

Appendix 3C

ECONOMIC NARRATIVE



TECHNICAL NOTE 5

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SUBJECT:	Economic Narrative		
PROJECT:	Norwich Western Link	AUTHOR:	FG LA
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INTRODUCTION

The purpose of the Economic Narrative is to articulate why the transport investment (the Norwich Western Link, NWL) is needed to achieve specified economic objectives and how it is expected to achieve these.

Economic Narratives are part of DfT's guidance for the Economic Case with the latest (May 2018) DfT TAG guidance clearly setting out how the narrative fits into a business case and how it is used to justify the economic types selected.¹

Through this process, the narrative defines the scope of the analysis in terms of the impacts that are being considered and the mechanisms through which these are expected to occur. The Economic Narrative therefore sets out the context for the analytical methods that will capture and quantify the expected impacts. The narrative will thus provide an insight into the economic context of the scheme and covers the following:

- Transport links within the area;
- The economic context in Norfolk and Norwich;
- The public policy context in relation to the scheme; and
- The expected impacts of the scheme.

Economic narratives are now a recognised element of scheme business cases (including Outline Business Cases, OBCs) as they allow scheme promoters to set out the economic context in an area before describing the types of economic impacts that are in scope (and therefore included in the Economic Case of the OBC).

Although a significant amount of information on the need and rationale for the NWL scheme is provided in the Strategic Case chapter in the OBC, it is important to point out the distinct role the Economic Narrative plays and the link it provides between the economic objectives (and constraints) in the area, how these can be supported by the NWL and the types of economic impacts that are considered in the Economic Case.

THE LOCAL ECONOMY

Located in the largely rural East of England county of Norfolk and covering an approximate area of 40.55 square kilometres (km²), Norwich is one of the fastest growing cities in the UK. As of 2018, the city had a population of 141,100, with the percentage of residents in the 16 to 64 age group being higher than both the East and Great Britain (GB) average.² The Greater Norwich area (comprising the Norwich City Council, South Norfolk District Council and Broadland District Council areas) is considerably larger with a combined population of 408,600 (based on 2018 ONS data).

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/712878/tag-unit-a2-1-wider-impacts-overview-document.pdf

² <https://www.nomisweb.co.uk/reports/lmp/la/1946157237/printable.aspx>

Norwich is strategically important as it is a key driver of the East of England's economy as well as being a major regional centre for new homes and jobs, leisure, cultural and education development. The local area specialises in biotechnology, food processing, financial services and creative industries.

The value of Norfolk's economy was £18.6 billion in 2015. The planning authorities in Norfolk have collaborated to create the Norfolk Strategic Planning Framework (NSPF) to identify the county's strategic employment sites through which it hopes to achieve several ambitious targets with respect to jobs, businesses, housing and GVA by 2026. The aim is to create 73,000 more homes, 57,000 more jobs and 5,300 new businesses by 2026. Tourism is also a pivotal sector for spearheading future growth, supporting 65,398 jobs (18.4% of all employment) and contributing £3.2 billion to the local economy.³

Despite this steady growth trajectory, Norwich still lags behind some other areas in the UK with respect to economic indicators. Taking the key metric of productivity, for example, Office of National Statistics (ONS) data collated in December 2018 shows how Gross Value Added (GVA) per head in Norwich and East Norfolk has lagged behind the national average. In other words, there is a clear "productivity gap". Figure 1 below demonstrates not only how GVA per head in the Norwich area has historically lagged behind that in the UK, but also how the gap has been widening over time. Before the recession in the late 2000s, for example, Norwich's GVA per head was approaching parity with the UK. Since then, however, a significant gap has opened up with the difference being at its largest for the last year in the dataset, 2017.

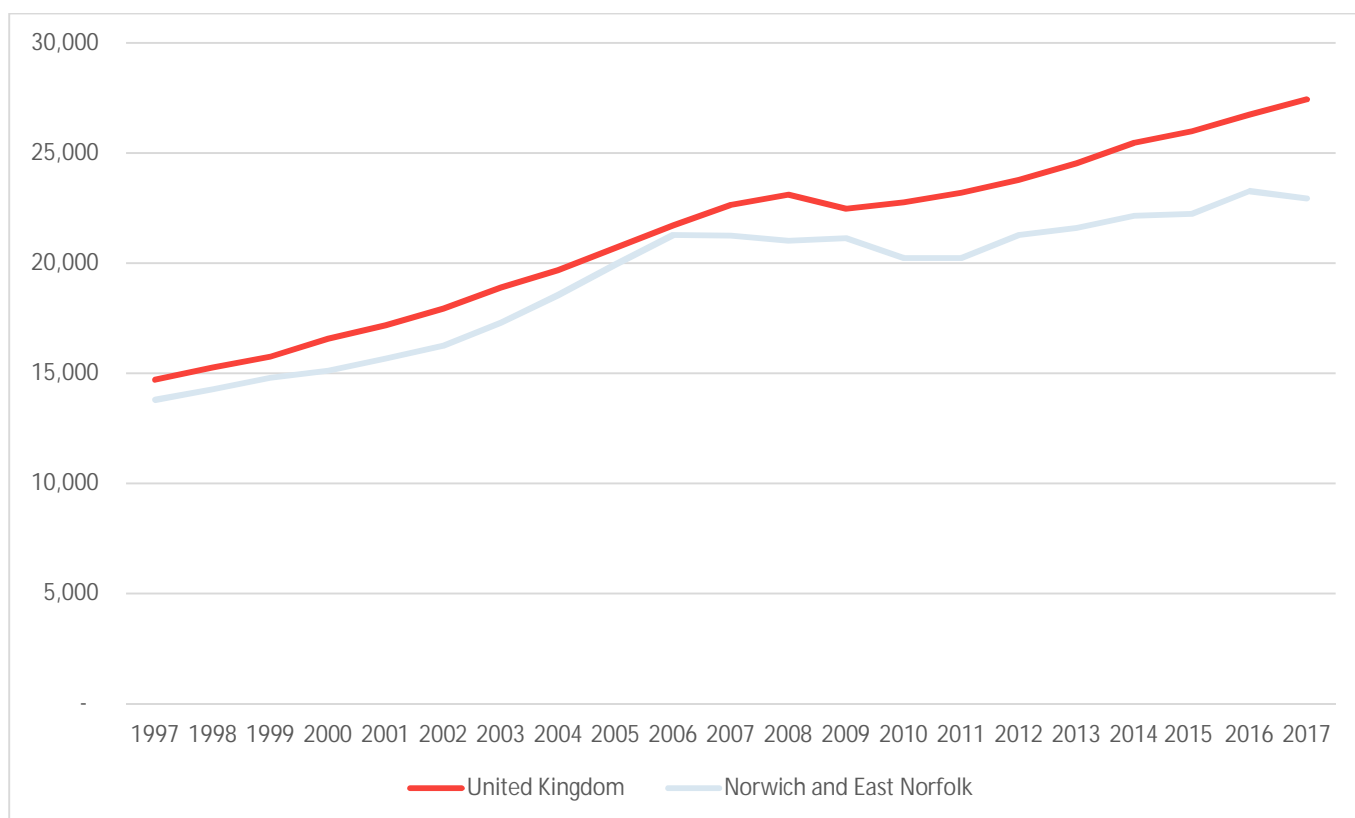


Figure 1 - GVA per head trends 1997 to 2017 (ONS)

