

Norfolk Strategic Infrastructure Delivery Plan 2021

December 2021

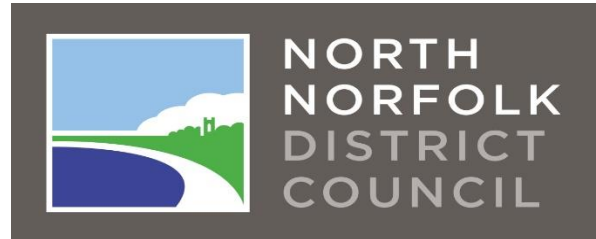


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Introduction

Norfolk County Council (NCC) and its partners are determined to unlock Norfolk's full potential. To make this happen we are working together to ensure existing and planned infrastructure links people to jobs, homes to local amenities and business to customers. Work is already underway to achieve our social, economic, and environmental aspirations for today whilst making Norfolk future fit for the challenges of tomorrow.

The Norfolk strategic infrastructure delivery plan (NSIDP) pulls together information on the key infrastructure needed to deliver economic growth in Norfolk. It is a working document that will be reviewed on a regular basis as information becomes available and projects progress through to delivery. The Plan will help NCC and partners to co-ordinate implementation, prioritise activity and respond to any funding opportunities. An online map showing all of the projects and key information can be found: [Norfolk Strategic Infrastructure Plan Map](#)

All the information in the NSIDP is correct as of the date of publication and will be reviewed on a regular basis, the plan has been developed by assessing the work required for each project to progress forward and where appropriate identify funding opportunities to carry out this work.

The Town and County Planning Association published (June 2018) a report: Building for the Future: The Role of County Councils in Meeting Housing Need. This report identified Norfolk County Council as a case study of best practice particularly highlighting the successes of the Norfolk Infrastructure Delivery Plan and Norfolk Strategic Planning Framework in future planning and collaboration.

The NSIDP sets out the Norfolk wide **high-level strategic infrastructure priorities** for the next 10 years. This list has been compiled in collaboration with stakeholders including internal county council departments, district councils, utility companies and government agencies. These projects align with the County Council's priority for improved infrastructure, the ambitions of the New Anglia Local Enterprise Partnership (LEP) Norfolk and Suffolk Economic Strategy (NSES), Local Industrial Strategy and the Restart Plan, District Council Local Plans, the County Council's vision and strategy including "Together for Norfolk, Together for our future and rising to the challenge together", Children's Services Local Growth and Investment Plan and the Norfolk Strategic Planning Framework agreed by all Norfolk planning authorities.

There are many other important infrastructure schemes and projects across the county. Not every project can be included in the NSIDP. For example, sitting alongside the NSIDP, there are numerous more detailed work streams generating projects in areas such as sustainability, renewable energy, and green economy. The details of some of these projects can be found in proposed works supporting the County Council's Environmental Policy and Norfolk Strategic Planning Framework amongst others. All these works form part of a comprehensive range of infrastructure schemes that will support an inclusive and sustainable economy.

The NSIDP includes the **most strategic projects** that the county council, alongside partners, are actively working to progress and which have a recognised route towards delivery. Infrastructure projects in this delivery plan are appropriately in sync with the Governments Build Back Better plan for growth, which takes a transformational approach to tackling long term problems to deliver growth that generates jobs across the UK. All of the projects will deliver the physical infrastructure that is essential to deliver the ambition of achieving people's priorities, levelling up the UK and supporting the transition to net zero.

The projects included in the NSIDP are now categorised into those where Local Authorities lead the project and those where an external organisation is leading and delivering the project. This still allows us to identify all the strategic infrastructure projects in Norfolk but also direct resources, identify funding sources and target lobbying in the most effective way as different projects will have different routes through to delivery.

Some projects are further forward than others, so they have robust investment figures and implementation timelines; others are in the early stages of design and have less information. In some cases, the funding sources are clear, where Section 106 (S106) or Community Infrastructure Levy (CIL) collected from developers will provide a significant contribution. Additional details on costs and sources of funding, such as contributions from utility companies like Anglian Water will be added as projects are firmed up.

As each iteration of the NSIDP reflects the progress of these projects, this plan is also an effective tool for all stakeholder authorities to share best practices through joint officer network groups on ways to accelerate the development of these priority schemes.

Norfolk Strategic Infrastructure Delivery Plan 2021

The 2021 version of the NSIDP reflects the latest update on all the collectively agreed strategic infrastructure projects (both newly added and existing projects) across the County. Many of the existing projects mentioned below continue to progress forward and dominate the strategic infrastructure priority landscape.

East Norwich Regeneration scheme represents a “once in a generation” opportunity to unlock and shape the comprehensive development of a new high quality, sustainable urban quarter of East Norwich, linking the city centre with the Broads, delivering exemplar design, and creating a highly attractive location for living and working. The riverside regeneration potential of the sites could be maximised to create a distinct sense of place and provide enhanced connectivity with high quality

pedestrian and cycle links. The scheme has the potential to deliver significant new housing and employment development, and act as a catalyst for regeneration of both East Norwich and wider city. This could realise the long-held vision of East Norwich as a productive quarter for the future growth of the city, that could generate up to 4,000 homes, 100,000 square metres of employment space and up to 6,000 jobs. The scale of the vision has helped stimulate Homes England interest in this scheme, given its remit to accelerate delivery. A master plan has now commenced this year to determine preferred options.

