in productivity terms.

Current cost benefit analysis techniques are focussed on evidencing unmet demand and do not seem to be able to return favourable assessments for projects that seek to transform or generate demand. Within the Solent, our two cities do not interact economically as other dual city regions, despite being just 20 miles apart, and as a consequence city to city movements are limited. This is, in part, a function of the infrastructure deficit that exists in the Solent - particularly in relation to rail. The delivery of Solent Metro - a high quality, high frequency, reliable public transport - would transform agglomeration and deepen labour markets and enable our two cities to collectively contribute more to UK growth.

Any cost benefit analysis should focus on value for money, but this is not always the case. For example DfT WebTAG prioritises transport benefits, but, in our view, should capture and account for the wider economic growth benefits that the transport project will unlock. Equally, cost benefit assessment of flood defence projects focusses on safeguarding properties, but should also factor in the benefits of flood defence projects in unlocking new development opportunities. We have also seen that the provision of superfast broadband can also provide the catalyst for tech-led development. Presently, it is the view of the LEP that current methods of cost benefit appraisal are too narrow, and that approaches should be broadened to prioritise the impact of an infrastructure project on productivity and competitiveness.

D. Transport

13. How will travel patterns change between now and 2050? What will be the impact of the adoption of new technologies?

Autonomy, artificial intelligence (AI) and robotics, along with increased use of the internet will change travel patterns over the next 30 years. Autonomous vehicles are already being trialled, and can be expected to be omnipresent over this timescale, for both personal and freight journeys. This in turn should result in optimum use of networks and increase system resilience.

Increase penetration of the internet and technologies can also be expected to influence the demand for travel, with increased use of artificial intelligence to undertake roles currently performed by humans. In addition, the internet of things, for example, within intelligent infrastructure will reduce the need for surveys and site visits.

In planning infrastructure for the future, it is clear that technological change is enabling, and will continue to enable new ways of working, which will impact on demand for infrastructure. People will increasingly be able to live and work in the same place, thus negating the need for travel, and resulting in the unlocking of capacity and reduced journey times - but this should not be an excuse for not upgrading infrastructure in the short to medium term.

14. What are the highest value transport investments to allow people and freight to get into, out of and around major urban areas?

We have identified the role that a Solent Metro service and Smart Motorways can play within the Solent and the economic benefits that this can bring in our responses to questions 1 and 4 respectively. Both interventions will free up highway capacity for the increasing volumes of port traffic that are forecast.

The increased use of e-commerce is resulting in increased customer expectations on deliveries. This is resulting in a number of smaller van deliveries, with limited coordination across urban areas and associated diesel emissions. Break-bulk distribution centres on the periphery of urban areas supported by electric-powered vans could provide greater coordination across distributors, with resulting benefits in terms of reduced vehicle miles and improved air quality.

15. What are the highest value transport investments that can be used to connect people and places, as well as transport goods, outside of a single urban area?

We have identified the role that a Solent Metro service and Smart Motorways can play within the Solent and the economic benefits that this can bring in our responses to questions 1 and 4 respectively. Both interventions will free up highway capacity for the increasing volumes of port traffic that are forecast.

In addition, within our answer to question 1 we set out the need for digital connectivity to better connect people and businesses and to allow flows of knowledge.

16. What opportunities does 'mobility as a service' create for road user charging? How would this affect road usage?

A shift away from personally owned modes of transportation and towards mobility solutions that are consumed as a service could be supported through the delivery of high quality, affordable, high frequency public transport infrastructure and services. This may negate any requirements for road-user charging as it would be expected to free-up highway capacity.

E. Digital

17. What are the highest value infrastructure investments to secure digital connectivity across the country (taking into consideration the inherent uncertainty in predicting long-term technology trends)? When would decisions need to be made?

Whilst it is recognised that laying fibre is a costly process, and, as a consequence, there are some locations where it is not commercial, as noted above, digital connectivity is essential for connecting people and businesses and enabling all parts of the UK to be actively engaged in the 4th Industrial Revolution and its pace of technological change. As such, there is a role for government to ensure blanket roll out of fibre.

18. Is the existing digital communications regime going to deliver what is needed, when it is needed, in the areas that require it, if digital connectivity is becoming a utility? If not, how can we facilitate this?