It has been proven that enhanced transport connectivity can boost productivity by enabling workers to have better access to job opportunities whilst businesses have access to a wider pool of skilled labour. This is the theory underpinning agglomeration whereby productivity will be enhanced in areas where there is better transport connectivity.

³ <https://www.visitnorfolk.co.uk/Tourism-info-and-stats.aspx>

As discussed later in this narrative, improvements in agglomeration (and hence productivity) are very much in scope for Norwich and the Western Link given that the city is one of DfT's core Functional Urban Regions (FURs) and has a substantial economic hinterland surrounding the city. This means that a significant new piece of transport infrastructure such as the Western Link will generate agglomeration improvements in this relatively urbanised area via the substantial improvements in journey times. Figure 2 is taken from DfT WebTAG⁴ and clearly shows the FUR (core and hinterland) covering the Norwich area.

Of particular note is the fact that Norwich is the only FUR in the East of England, thus reinforcing the point that the city is a major regional generator of economic activity and will benefit further from the scale of transport connectivity associated with a scheme such as the Western Link.

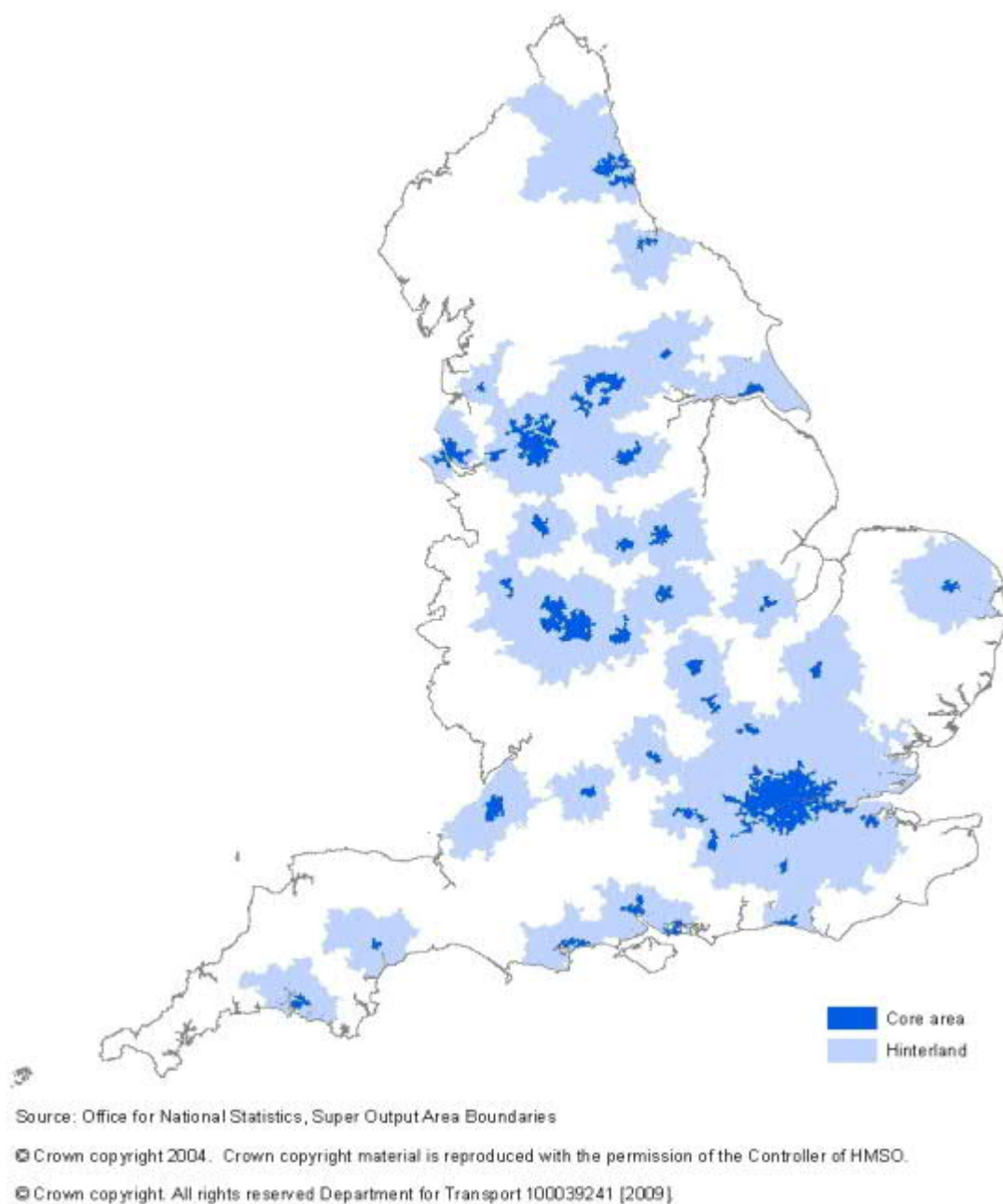


Figure 2 – Functional Urban Regions in the UK (DfT WebTAG)

⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/712869/tag-unit-A2-4-productivity-impacts.pdf

As well as low productivity correlating with lower wages, the city's productivity gap can be attributed to high levels of congestion, which have resulted in poor labour mobility, impacted business operations and tourist movements.

Continued economic development is dependent on attracting new businesses and increasing the productivity of existing firms. It has been recognised by regional and local governing bodies that current conditions on major transport links in the Norfolk-Suffolk cluster and, more specifically, in the Greater Norwich area, are a constraint to development. Providing the necessary supporting infrastructure and upgrading and enhancing the Major Road Network (MRN) and part of the Strategic Road Network (SRN) will be essential if the area is to remain competitive, able to enhance regional labour mobility, unlock further housing and infrastructural developments and ultimately, help achieve economic growth.