In rail projects, there is also significant progress achieved in the **Ely area enhancement** scheme which is led by Network Rail. Network Rail has secured £13.1m funding from the Department for Transport (DfT) and £9.3m funding from Cambridgeshire and Peterborough Combined Authority, New Anglia LEP and Strategic Freight Network to understand the scale of the challenge to increase capacity through Ely and progress early design options for public consultation. Enhancement will significantly improve train connectivity between Norfolk and Cambridgeshire and Stansted Airport as well as the Midlands and the North of the UK. The Outline Business Case is expected to be submitted to DfT in spring 2022. Further design and development of the programme and authorisation will be subject to future funding decisions by the Department for Transport through the Rail Networks Enhancements Pipeline process.

There are also significant projects in development in the Up-and-Coming section of this plan, where a list of “bubbling under” projects is included which could graduate to the main section of the plan as they become more developed in the future. One such example is the **A149 King’s Lynn bypass**. This route is subject to extensive queuing and delays. Some pre-feasibility work has been carried out into more extensive local widening improvements on the southern section of the route between the hospital and the Hardwick junction with the A47. A key finding from the work is that traffic flows are currently about 38,000 vehicles per day. If a new road was planned to accommodate this level of traffic it would need to be of dual carriageway standard. This illustrates the inadequacy of the current road. Any scheme devised would need to include measures to facilitate improvements to public transport and the Active Travel modes of walking and cycling. Improvements to the road could also provide an opportunity to bring forward a complementary package of active travel and public transport measures across the town. Governments Large Local Major (LLM) scheme funding pot potentially offers an appropriate funding stream if it were an agreed priority for the region.

There is a current tendency for Government funding opportunities for significant transport schemes to be offered with a limited timeframe for implementation. This often means that unless initial pre business case work has been carried out, there is insufficient time to develop the project to a point where it can be delivered within the lifetime of the fund. Further work is now required on an A149 King’s Lynn bypass and complementary package of sustainable transport measures to undertake pre business case feasibility work, so the council is in a position to undertake a formal Strategic Outline Business Case (SOBC) when the next opportunity arises. Funding is being sought with a view to commencing this further work in early 2022.

Impacts of the Pandemic

2021 is still a year deeply affected by the global Covid-19 pandemic. At the time of

producing this NSIDP, the Country is still reeling from the social, economic and political impacts of the pandemic. With the successful introduction of the vaccination programme, there are however some positive signs of recovery as we emerge from the social restriction measures of the lockdown. The easing of the lockdown has helped the economy to spear ahead in the second quarter of the year with growth of 4.8%, making UK the best performance of any advanced economy. It is however, still 4.4% below pre-pandemic level. Promising signs are also shown in the job market, the number of job vacancies in the three months to August rose above one million for the first time since 2001. Again, this needs to be seen against the backdrop of one million workers still on the Furlough scheme as the scheme winds down.

In this challenging time, strategic infrastructure projects that are designed to stimulate the economic and social wellbeing of the community are more vital than ever to ensure the long-term route to recovery. There continues to be a clear shift in direction from the Government towards an emphasis on developing a **greener and cleaner economy**. The presence (and the starting of construction) of the **Great Yarmouth Operations and Maintenance** for the offshore wind energy sector in this year's NSIDP is a timely reflection of this agenda. Changes in social behaviour prompted by the pandemic including greater levels of working from home and a significant increase in online business activities meant that digital infrastructure in Norfolk needs further significant improvement. This Delivery plan recognises this, as reflected in the inclusion of ongoing development of existing projects in the Digital Connectivity sector including the **East of England Smart Emerging Technologies Institute**.

Sustainability and De-carbonisation

Climate change has become a galvanising force behind government policy. Building on the new commitments to net zero in the Climate Change Act, each of the districts has taken its own approach to supporting the government's efforts but all are unified in taking things further than the government's 2050 target. Collectively, each has adopted more challenging targets than government, both in addressing their own operations, and within their wider areas. NCC too has adopted stringent carbon targets both on its own estate and for the county as a whole by 2030. Clearly it cannot do this on its own, but partnership working with all its stakeholders will be crucial to moving towards it. Infrastructure in all its forms will need to be harnessed to achieving these goals.

Much of the emphasis of the NSIDP is around transport infrastructure needed to support the planned growth across the county. The emerging strategies and plans, including the Local Transport Plan, now seek to embed an approach towards net zero. Transport is the biggest emissions impact sector in the county, and the road improvements envisaged will take account of a de minimis approach to environmental impact, and will therefore, seek to mitigate any impact, but to leave an improved legacy going forward, fully in keeping with ambitions to ensure that biodiversity 'net gain' will be at the heart of any construction project.

Reducing the impact of transport, as the government states in its 'Decarbonising Transport Plan', is predicated on the transition to electric vehicles (EVs). 91% of transport emissions is from road transport and Norfolk has above the national average in transport emissions. Road transport is key to the movement of people and goods. Therefore, efforts will be targeted to support existing and future transport

infrastructure needs so that it can embrace the necessary electric vehicle infrastructure to facilitate the transition to a zero-emissions transport fleet. In parallel with this we will bolster the work towards expanding the quality greenways within Norfolk. These are crucial to support active travel endeavours currently planned across the county. Currently a pilot project with Norwich City Council, UK Power Networks and the County Council is underway to investigate the installation of on-street electric vehicle charging points. The aim of this work, in conjunction with the District Councils, and the Norfolk Climate Change Partnership, is to develop more wide-ranging EV charge point projects in locations which may have limited market appeal in the first instance.

Key to supporting residential and commercial growth will be to ensure that developments meet the net zero challenge, therefore, we will seek to explore opportunities that provide energy solutions with the development and energy communities both within and without the regulatory framework that we all operate within.

Key Growth Locations

Figures 1 and 2 indicate that Norfolk's key growth locations are clustered at points along the main transport arteries. Therefore, these growth corridors and the locations identified in the NSES and District Local Plans provide the spatial context for this plan.

The Norfolk Strategic Planning Framework 2020 suggests Norfolk authorities will need to collectively plan for at least approx. 4,100 per annum homes by 2036.