It will be important that the UK stays at the forefront of digital connectivity to not only attract inward investment, but to enable the talent and assets that reside in the UK. The UK is already leading on the development of 5G technology, and within the University of Southampton's world leading Optoelectronics Research Centre, a Photonics Hyperhighway Programme is developing the next generation of optical fibres that will have capacity and speeds that are a 1000 times more advanced than the fibres that are currently deployed.

F. Energy

19. What is the highest value solution for decarbonising heat, for both commercial and domestic consumers? When would decisions need to be made?

No response.

20. What does the most effective zero carbon power sector look like in 2050? How would this be achieved?

The UK has significant potential for renewables. Locally, in the Solent, there are opportunities for tidal stream power as an important (and predictable) part of the UK's future energy mix. Whilst the government has nominated a strike price of £300/MWh for tidal stream energy, which reflects the true current cost of energy, in order to ensure that the short to medium term consumer prices are kept to a minimum they have also announced that they would not ring-fence (minima) any of the £290m budget for tidal stream energy in the Contract for Difference (CfD) auction (Round 2) in April 2017.

The price for energy at the auction will therefore reduce to the market value of the mature renewable industries (around £70-100/MWh for offshore wind). This is an unexpected change of policy from the initial elevated prices offered to develop wind and solar energy, which successfully reduced the cost of energy. The consequence is that the UK may not be able to commercialise their geographic (15% global/50% Europe capacity) and technical advantages and shovel ready projects until other countries have deployed sufficient capacity elsewhere, to bring down the cost of tidal stream energy. This may delay the introduction of continuous, totally predictable tidal stream energy in the UK and effectively reduce the UK to a customer only status surrendering our global lead in this technology.

A regime that enables new technologies to come forward and compete commercially to move the UK towards a zero carbon power stock should be considered.

21. What are the implications of low carbon vehicles for energy production, transmission, distribution, storage and new infrastructure requirements?

The electrification of transport (vehicles and rail) as well as quay-side electricity supply to ships is placing a strain on the energy distribution network. Major upgrades have been required to support the arrival of the new QE Class Aircraft Carriers in Portsmouth, and it is unknown if this upgrade will be sufficient to provide for the rare occasions when both Aircraft Carriers will be in Port at the same time.

Increasing electricity requirements from transport should be considered alongside increased energy demands that will result from the internet of things, which combined will place significant strains on energy distribution networks in the UK, and therefore have the potential to frustrate the uptake of, participation in and creation of new technologies.

The increased use of e-commerce is resulting in increased customer expectations on deliveries. This is resulting in a number of smaller van deliveries, with limited coordination across urban areas and associated diesel emissions. Break-bulk distribution centres on the periphery of urban areas supported by electric-powered vans could provide greater coordination across distributors, with resulting benefits in terms of reduced vehicle miles and improved air quality.

G. Flood Risk Management

25. What level of flood resilience should the UK aim to achieve, balancing costs, development pressure and the long-term risks posed by climate change?

Investment in flood defence should prioritise those areas that pose the greatest economic risk and that have the greatest opportunity to generate GVA. The Environment Agency's approach is focussed on safeguarding existing properties. Whilst we agree that this is critical, the opportunities for flood defence to unlock economic growth should also unlock flood defence funding.

With 290 miles of coastline and a highly urbanised geography, the role of flood defence in safeguarding existing properties and unlocking new development potential is significant in the Solent. Two schemes are of particular significance: along the western bank of the River Itchen in Southampton, adjacent to the city centre, and at Southsea in Portsmouth. The former reduces flood risk to 1,157 properties and 679 businesses, whilst the later reduces flood risk to £649m of assets, 8,013 existing homes, and 1,035 businesses. In addition, the Itchen scheme enables over 2,000 new homes, and the Southsea scheme enables 1,000 new homes.

26. What are the merits and limitations of natural flood management schemes and innovative technologies and practices in reducing flood risk?

No response.

I hope that this response is helpful as the NIC finalises its Vision and Priorities document for publication in summer 2017. Should you have any questions in relation to this response, please contact stuart.baker@solentlep.org.uk / 023 9268 8676.

Yours sincerely,



Gary Jeffries
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