KEY CHARACTERISTICS OF THE CURRENT ROAD NETWORK

In July 2019, a new 3.9-mile dual carriageway road, the Norwich Western Link (NWL), was outlined to provide crucial infrastructure between the western end of Broadland Northway and the A47 via a new junction at Wood Lane (B1535). The new Wood Lane junction forms part of Highways England's plan to dual the A47 between North Tuddenham and Easton. The NWL would significantly improve journey times between the two roads and thus serve the purpose of much faster, more reliable journeys through this part of Norwich.

The NWL is an urgent requirement to tackle increasing traffic congestion in the area. This is likely to worsen with expected long-term population and business growth anticipated to take place in and around Norwich. Delays and reduced network efficiency caused by congestion due to the poor quality and standard of the existing roads occur on the existing north-south corridors to the west of Norwich. These directly impact the quality of life of local residents from both an environmental and safety perspective as well as from a wider regional resident, business and visitor perspective.

The lack of strategic road connectivity around the north west of Norwich will constrain local and regional housing and economic growth as well as the future performance of Norwich as the primary economic centre for the sub-region. In the absence of investment in the proposed scheme, congestion on existing roads is expected to worsen, leading to increased journey times for residents, visitors and businesses.

Delays from increased congestion will be a cost borne by businesses and will restrict business efficiency, productivity, investment and access to local, regional and global markets. The continued routing of local and regional traffic on to capacity-constrained north-south roads (and through rural communities and Norwich's outer ring road) will continue to impact adversely on safety, the environment and quality of life.

The need for improved connectivity towards the west and north west of Norwich has been identified by various local stakeholders, including New Anglia LEP, Norwich City Council, Broadland, South Norfolk, Breckland and North Norfolk district councils, the Norfolk and Norwich University Hospital, the Norwich Research Park and Norwich International Airport. The NWL increases road capacity on the highway network to cater for this additional demand and provides traffic management and junction improvements on the current network. There is also overwhelming public support as identified in the 2018 and 2019 public consultations for a new road linking the A1270 Broadland Northway with the A47 Norwich Southern Bypass. This will reduce 'rat-running', improve journey times, reduce local air quality impacts, reduce congestion and improve the quality of life for local communities.

Transport Links

To provide further context for this economic narrative, a summary of the main transport modes is provided here. This 'sets the scene' with respect to transportation in the area served by the proposed NWL.

ROAD

One of the most important road corridors is the 100 kilometre section of the A11 connecting Cambridge and Norwich. This has benefited from substantial improvements in road connectivity following completion of the dualling on the A11, which has considerably reduced road journey times. Continued investment in the road network is required to fulfil aspirations for improved connectivity between the region (including Norwich and King's Lynn) and London.

The A47 trunk road is also important in the area as it is the main east to west road corridor linking Norwich with Great Yarmouth and the coast to the east as well as with King's Lynn and Peterborough to the west. Several sections of the A47 remain single carriageway, however, and as WSP's business consultation work revealed in Spring 2019 (in support of A47 improvements), this imposes significant delays and costs on local businesses. For several local haulage, distribution and logistics companies, congestion and delays on the A47 are adversely affecting their businesses.

The NWL will therefore help traffic flows on the A47 near Norwich and will reduce the congestion and delays that these types of companies typically face.

BRIDGE CROSSINGS

There are a small number of existing river bridge crossings that are also constrained. Some of these are unsuitable for heavy vehicles and others cannot be appropriately widened or strengthened in their current location due to the Special Area of Conservation and SSSI Ecological designations which apply to the River Wensum.

Additionally, the existing minor rural roads through the North Western Quadrant are less than six metres in width and often feature tight bends and narrow verges. Although improvements to local roads have been implemented to resolve long-standing HGV traffic problems in Hockering, there are still existing pressures on the local road network.

RAIL

Norwich has rail links to key cities and towns across the UK. Norwich is 114 miles from London Liverpool Street, 60 miles from Cambridge and 40 miles from Ipswich. Rail plays a key economic role through the provision of key commuting routes to the employment hub of London, as well as providing visitor access to and from major tourist attractions in the capital, Cambridge and Great Yarmouth. There has also been investment to improve rail connectivity for passengers and freight users, with rail passengers now able to travel from Norwich to London in 90 minutes (fastest journey time on selected services only) and from Norwich to Ipswich in 30 minutes.

Despite this investment, the network still requires extensive investment and there is a widespread perception across the region that the East of England and Anglia areas have not benefited as much as other areas with respect to rail infrastructure investment. The relatively poor rail connectivity to and within the region has added to the perception that certain parts of the region are peripheral and poorly connected. Although the current Train Operating Company (TOC) in the region is investing in a completely new train fleet, many infrastructure constraints remain and thus there is a need for further investment to improve capacity, reliability and frequency on the network.

AVIATION

Norwich's national and international transport links act as a catalyst for the local economy. Norwich is also served by an international airport, Norwich Airport, located 2.5 miles to the north of the city. The airport has a catchment area which encompasses 1.5 million people across Norfolk, Suffolk and North

Cambridgeshire. The airport handled 539,245 passengers in 2018/19, a 3.2% increase compared to the previous year, making the airport the busiest in East Anglia. Not only does the airport serve as a regional transport hub, it is also a major employment centre in its own right, directly employing 260 employees and indirectly supporting 1,240 jobs in the local economy and wider tourism sector (a key sector in the local economy). The airport contributes approximately £70 million to the regional economy and is further predicted to contribute £160 million to regional GVA through direct⁵, indirect and induced employment by 2045.

Despite these positive impacts, passenger numbers are significantly lower than the ‘peak’ of 772,666 in 2007. The relative downturn in the airport’s throughput since this time is due to several factors, including poor regional transport connectivity. Access to the airport from the west of Norwich is constrained by the lack of connectivity from the A47 to the A1270 Broadland Northway. This results in increased journey times and adversely affects potential business productivity as well as deterring visitors to the area.

Norfolk

THE ECONOMY OF NORFOLK

The economy of Norfolk is largely self-contained due to its peripheral/coastal location as well as the relatively poor connectivity associated with the transport network. In Norfolk, almost two thirds of VAT-registered enterprises are rurally-located, whereas the average in England is approximately one third⁶.