Figure 1 outlines the key strategic housing sites that will deliver the majority of this growth, with growth focussed around key urban areas that have existing infrastructure and services that have the capacity to support high levels of growth. It also identifies all the places in our area that are expected to grow by at least 1,000 homes over the relevant local plan period. In addition to the major urban areas of Norwich, King's Lynn, and Great Yarmouth there are groupings of towns along the A11 as well as key individual market towns that can make a significant contribution to growth.

Figure 2 identifies the major employment sites and opportunities in Norfolk crossing a range of sectors and locations. As with housing growth it shows the majority of employment sites are aligned with the urban centres and access to the trunk road network. The job growth locations have a diverse mix of high impact sector activity, but the smaller locations have mainly advanced manufacturing and agri-tech, with more life sciences in the southwest which is closer to Cambridge. There are concentrations of employment locations serving high impact sectors in:

- **Greater Norwich** – Life sciences, digital cluster, finance, and insurance
- **Great Yarmouth** – Offshore energy
- **Attleborough, Thetford and A11 Corridor**
- **King's Lynn and Downham Market** – Advanced engineering
- **Fakenham** – Agri-tech and food processing

Figure 1 Key Housing Growth Sites



Figure 2 Key Employment Sites

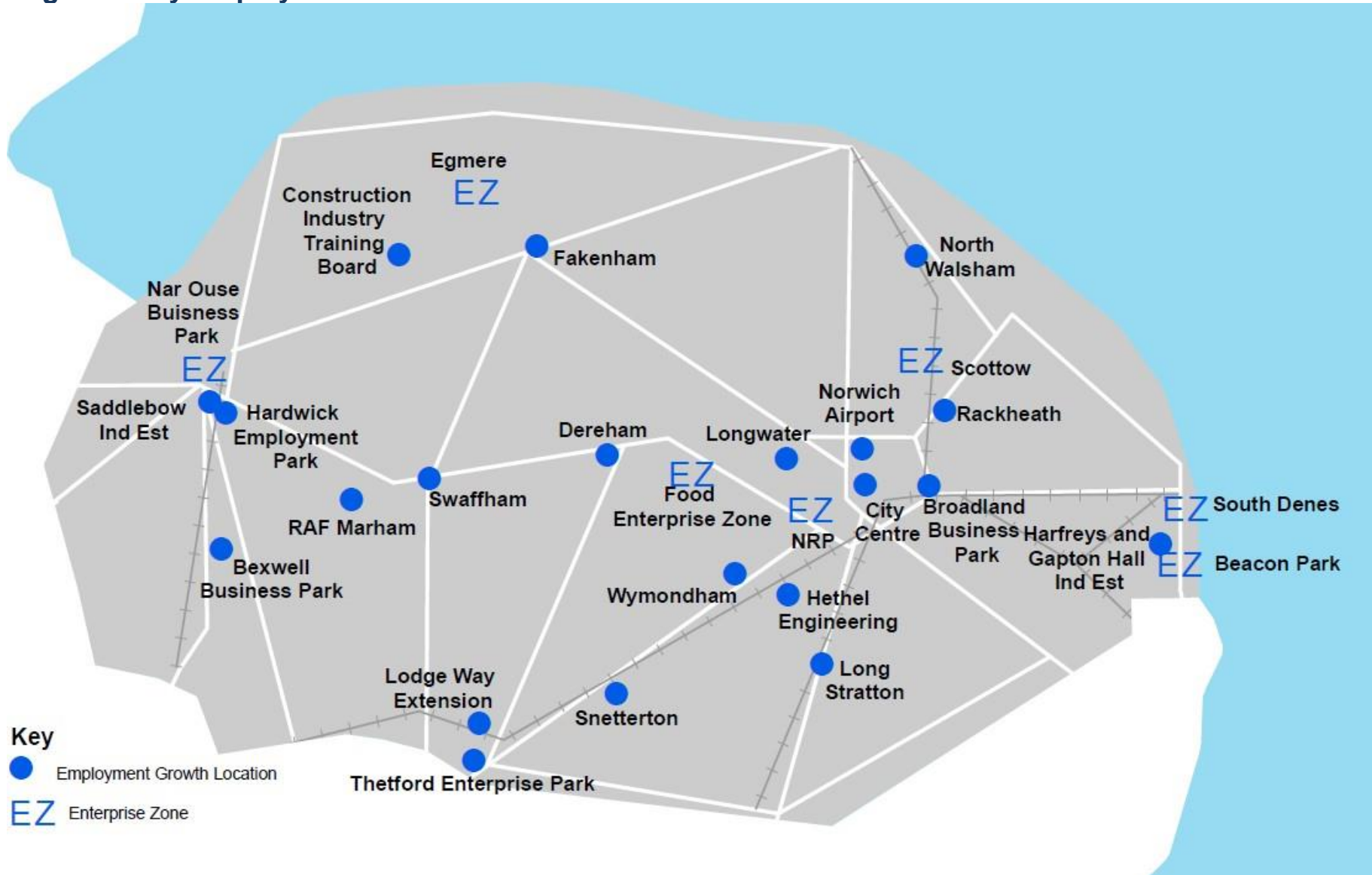
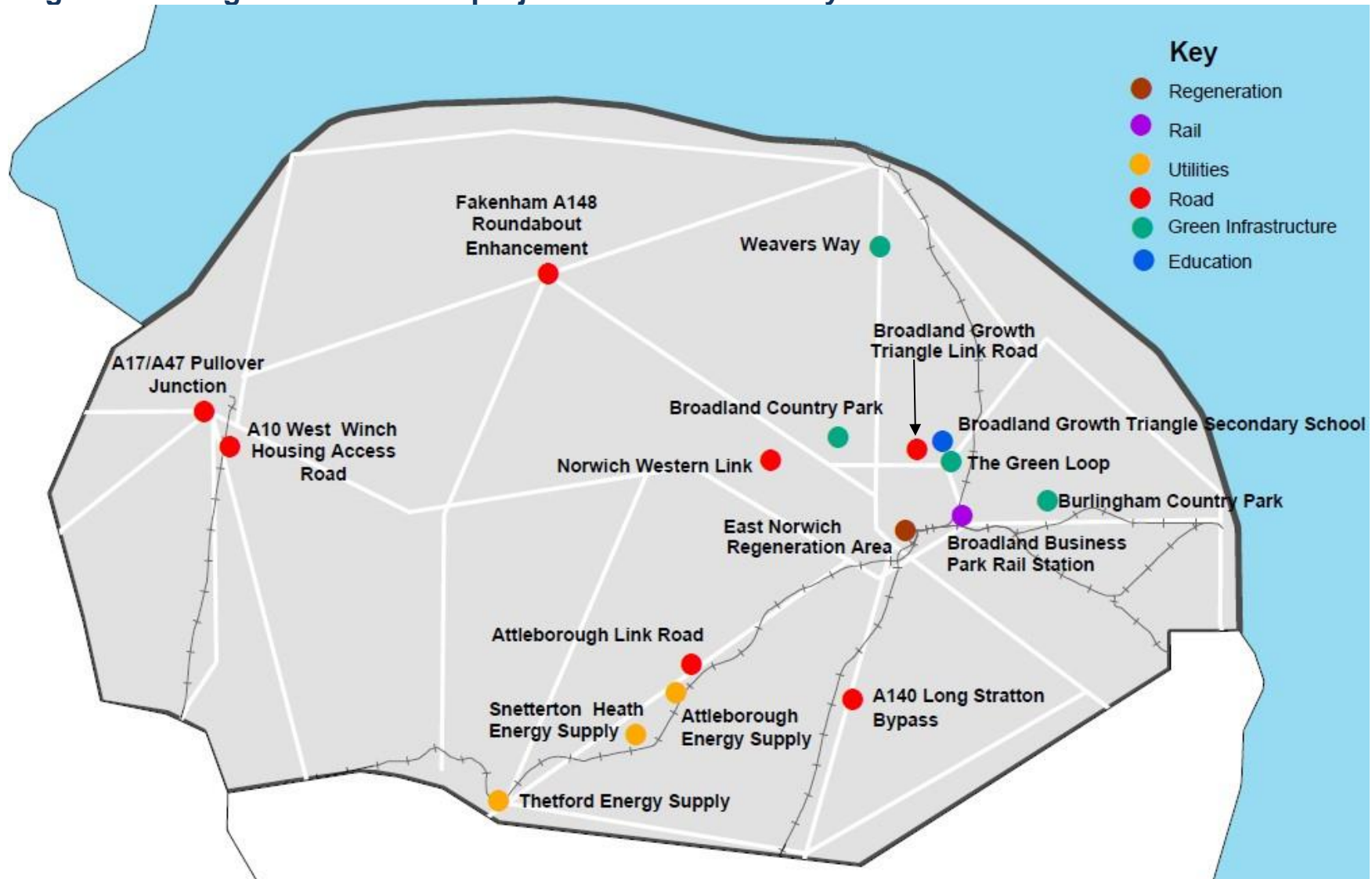


Figure 3 shows all of the projects in Local Authority control that require further development, it does not show projects that are funded, which are listed on page 12. These projects are in alignment with housing growth, jobs growth and the NSES key places, creating better places to live and work for people in Norfolk. The transport projects support major housing and employment sites, improving connectivity and reducing journey times for people and businesses. Utility projects are concentrated around urban areas and the towns along the A11, ensuring the developments at Thetford, Attleborough and Snetterton are built out as planned, and capacity for water supply and disposal is increased in Norwich and King's Lynn to accommodate growth. Utilities including digital coverage are now as essential for homes and businesses as being able to turn a tap on and should be seen in the same way with this plan identifying a range of projects that need to be progressed to deliver the planned growth in the NSES key locations. For the county to grow sustainably, green infrastructure projects will mitigate the impact of growth to the northeast of Norwich whilst flood defences and coastal erosion projects will be vital in protecting both existing and future homes and businesses. The projects do not work in isolation, and they deliver more than one outcome. The transport projects are focussed on unlocking housing and job sites. These cannot move forward without essential utilities being in place, while green infrastructure projects create innovative solutions that can alleviate environmental constraints.

Figure 3 Strategic Infrastructure projects in Local Authority control



Funding Opportunities

The funding required to pay for the strategic infrastructure projects to support delivery of growth is a key element of the individual Local Infrastructure Plans. Opportunities for funding include:

- Growing Places Fund
- City Deals
- Business Rates Pool (BRP)
- Growing Business Fund
- Enterprise Zone accelerator fund
- Enterprise Zone business rates retention challenge fund
- Local Investment Fund (LIF)
- Local Major Transport Schemes
- New Anglia Local Enterprise Partnership (New Anglia LEP)
- Homes England
- Housing Infrastructure Fund
- Private Investment
- National Productivity Investment Fund (NPIF)
- Developer funding (S106 and CIL)
- Transforming Cities Fund
- Government Major Road Network
- Access for All
- Future High Streets Fund
- Sovereign Wealth
- Industrial Strategy related funding
- Norfolk Strategic Fund
- Community Renewal Fund
- Capability Fund
- The Levelling Up Fund
- Capacity Building Fund
- Towns Fund Deal
- Shared Prosperity Fund
- Infrastructure Investment Fund

In December 2013, Broadland, Norwich City, Norfolk County and South Norfolk councils together with the New Anglia LEP, signed a City Deal with central government of which a core theme supports infrastructure delivery within the Greater Norwich area. Under the direction of the Greater Norwich Growth Board, the partners work to accelerate this delivery, funding infrastructure projects through the pooling of their Community Infrastructure Levy (CIL) contributions into one joint Infrastructure Investment Fund, and harnessing CIL supported borrowing through their City Deal agreement.