Norfolk’s labour market is constrained by its coastal location but also due to the distance from other regional cities and the limited connectivity of the transport network. The number of workless households in Norfolk stood at 16% between January and December 2018, higher than the East of England and Great Britain (GB) average of 12.2% and 14.3% respectively. Additionally, the employment by occupation breakdown shows that the types of jobs within Norfolk are lower-skilled compared to the East and GB, demonstrated by the higher percentage of workers in Major Group 6-7 and the low number of workers in high skilled occupations in Major Group 1-3.

Table 1 - Employment by occupation (Apr 2018 - Mar 2019, ONS Nomis)

Employment Group	Breakdown	Norfolk (%)	East of England (%)	Great Britain (%)
Major Group 1-3	1 - Managers, Directors and Senior Officials 2 - Professional Occupations 3 - Associate Professional & Technical	40.8%	46.5%	46.8%
Major Group 4-5	4 - Administrative & Secretarial 5 - Skilled Trades Occupations	21.6%	21.1%	20.1%

⁵ <https://www.norwichairport.co.uk/wp-content/uploads/Norwich-Airport-Draft-Masterplan.pdf>

⁶ <https://www.norfolkinsight.org.uk/wp-content/uploads/2018/09/2013LEAupdate.pdf>

Major Group 6-7	6 - Caring, Leisure and Other Service Occupations 7 - Sales and Customer Service Occupations	18.3	16.2%	16.5%
Major Group 8-9	8 - Process Plant & Machine Operatives 9 - Elementary Occupations	19.3%	16.1%	16.6%

The gross weekly pay received by residents in Norfolk is significantly lower than the East of England and Great Britain averages. The average pay in Norfolk was £515.10 in 2018 compared to £590.30 in the East of England and £571.10 in Great Britain, with the level of qualifications obtained impacting wages within the area. In the January 2018 to December 2018 period, only 29.6% of Norfolk’s residents had a ‘NVQ4 and above’ qualification (Degree level and above) compared to 35.2% and 39.3% in the East of England and Great Britain respectively.

Another major factor within the area is underemployment. In 2017, Norfolk had a full-time employment rate of 63.7%, almost 4% lower than the Great Britain average of 67.5% and 1.5% lower than the East of England average⁷. The level of out-of-work benefits measured by the Claimant Count is also lower in Norfolk than the Great Britain average. Norfolk and the East of England had a rate of 2.1% in July 2019, 0.7% points lower than the GB average of 2.8%.

The lack of full time employment will have implications with respect to GVA per head. Following on from the earlier discussion about productivity (GVA per head) trends, Norfolk and Suffolk were severely affected by the 2008 recession, with GVA per head declining from 2006 and not recovering fully until 2011. Figure 3 and **Error! Reference source not found.** show the long-term reductions in economic performance compared with the UK average.

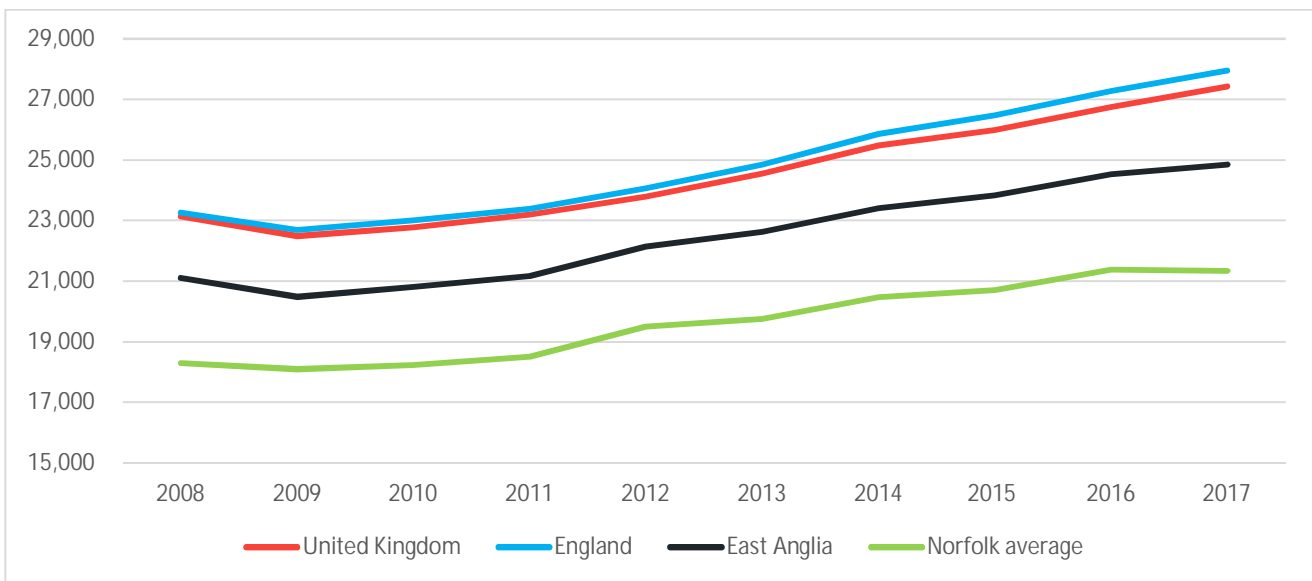


Figure 3 - GVA in Norfolk vs selected areas (ONS)

⁷ <https://www.nomisweb.co.uk/reports/lmp/la/1941962835/report.aspx>

KEY INDUSTRIES

Norfolk has a diverse range of sectors that drive economic activity and growth in the area. As an example, Great Yarmouth and Lowestoft contain the world's largest market for offshore wind with several major infrastructure investments being made in recent years. Capital investment of £50 billion in the clean energy sector is planned for the region by 2020 with the investment funding the world's largest windfarm off the east coast. In addition, the proposed Sizewell C nuclear power station will generate 25,000 jobs and further opportunities with respect to the decommissioning of existing nuclear power facilities and provision of offshore installations.

Advanced manufacturing and engineering are also important sectors in the region and are typical of the area's economic diversity. This links into a supply chain of specialisms such as agriculture and food production, civil aviation, transport, pharmaceuticals and energy. Located in Norwich, Hethel Engineering Centre is the regional hub for innovation and technology and has the potential to expand to meet the demand for incubation space in this growing sector. Other companies in the area include Lotus at Hethel and Multimatic in Thetford (Multimatic is a specialist in vehicle dynamics).