The infrastructure priorities identified in the NSIDP will assist the delivery of the NSES and District Council Local Plan growth ambitions. This plan then sets out which elements of infrastructure are required to support the identified growth locations.

Housing Infrastructure Fund

Norfolk has been successful in getting several schemes into the Homes England Housing Infrastructure Fund (HIF). The funds allocated in Norfolk are:

Marginal viability fund (single and lower tier authorities)

Scheme	Funding agreed	Works proposed	Homes unlocked
Kingsfleet Urban Extension, Thetford	£9.95m	Power infrastructure	5,000
Anglia Square, Norwich	£12m	Decontamination, archaeology, demolition, drainage, roads and parking, water, electricals, and gas	1,230
Cringleford, South Norfolk	£7.8m	Infrastructure (Homes England's Accelerated Construction Fund.)	350

Forward funding (upper tier authorities)

Scheme	Funding agreed	Works proposed	Homes unlocked
Broadland growth triangle	£57m	Infrastructure	7,720
Total	£86.75m (currently –not including Broad Growth Triangle)		14,300

The £57m bid put forward for the Broadland Growth Triangle was unsuccessful. NCC and partner authorities will continue to seek other funding opportunities to progress this forward.

Transforming Cities Fund

The County Council was successful in securing £38.4m through the Transforming Cities Fund (TCF). The application was based around the vision of investing in clean transport, creating a healthy environment, increasing social mobility, and boosting productivity through enhanced access to employment and learning. NCC have prioritised corridors and schemes that will maximise benefits and value for money and are deliverable within the challenging timescales of the funding programme. We have also tried to deliver the best possible balance between bus, walking and cycling schemes, which will be supplemented by a co-ordinated and sustained behaviour change programme that will be locally funded and delivered.

Schemes being over the period 2020-2023 include the following:

- Improvements to walking, cycling provision and public realm in Tombland;
- A contraflow lane to provide cyclists and bus passengers with a more direct and improved access to the rail station and city centre along Thorpe Road;

- Improved bus stop infrastructure, pedestrian and public realm facilities through the busy heart of the city centre;
- Widened pavements and an improved cycle and pedestrian environment along King Street improving the connection between cultural institutions, substantial new residential development and the city centre;
- Improved access and facilities at Norwich Bus Station and Norwich Rail station, new transport interchanges at the Norfolk & Norwich University Hospital and Bowthorpe and works at Wymondham rail station to enable the Cambridge-bound platform to be fully accessible;
- Interventions within the Norwich Lanes area of the city that will improve the environment for walking and cycling;
- Improvements to cycle and pedestrian facilities along the Marriotts Way;
- Provision of a new transport link between the International Aviation Academy / Airport industrial estate and Norwich International Airport for buses, pedestrians and cycles;
- Works on key junctions at Heartsease and Ketts Hill to address poor accident records;
- Expansion of Thickthorn Park and Ride site;
- Bus priority at traffic signals and along key radial public transport routes into the city; and
- Provision of new and transformative wayfinding infrastructure.

Vital infrastructure improvements that will improve travel times for bus passengers has given First Eastern Counties the confidence to invest a further £18m in its fleet and local services.

Other Non- Public Funding Opportunities

Schemes are increasingly exploring a broader range of opportunities which include a mixture of both public and private finance options to accelerate the pace of each project development.

Infrastructure Funding Statement

Amended CIL Regulations came into force on 1 September 2019, which introduced the requirement for all Local Authorities to produce an Infrastructure Funding Statement (IFS) where they charge CIL or collect planning obligations contributions through S106 agreements. Local Authorities are required to set out clearly in their IFSs how much monies they have collected through CIL and planning obligations contributions; and where these monies have and will be spent.

The County Council continues to work with all the Local Authorities across Norfolk to ensure a joined-up approach to infrastructure delivery through developer funding. This builds on existing arrangements relating to the preparation of Local Authority Infrastructure Delivery Plans.

Funded Projects at October

The following projects have successfully been funded since 2013

Completed:

- Broadland Northway (Norwich Northern Distributor Road (incl Postwick)) - £205m
- Norwich Pedal ways -£14m
- Great Yarmouth sustainable transport package (Part 2) - £3.5m
- Great Yarmouth Beacon Park Link (A47/143 Link) - £6.8m
- A11 dualling Barton Mills to Thetford- £105m
- Great Yarmouth Right Turn at the rail station - £400,000
- Great Yarmouth Rail Station to the Market Place improvement- £2m
- Great Yarmouth sustainable transport package (Part 1) - £2.5m
- Thetford Enterprise Park Roundabout- £1.5m
- Bacton Walcott Sandscaping - £19.3m
- A140 Hempnall Roundabout - £4m
- A11/Outer Ring Road Daniels Road junction improvement- £2m
- King's Lynn Lynnsport Link Road - £3.5m
- Great Yarmouth congestion-busting projects- £3.3m
- Attleborough Town Centre Improvements - £4.5m
- Norwich (various projects including Dereham Road roundabout- £2m, Cycle link extension to Wymondham- £1.3m, City centre Prince of Wales Road- £2.6m, Dereham Road widening- £3m)

Under construction or part-completed:

- Great Yarmouth sustainable transport package (Part 2) - £3.5m
- Snetterton Heath Energy Supply Phase I – New primary substation and 6MVA transformer commencing Jan 2022 – £3.6m
- Thetford Water Supply – £9.8m
- Thetford Sewerage Scheme - £2m
- Easton, Hethersett and Cringleford sewerage upgrade - £11m
- Local Full Fibre Network (LFFN) - £12m
- Internet of Things Innovation Network - £735,000
- Great Yarmouth Operations and Maintenance Campus
- Wymondham Water Supply Connections
- Great Yarmouth Third River Crossing -£120m

Planned, not yet started:

- A47 improvements £200-300m (incl Thickthorn (Norwich) and Great Yarmouth junction improvements, and dualling Blofield to North Burlingham and Easton to North Tuddenham)
- Increased Surface Water Capacity North Lynn
- Thetford SUE - £14m
- A47 Wisbech Junctions (Broadend Road)

Digital Connectivity

When Better Broadband for Norfolk (BBfN) implemented its first fibre enabled cabinet during summer 2013 there were two infrastructure providers that deployed fibre infrastructure capable of delivering Superfast broadband (24Mbps+); BT Openreach and Virgin Media. Commercial investment from these two companies provided access to Superfast broadband for 42% of Norfolk properties.

To date, BBfN has seen access to Superfast broadband increase from 42% in summer 2013, to over 95% of Norfolk properties during spring 2020. These figures are taken from the independent organisation [Think Broadband](#) data.

As well as continued investment from Openreach and Virgin Media, numerous new broadband infrastructure providers have also started to implement in Norfolk.

The BBfN Programme signed a third contract during 2019, as a result a further £13 million is being invested in deploying Fibre to the Premises for circa 9,000 Norfolk properties that do not have access to Superfast broadband. As a result, by spring 2023, Superfast broadband coverage across Norfolk is expected to increase to over 97%.

Provisions within the BBfN contract provide rebates from BT if take-up of services using BBfN funded infrastructure are higher than expected. This has already provided over £5 million Better Broadband for Norfolk funding, helping to reach 95% Superfast coverage. An expected further £11 million will contribute towards the third BBfN rollout, along with a £2 million grant from DEFRA which will provide access to Full Fibre for some of Norfolk's significant rural businesses. Overall, this will allow the county to move towards its aim of achieving 100% coverage.

UK Digital Strategy

In July 2018 the Government published The Future Telecoms Infrastructure Review that set clear, ambitious targets for the availability of full fibre and 5G networks.

The aim is to see 15 million premises connected to full fibre by 2025, with coverage across all parts of the country by 2033 and that the majority of the population will have 5G coverage by 2027. The review addressed key questions about the evolution of the UK's digital infrastructure such as the convergence between fixed and mobile technologies, and the transition from copper to full fibre (gigabit-capable) networks.

As a result of The Future Telecoms Infrastructure Review, the Chancellor announced in 2019 a £5 billion commitment to fund gigabit capable broadband for the 20% of UK premises that would be unlikely to receive commercial access to gigabit capable broadband. In March 2021 the first live phase (Phase 1b) of Project Gigabit was launched. Norfolk has been included in the first wave, which will deliver gigabit-capable connections across Norfolk to premises that are unlikely to benefit from commercial investment.

The work on Project Gigabit has already started, beginning with the public review phases, before moving into the procurement stage, which is expected to start no later than February 2022. NCC is fully committed to work with the Department for

Digital, Culture, Media and Sport (DCMS), and partner organisations to deliver Gigabit capable broadband to the hardest to reach areas in Norfolk.

DCMS recently announced that it will invest between £115 and £195 Million in Norfolk from the Project Gigabit funding, the highest figure in the East of England. This means gigabit capable connections to up to 119,000 properties across the county.

This is in addition to the roll-out of broadband by commercial providers, which is seeing gigabit broadband being deployed rapidly across the country - from one in ten households in the UK in 2019 to more than two in five today. The country is also on track for one of the fastest roll-outs in Europe and for 60% of all households to have access to gigabit speeds by the end of this year.

The Project Gigabit programme targets properties that would otherwise have been left behind in broadband companies' roll-out plans, prioritising those that currently have the slowest connections.

Local Full Fibre Programme

Working with partners NCC has secured circa. £8 million in 2019 via the Government's Local Full Fibre Network programme and a further £2m in 2020 from Ministry of Housing, Communities and Local Government. By the end of 2021 this will provide Fibre to the Premises for over 400 public sector sites, and importantly also offers potential for nearby homes and businesses to access Full Fibre connectivity via a Government Gigabit Voucher Scheme.

Scheme for rural properties with speeds of less than 100Mbps

The RGC programme launched a new voucher scheme in April 2021 for properties that are not subject to any other subsidy scheme such as Project Gigabit.

The scheme is accessible through broadband service providers who have registered to provide connections through the scheme.

Homes and businesses in rural areas of the UK may be eligible for funding towards the cost of installing gigabit-capable broadband when part of a group scheme.

Rural premises with broadband speeds of less than 100Mbps can use vouchers worth £1,500 per home and up to £3,500 for each small to medium-sized business to support the cost of installing new fast and reliable connections. These are available at the [Gigabit Broadband Voucher Scheme website](#).

Planning Regime reforms

Planning Regime reforms will support the mobile industry in the rapid rollout of 4G technology, to help reach more people, more quickly.

The Electronic Communications Code

The Electronic Communications Code regulates the telecommunications sector, reforms will put digital communications infrastructure on a similar regime to utilities like electricity and water. The aim is to ensure new technologies like 5G can be

rolled out more quickly and benefit more people.

Mobile connections

There are four main mobile network operators (MNOs) in the UK; EE, O2, Three and Vodafone. Coverage is increasing both nationally and locally over 2G/3G/4G and now 5G. Coverage improvements have been relatively slow in rural parts of Norfolk reflecting the less stringent business cases for investment in areas as there are fewer residents. The most significant improvements in rural coverage will be delivered through the Shared Rural Network programme which is described below.

Shared Rural Network

The Shared Rural Network (SRN) will see the four main mobile operators and government jointly invest £1bn in improving mobile coverage in rural areas. The target is to deliver 4G coverage to 95% of the UK by 2025. The work started in 2020, initially with £500m investment from the four MNOs to share masts in areas where there is coverage already available from one or more MNO, but not all four. The next stage will entail a further £500m investment from government to fund coverage improvements in areas where there is no existing coverage.

Through shared and new infrastructure, the Shared Rural Network is planned to increase the parts of the UK that get 4G coverage from all operators from 66% to 84%, improving consumer choice.

The mobile operators expect the Shared Rural Network will extend mobile coverage to an additional 280,000 premises and for people in cars on an additional 16,000km of the UK's roads, boosting productivity and investment in rural areas

Norfolk local authorities will continue to work proactively and collaboratively with the MNOs and their network build partners to improve mobile phone coverage including fast data services availability over 4G & 5G services.

Norfolk & Suffolk Innovation Network

A Long Range Wide Area Network is being created across Norfolk and Suffolk to accelerate Internet of Things innovation across the region. Working closely with the New Anglia Local Enterprise Partnership, Norfolk & Suffolk County Councils are installing the largest free-to-use public long-range radio network in the UK.

The network is already in use and serves businesses, private individuals, and the public sector. They can use Internet of Things sensors on the network to sense, monitor, manage and report.

Coverage can be viewed on the [TTN Mapper site](#).

Local Industrial Strategy

The Local Industrial Strategy under Information and Communications Technology and Digital Creative wants to develop the economic case for a Smart Emerging Technology Institute and testbed (SETI) – a unique advanced high-speed optical and wireless network (including 5G) which interlinks Internet of Things testbeds to support large-scale experiments and data transfer. For more detail on this project see page 87.

Education

The [Schools' Local Growth and Investment Plan \(SLGIP\)](#) for pupil place provision (for ages 4-16) sets out the strategic direction of pupil place supply for those areas of the County where pupil numbers are expected to increase in the next 5-10 years. The Plan is a response to the District Local Plan frameworks and is presented as the basis for discussion, planning and decision-making for the County Council and its partners across the increasingly diverse educational landscape. The Plan links to the County Council's schools' forward capital programme which was reported and approved at the NCC Cabinet in March 2021.

Major growth areas which will require multi-school solutions:

- Thetford Urban Extension - 5,000 new dwellings;
- North Norwich Growth Triangle (Sprowston/Old Catton/Rackheath) - 12,000+ new dwellings;
- Attleborough Urban Extension - 4,000 new dwellings; and
- West Winch/North Runcton - 4,000 new dwellings.

Thetford

Primary School places within Thetford are provided by eight schools, a mix of infant, junior and all-through primary, six of these are academies plus two community schools. A total of 360 places are available each year group across the primary phase. Pupil numbers in Thetford is showing a decline as is most of Norfolk for 2021 admissions. It is likely there will be around 60 spare places across reception for this intake.

Working with the land promoters on the Thetford Strategic Urban Extension (SUE) land for three new primary schools each of 420 places has been secured. In early 2018 the first reserved matters application for phase 1a of the development was permitted and commenced on site in 2019. This phase of development is for 344 homes of which 80 are occupied as of June 2021. This phase includes the site for the first new primary school. Children's Services have been working with the promoters of the land on when to transfer the land for the school to NCC but due to the current lack of pressure for school places, it is likely that the land will not be transferred until around September 2022. NCC Children's Services will decide then when the school will open but the earliest being September 2024.

In the longer term the three new 420 place primary schools for Thetford will meet the need in the current local plan to 2026 and beyond. The timescales for these schools depend on the progress rate of new housing in Thetford.

Secondary school places will be monitored at Thetford Academy, as additional land has already been provided at the school to allow for future expansion. S106 contributions have been secured although not yet collected as a result of the future housing allocation.

North Norwich Growth Triangle (Broadland Growth Triangle)

Existing provision is extensive and affects three secondary schools: Sprowston

Community High School, Thorpe St Andrew School, Broadland Ormiston High School, and their feeder primary phase schools. Existing primary phase provision remains a mix of infant/junior in Old Catton and Sprowston and all through primary in Rackheath and Thorpe.

A new primary school opened at White House Farm in September 2019 and is growing year by year up to 420 places to accommodate children from the housing within the area it is situated. A demographic decline in pupil numbers is evident across the County which is significantly affecting reception intake for September 2021 and many primary phase schools in this area are struggling with low numbers.

Phase 1 (733 dwellings) of the Beeston Park outline application for 3,500 homes is progressing with a strategic infrastructure reserved matters application for roads and drainage submitted. No developer has been identified although there discussions are ongoing with homes England for HIF funding.

A contract has been agreed with Taylor Wimpey on the majority of the large allocation for up to 4000 homes at Rackheath. A public consultation is expected in July 2021. Some smaller developments to the south west of Rackheath potentially totalling around 800 dwellings are taking shape and will impact on local school provision. The large development south of Salhouse Road for circa. 1,200 dwellings are on site.

Housing in this area will establish the need for several new primary phase schools and a new high school. Children's Services Officers continue to work with existing schools to ensure minimal impact on their pupil numbers. There is a long-term plan for the area and sites have been secured for new schools within the Local Plan. In the shorter-term admissions into reception each year will be monitored.

As well as two new schools at Beeston Park, further school sites have been secured for new schools on Salhouse Road, North of Smee Lane and a planned extension to double the size of Little Plumstead Primary School. The major growth in Rackheath also safeguards two new primary school sites.