Other key sectors cover the food processing industry with Bernard Mathews, Kettle Foods and Pasta Foods being major employers in Norfolk. Large manufacturers such as Group Lotus and Smurfitt Kappa can also be found in the rural areas of Norfolk⁸. The agriculture, food and drink sector is also important to the local economy as 111,136 jobs are supported in the county across a large number of well-known brand companies. Although traditional agricultural production has been in decline in recent years, higher value food processing has been rapidly increasing since 2010, with growth between 2010 and 2015 of 30.9%.

Within Norfolk, there is also a sizable aviation sector which specialises in maintenance and repairs. There is also a sector servicing the extensive offshore industry. In 2013, the International Aviation Academy was founded to address significant skill shortages across all areas of aviation in the UK including aircraft overhaul and maintenance. This partnership has been developed by Norfolk County Council, the New Anglia Local Enterprise Partnership and Norse Group, plus supporting partners Norwich City Council, Norwich Airport, KLM UK Engineering, University of East Anglia, City College Norwich and the WT Partnership. It was estimated that the Aeropark could create 1,400 jobs and generate over £50 million of economic benefit in the local economy when fully developed.

Norwich

THE ECONOMY OF NORWICH

The economy of the East of England has been performing strongly in recent years. The region now has three of the ten fastest growing cities in the UK (Norwich, Ipswich and Peterborough). Focusing on Norwich, according to The UK Powerhouse study, the city was ranked eighth nationally for annual GVA growth in Quarter 1 (Q1) of 2019, with a growth rate of 2.4%⁹.

Despite this, Norwich's employment rate is still lower than the East of England average of 81.2% whilst it has also historically generated much lower GVA compared to the UK average (and compares poorly to the regional average for the East of England). As shown in Table 2, GVA growth in Norwich and East Norfolk between 2010 and 2017 has been lower, at 13.3%, when compared to regional and national rates.

⁸ <https://www.visitnorfolk.co.uk/Locate-Norfolk.aspx>

⁹ <https://www.irwinmitchell.com/newsandmedia/2019/july/uks-most-sustainable-cities-revealed-in-new-report>

Table 2 - GVA 2010-2017, selected areas (ONS)

	2010 – GVA (Income Approach) per head of population at current basic prices	2017 – GVA (Income Approach) per head of population at current basic prices	Growth between 2010-2017, %
East of England	21,034	25,217	19.9%
East Anglia	20,810	24,850	19.4%
Norwich and East Norfolk	20,228	22,926	13.3%
England	22,998	27,949	21.5%

The outcome of relatively low GVA growth includes an increasing ‘productivity gap’ whereby the amount of GVA produced on a per head basis is low with the gap to other areas’ productivity levels also growing over time.

The productivity gap can be viewed as the total GVA Norwich would produce if the productivity per worker was at the UK average. Low productivity also correlates with low wages with gross weekly pay within Norwich significantly lower than both the East of England and Great Britain averages.

Figure 4 Error! Reference source not found.shows that in 2018, for example, the average wage in Norwich was £501.40 per week, which is lower than the £558.10 and £570.90 average for the East of England and Great Britain respectively. The wage gap has also widened over the last decade when compared to national and regional levels. The gap between Norwich and the East of England has increased marginally from £54.80 in 2008 to £56.70 in 2018, and the gap between Norwich and Great Britain also increased from £64.80 in 2008 to £69.50 in 2018.

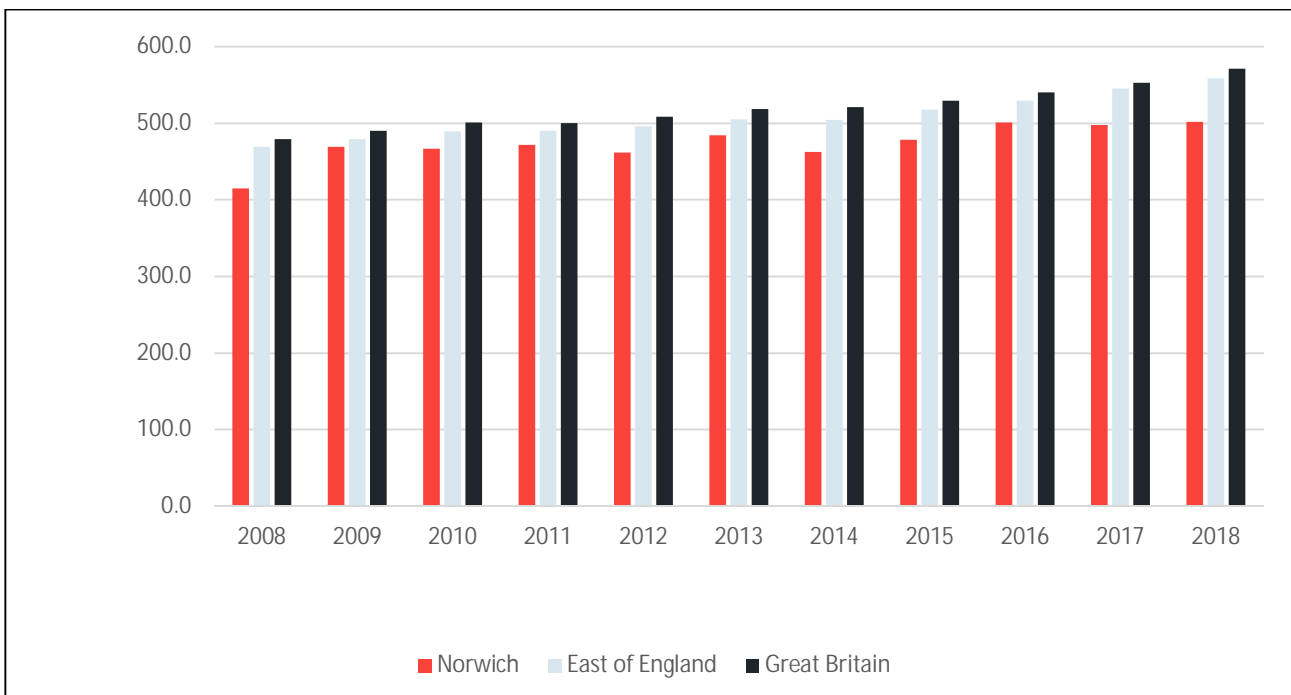


Figure 4- Gross Weekly Earnings 2008-2018 (ONS Nomis)

A further economic outcome of low paid work is a negative multiplier effect. Less disposable income reduces aggregate consumption levels, and the weaker demand for goods and services can lead to adverse economic consequences for firms as flat consumer spending leads to higher levels of spare capacity. These outcomes will present a further barrier to investment. In the long run, this will hold back GDP and growth in living standards.

One factor influencing future earnings is the educational attainment and worker skill levels within the area. Despite being home to many education institutions which include the UEA, Norwich currently has one of the worst GCSE attainment rates in the country and in terms of social mobility, Norwich is ranked in the bottom 10% of local authorities in the country. Only 38.5% of the population (aged 16-64) in Norwich have a NVQ4 and Above Qualification (Degree and above) compared to 39.3% in Great Britain.

All of the above indicators demonstrate that Norwich and the wider region will benefit from enhanced transport connectivity, especially as good connectivity is widely recognised as a prerequisite for development, economic growth and higher levels of productivity.

In this light, the NWL scheme will improve access to Norwich, the primary economic centre for the wider sub-region, and will help facilitate the retention and expansion of existing businesses whilst also encouraging additional inward investment and new businesses. Faster and more reliable journeys will reduce business costs, increase labour market catchments, improve access to key strategic growth sites and support the visitor economy. These are the factors that will help attract investment and will support advancements in innovation, research and development. There will then be scope for considerable 'trickle down' benefits in the form of higher skill levels within the local labour market.

KEY INDUSTRIES

Norwich has a highly active labour market with low levels of unemployment. To demonstrate this, 80.8% of the city can be classified as economically active, compared to 78.7% for Great Britain. This is reflected in the city maintaining a strong financial and insurance services sector. It has one of the largest general insurance markets in Europe, with one in three employees working in finance and business services. Over 50 regional, national and international companies are based in the city, including major companies such as Aviva and Virgin Money.

The city is also home to blue chip companies (such as Handelsbanken, Marsh, KPMG and Swiss Re – as well as Aviva and Virgin Money) and an increasing amount of national and local companies with an international reach (such as Validus-IVC, Williams Lea, Allan Boswell Insurance, Grant Thornton and Mills and Reeve). Although it is well connected to nearby cities (e.g. the A11 connects Norwich with the strong, fast-developing economy of Cambridge), traffic congestion and delays are commonplace and unless addressed, are likely to constrain Norwich's connectivity and hence economic potential. Given that the development of the cluster of financial industries within Norfolk (and Norwich) will be central to boosting inward investment and growth, transport connectivity will be vital and by helping access directly into and out of Norwich, the NWL has a major role to play.

Public Policy Context in Relation to the Scheme

STRATEGIC FIT

This section considers the relevant legislation and policy at a national, regional and local level, identifying how the NWL scheme links to a variety of different objectives.

The scheme has a strong strategic fit with national, regional and local plans and policies, as cited in the Strategic Case. The NWL aligns with and contributes to a variety of strategies at every level, most notably on how the transport infrastructure investment will unlock residential and employment growth while providing relief and added safety to existing road users in the west Norwich area. Table 3 summarises these plans and strategies and explains their link to the scheme.

Table 3: Public policy and strategies

Level	Strategy / Plan	How objectives relate to NWL
National	National Planning Policy Framework (NPPF)	<ul style="list-style-type: none"> ■ The provision of the new link will increase accessibility to existing planned and potential local and regional areas of growth through improved accessibility ■ Will facilitate and encourage new development and therefore increase access to existing and new homes while opening up land on existing links to potential development ■ The reassignment of traffic away from inappropriate routes through villages and on narrow lanes will help to reduce local emission levels, provide a safer environment for road users and pedestrians and encourage active travel modes
	National Infrastructure Delivery Plan 2016-2021	<ul style="list-style-type: none"> ■ The provision of a new link will improve accessibility to business and employment encouraging investment ■ Improved accessibility and connectivity will help to streamline local business and improve accessibility to the SRN and MRN ■ The provision of the new link will improve accessibility to new and existing housing while helping to encourage new housing locally
	National Policy Statement for National Networks (NPSNN)	<ul style="list-style-type: none"> ■ The NWL will improve network capacity and connectivity around Norwich providing improved resilience and supporting economic growth
	Highways England: Strategic Business Plan 2015-2020	<ul style="list-style-type: none"> ■ A new link will provide improved safety through the reduced accident rate associated with the higher standard of link while the new link will be more direct and shorter further reducing accidents. ■ A new link will significantly improve user satisfaction by removing congestion and increasing accessibility and connectivity. ■ A new highway link will help to support and encourage economic growth through: <ul style="list-style-type: none"> – new routing option and improved accessibility – reduced journey times – increased connectivity ■ The proposed link will promote a more efficient transport system in the area, improving north-south access to the regional centre of Norwich. ■ A new link will remove traffic from existing routes improving conditions for cyclists, walkers and other vulnerable users on the existing routes between the A47 and A1067.
	Highways England: Delivery Plan 2015-2020	<ul style="list-style-type: none"> ■ The Plan recognises the importance of supporting economic growth through the creation of a more free-flowing, integrated and accessible network. Investment in improved connectivity between the A47 and A1067 within the study area would help deliver Highways England's strategic outcomes.
	Norfolk and Suffolk Economic Strategy (NSES)	<ul style="list-style-type: none"> ■ The NWL would help to unlock future economic growth in the region creating significant accessibility and journey time efficiencies for the regions key sectors such as agri tech, energy, information and communications technology (ICT) and digital creative, and life sciences.

Level	Strategy / Plan	How objectives relate to NWL
	Integrated Transport Strategy (ITS)	<ul style="list-style-type: none"> ■ The ITS outlines that the NWL will help deliver the economic strategy for Norfolk and Suffolk, that it will improve connectivity to centres of excellence and will enhance the quality of life for residents in the area, connecting the new A1270 Broadland Northway from the A1067 to the A47 west of Norwich, to improve the flow of traffic around the growing communities prioritising infrastructure that will facilitate the delivery of significant housing and jobs growth.
Regional	Connecting Norfolk – Norfolk’s Local Transport Plan for 2026 (April 2011)	<ul style="list-style-type: none"> ■ Provision of a new link will reassign traffic from existing links onto a higher standard new link thereby reducing maintenance requirements. ■ Provision of a new link will remove traffic from existing corridors improving reliability. ■ The route will either reassign traffic away from areas which may suffer from flooding or carry trips over areas of potential flooding through appropriately developed crossing infrastructure. ■ The proposed options will encompass innovative design in order to protect the environment. ■ The development of the new link will also divert traffic away from existing lower standard routes, helping to protect and enhance the local natural and built environments adjacent to these routes.
	Norfolk Strategic Framework – Shared Spatial Objectives for a Growing County (July 2017)	<ul style="list-style-type: none"> ■ The proposed link will significantly improve access and connectivity, encourage investment in the local area including high added-value jobs at the research park and UEA ■ The proposed scheme will lead to an overall reduction in congestion currently experienced on and between the A47 and A1067, and will limit increases in greenhouse gas emissions ■ The potential options will encourage investment locally of both employment and housing through increased accessibility ■ The new link will improve journey times while reducing delay and congestion encouraging investment locally and regionally ■ The new link will, through reassignment of traffic, lead to improved air quality within local villages and urban areas adjacent to existing routes helping to improve the health of locals and visitors ■ Improved safety through the reduction of rat running trips and the associated speeding in certain locations will further benefit those in local communities.
	Norfolk Strategic Infrastructure Delivery Plan (2018 – 2028)	<ul style="list-style-type: none"> ■ With respect to the NWL the document states that “to connect the Norwich Northern Distributor Road at Taverham to the A47 west of Norwich – has been identified as one of the county council’s priority road infrastructure schemes. Scheme development work has commenced, looking at the business case for such a link and to consider possible routes.”

Level	Strategy / Plan	How objectives relate to NWL
Local	Norwich Area Transportation Strategy	<ul style="list-style-type: none"> ■ The reassignment of trips away from the existing routes between the A1067 and A47 will help to encourage more active travel trips on these routes, while the new link will improve accessibility to employment and services locally and regionally ■ Reassignment of trips on to the new link will significantly improve the journey times of both the reassigned trips and those trips remaining on the existing routes ■ Reassignment of trips onto the new direct higher speed link will help to limit increase in carbon emissions (this does not take account of electrification of vehicles) ■ Removal of trips on local roads could encourage travel by sustainable modes ■ The reassignment of trips from the existing lower standard roads on to the proposed higher standard NWL will produce a lower accident rate ■ Development of a new link will improve the area's and region's accessibility. Improved journey times will help promote an efficient economic environment while reduced traffic flows on existing routes will encourage more tourism ■ The introduction of the new link should reduce the incidence of rat running and associated speeding. Removing traffic from the local roads should reduce severance in the villages and residential areas affected
	Norwich City Council Local Plan	<ul style="list-style-type: none"> ■ With the provision of the new highway link it is considered that trips will reroute from roads within Norwich reducing congestion, improving accessibility and helping to support housing within Norwich, while also supporting investment to the west of the city and helping to provide jobs.
	South Norfolk District Local Plan	<ul style="list-style-type: none"> ■ The inclusion of the NWL into the road network will help to encourage growth in the Easton and Costessey areas as well as the region in general through improved accessibility and connectivity
	Breckland Council Local Plan	<ul style="list-style-type: none"> ■ The provision of a new highway link between the A47 and A1067 will improve accessibility and connectivity locally and regionally encouraging investment and new housing.
	Broadland District Council Local Plan	<ul style="list-style-type: none"> ■ The improved level of accessibility and connectivity associated with the new highway link will encourage investment in the local area and help to encourage housing

Based on the above, it is clear that the NWL scheme strategically aligns to many different objectives at a national, regional and local level. At all levels, these policies recognise the importance of delivering transport infrastructure to drive economic growth. The A47 and A1067 are recognised as congestion 'hot spots' and will benefit from the improved links that the NWL scheme will provide. The NWL scheme will also generate several positive outcomes, including improved safety levels, positive environmental outcomes and significantly enhanced journey times. As the agglomeration improvements described below indicate, the journey time improvements associated with the NWL will boost productivity levels and will ensure that living standards and economic growth continue in the city and wider region.

Impacts of the Proposed Scheme

The local and regional transport problems affecting the area's economic potential stem from the lack of strategic north-south connectivity between the A47 Norwich Southern Bypass, A1067 Fakenham Road Corridor and the orbital A1270 Broadland Northway to the west of Norwich. Without much improved road connectivity towards the north west of Norwich, the outcome will be a continuation of the constraints on

economic potential as well as more indirect outcomes such as lower than optimal inward investment and housing delivery.

In this section, the range of economic impacts (benefits) is described with the Level 1 to Level 3 approach adopted by DfT used to categorise the different impact types.

LEVEL 1 IMPACTS

These cover 'conventional' transport economics impacts and for the NWL Outline Business Case (OBC), will comprise all the outputs from the traffic modelling work. These cover user benefits such as modelled:

- Journey time savings;
- Vehicle operating cost savings; and
- Accident reduction benefits.

As well as these impacts, physical activity, journey quality, noise, air quality, greenhouse gases and indirect tax impacts can also be included under Level 1.

All Level 1 impacts are categorised as Established Monetary Impacts under DfT WebTAG and can be included in the Initial Benefit Cost Ratio (BCR) in the scheme Economic Case. Level 1 impacts are included in the Initial BCR as there is more certainty surrounding their calculation and robustness compared to other, more recently agreed types of impacts.

LEVEL 2 IMPACTS

These include the following three types of wider economic impacts associated with enhanced connectivity (due primarily to journey time savings – very much in scope for the NWL):

- Agglomeration improvements (i.e. each worker produces more GDP – this impact is also known as “static clustering” – the impact being ‘static’ as land use does not change);
- Output change in imperfectly competitive markets; and
- Labour supply (i.e. reduced journey times make it economically advantageous for workers to re-enter the labour market and thus generate GDP and taxation receipts for the Government).

As there is more certainty surrounding these types of wider economic impacts compared to the high level impacts covered under Level 3 (see below), they can be included in the Adjusted BCR for the NWL scheme and are thus a key part of the overall Economic Case for the scheme.

As discussed earlier, agglomeration improvements are in scope for the NWL scheme as 1) it is located within one of DfT's Functional Urban Regions (FURs) and 2) the scale of journey time improvements (and other improvements generating a significant decrease in drivers' generalised costs) will mean that agglomeration impacts are likely to be significant.

With respect to the scale of these likely agglomeration impacts, it is worth noting that although DfT WebTAG suggests that these can range between 10% and 30% of user benefits (i.e. agglomeration benefits can add between 10% and 30% to conventional benefits), more recent work by Highways England indicates that these can double conventional business user benefits as derived from the Transport Economic Efficiency (TEE) traffic modelling outputs¹⁰.

WSP are familiar with calculating Level 2 impacts based on the outputs of traffic modelling work and a Wider Impacts in Transport Appraisal (WITA) emulator tool will be used to calculate all agglomeration, 'output change' and labour supply impacts. The emulator has been approved by DfT and calculates the same series of outputs as DfT's recently released updated WITA tool.

¹⁰ Economic Growth Technical Annex: How you can assess the impact of improvements to the Strategic Road Network on the economy, Highways England, Chief Analyst's Division, 2 February 2018 (see Page 18)

The outputs from this will be a series of additional GDP impacts based on recognised methods and guidance. The additional GDP will be generated across a series of Local Authority Districts (LADs) within the modelled area. The input data used for these calculations, including employment and GDP data at LAD level, will be based on the recent dataset update provided by DfT.

A further Level 2 impact is improved reliability and this will also be calculated on the basis of the traffic modelling work (and included in monetised form within the Adjusted BCR).

LEVEL 3 IMPACTS

Level 3 economic impacts are those where there is less certainty with respect to their robustness and accuracy. This is the reason Level 3 impacts are not included in scheme BCRs. Where justified, however, they are important as they can be used to test the impact on a scheme's Value for Money (VfM) category with use of DfT guidance on 'switching values'.¹¹

Use of switching values enables the extent to which the Present Value of Benefits (or Present Value of Costs) would need to increase or decrease for the VfM category of the scheme to change to be identified.

From a wider economic impact perspective, Level 3 impacts cover the following:

- Dependent development – land value uplift (and related external impacts) from new housing developments unlocked by the transport scheme; and
- Outputs from 'supplementary economic modelling' as defined in DfT WebTAG Unit M5.3. These are as follows:
 - Additionality modelling
 - S-CGE (general equilibrium) economic modelling
 - Land Use Transport Interaction (LUTI) modelling
 - Reduced form economic modelling (i.e. agglomeration modelling as described above but this time with adjustments to the elasticity parameters).

Based on our understanding of the NWL scheme, the scope to use these approaches will be limited as there is no evidence that the scheme will unlock specific housing developments or induce transformative land use change in the area (thus precluding dependent development and S-CGE / LUTI modelling within the Economic Case).

Although there is similarly no direct evidence to date of additional jobs supported by the scheme (i.e. at new business parks and commercial developments unlocked by the scheme), there is scope to explore potential additionality impacts whereby additional employment and related Gross Value Added (GVA) impacts can be evaluated.

Additionality impacts are one of the 'Supplementary Economic Modelling' methods listed in DfT TAG Unit M5.3¹². Supplementary economic modelling methods are also listed in DfT's Value for Money Framework guidance¹³ as one of the indicative monetised (or Level 3) impacts alongside induced investment (the latter covering dependent development referred to above).

Based on MHCLG (and Homes England) additionality guidance, it was possible to establish a baseline trajectory of employment and GVA without the NWL before calculating potential impacts with the scheme in place. Alongside the Level 1 and Level 2 impacts described, the results of this additionality analysis have been summarised in a "NWL Scheme Benefits Summary Note" issued in February 2021. This note sets out

¹¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/627490/value-for-money-supplementary-guidance-on-categories.pdf (see sections on 'switching value(s)' throughout the document)

¹² <https://www.gov.uk/government/publications/webtag-tag-unit-m5-3-supplementary-economic-modelling-may-2018>

¹³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918479/value-for-money-framework.pdf

the overall potential economic benefits of the NWL scheme and is intended to demonstrate these to a wider audience.

The additionality impacts are different to dependent development-based housing land value gains that are typically reported in Economic Cases. Under the latter, dependency is based on traffic model runs with/without the new housing developments. As reported above, however, there is no evidence that the scheme will unlock specific housing developments so dependent development-based Level 3 impacts are not included in the Economic Case in the OBC.

Finally, as well as the economic impacts under Level 3, a range of other, non-monetised impacts can be included. These include security, severance, accessibility, townscape, historic environment, landscape, biodiversity, water environment, affordability and access to services. As the titles suggest, many of these are 'social and distributional' and 'environmental' impacts so will be covered by other workstreams as part of the OBC preparation process.

They are relevant, however, as they also inform the Economic Case and final VfM category.

This economic narrative concludes with a discussion of some of the overarching economic themes relevant to the NWL.

WIDER ECONOMIC IMPACTS - GENERAL

The NWL will help Norwich maintain its position as a driver of economic growth in the East of England. Productivity levels and economic activity are currently constrained without adequate infrastructure being in place. A longstanding partnership between the three district councils and the County Council has delivered a joint Core Strategy which includes plans for large-scale job creation. Given a central part of the strategy includes the need for 27,000 new jobs to be provided by 2026, the NWL will definitely assist this objective as much improved transport connectivity will help attract inward investment.

Tourism is also one of the key sectors within the area. Tourism supports 65,398 jobs in the region (18.4% of all employment) and contributes £3.2 billion to the local economy. Many visitors will travel via the A140 which runs north-south from the northern edge of Norwich adjacent to the Airport towards Cromer. Visitors accessing this route from the A11 or A47 will need to travel through the North Western Quadrant (NWQ) and the NWL will therefore provide better connectivity to the North Norfolk coast from the west. This will also alleviate pressure on the Norwich outer ring road during the seasonal peak times of the year.

IMPACTS ON BUSINESSES

The absence of the NWL is likely to affect business investment and growth in the future, both locally and regionally. Several key employers are located in or adjacent to the study area (including the Food Enterprise Zone, the Norfolk and Norwich University Hospital (NNUH), the Norwich Research Park (NRP) and Norwich International Airport). The lack of an appropriate western link restricts accessibility to these businesses both locally and in relation to areas to the west of Norfolk and the Midlands.

Given the economic importance of Norwich Airport, the NWL will help to provide a more appropriate and reliable primary route to the airport and will support future employment growth at the airport. With expected passenger numbers forecast to increase to 1.4 million and an additional £170 million generated in the local area, the scope for the NWL to support this planned expansion is considerable.

IMPACT ON COMMUTER TRIPS

Within the area, there is a high concentration of car journeys which puts pressure on the local road network (even though many of these journeys are relatively short distance). The Option Assessment Report (OAR) for the scheme clearly shows that the dominant mode of travel to work within the study area is by car whilst

there is a large concentration of commuting into Norwich city centre, NNUH and other wider locations, including Attleborough / Wymondham and Dereham. Many of these journeys will benefit from the NWL as they will be able to avoid the local road network and thus make faster, more reliable journeys. As origin-destination data demonstrates, these trips could potentially be removed from a large part of the existing network and attracted on to the NWL.