NCC has made a commitment for a new secondary phase school in the Growth triangle. A site on the Rackheath development has been allocated but Children's Services officers are looking at other options until there is certainty this site will come forward.

Attleborough

The town of Attleborough is served by two all-through primary schools, namely Attleborough Primary School and Rosecroft Primary School and one secondary school Attleborough Academy. The two primary schools offer five forms of entry between them. The town is surrounded by villages with local schools. Some children in Attleborough catchment do choose a nearby village school as opposed to their local primary school in the Town - e.g., in September 2020, around 24% of Attleborough catchment children expressed a preference for a reception class

outside catchment.

Breckland District Council granted planning permission to provide up to 4,000 dwellings on land to the south of Attleborough; construction of new link road between Buckenham Road and London Road, pedestrian footbridge across the railway line to connect with Leys Lane, provision of two, 2 Form Entry primary schools; Local centre including shops and other uses including a petrol filling station, Community Uses, two further neighbourhood centres, sports pitches, public open space and amenity greenspace with sustainable drainage systems and associated infrastructure.

Homes England have now taken control of the first phase of development for 1,199 new homes which includes the first new primary phase school site. A development working group is being put together to ensure infrastructure is delivered.

In the short term pupil numbers will be closely monitored to ensure any new school is opened on time and when the demand for places is evident so as not to impact negatively on existing provision locally.

West Winch/North Runcton (King's Lynn and West Norfolk)

Up to 4,000 dwellings are proposed in West Winch and North Runcton to be delivered in 2 phases, with 1,600 up to 2026 and a further 2,400 post 2026. West Winch village is served by one primary school of 210 places. The size of this school is adequate for the current numbers of primary age children living in the area. A desktop exercise indicates that the school site could allow expansion of this school to 2 forms of entry and the school is aware of these plans North Runcton does not have its own school but the nearest school for children to attend is in Middleton. Middleton Primary (academy) is on a small site and there is limited scope for expansion.

This allocation has been slow to progress but a development working group is now in place. NCC responded and proposed the expansion of West Winch Primary school in the first instance then sites secured for up to 2 new primary phase schools. Secondary provision will be provided in King's Lynn, but it is anticipated that expansion of one or more of the Kings Lynn secondary schools will be required longer term.

In short term, the response is to monitor the progress of housing commencement and annual admissions to ensure sufficient places for the area.

In longer term, the response is to expand West Winch Primary School, with one new Primary phase school in the northern phase of development and one new primary post 2026 on the Southern part of the housing development. Pressure for places is now being seen within the secondary system in this area so discussions with the three secondary schools will continue.

In addition to these major growth areas which require multi-school solutions the SLGIP also sets out development locations where one new school is expected and growth areas with implications for existing schools.

Offshore Transmission Network

The Department for Business, Energy and Industrial Strategy are currently overseeing an Offshore Transmission Network Review (OTNR). This comprises various “studies/projects” being undertaken looking into the wider issue of grid connection associated with the offshore wind energy sector, which include:

1. National Grid (Electricity System Operator - ESO) – Assessing the grid connection options associated with an expanded offshore wind energy sector (see below – Offshore Coordination Project);
2. Business Energy and Industrial Strategy (BEIS) –BEIS are currently assessing the **regulatory regime** in respect of grid connection to facilitate a more sustainable and efficient electricity distribution network. This is complementary to the above technical work being carried out by the NGENSO; and
3. Crown Estates as part of the Fourth Round licensing are undertaking strategic studies around onshore environmental and community sensitivities to support the Round 4 pre-application discussions.

Norfolk County Council is working closely with both National Grid and BEIS under items 1 and 2, particularly to inform the local communities workstream of the OTNR.

Offshore Coordination Project - Consultation

National Grid ESO have published for consultation (October 2020) proposals for a coordinated approach to connecting the electricity generated from offshore wind farms to the grid. This non-statutory consultation was largely technical and aimed at the electricity companies; offshore renewable energy businesses; and other stakeholders, including local authorities involved in any new transmission networks. The consultation formed part of a wider Offshore Transmission Network Review (OTNR) exercise being led by the Department for Business, Energy, and Industrial Strategy (BEIS).

The consultation sets out a comprehensive and integrated option for a future offshore and onshore electricity transmission network designed to manage the growth of the offshore wind energy sector, which is expected to deliver 83 GW of the UK’s electricity by 2050 compared to current levels of just over 10 GW. The strategic proposals put forward for a future transmission network have the potential for significant environmental and community benefits through reducing the number of onshore grid connection points and the amount of onshore infrastructure required.

While there are clear and demonstrable benefits to an integrated approach as set out in the above Consultation documents, there is a need for further detailed assessments to be carried out covering, for example:

- (a) Consideration and opportunities to secure secondary inter-connection along the cable route/s to the local networks (132 kV). Allowing for secondary inter-connection could provide a significant benefit to those more isolated parts of Norfolk and provide a stimulus for future housing and employment growth in such areas;
- (b) Consideration of the wider onshore environmental implications of any new transmission network/s, including any drainage and/or flood risk;
- (c) Consideration of the economic opportunities for those coastal areas affected; and
- (d) consideration of enhanced community engagement in the decision-making process as well opportunities for those local communities to benefit from any new onshore infrastructure.

Network Options Assessment – (NOA) January 2021

National Grid Electricity System Operator (NGESO) published their NOA update (2021) at the end of January 2021.

Background

The draft proposals have been identified in their published (January 2021) Network Options Assessment (NOA) produced by National Grid Energy System Operator (NGESO), which is an arms-length business separate to National Grid Electricity Transmission. The NOA document sets out “... *the long term view of the electricity transmission capability; and is the process for assessing options for reinforcing the National Electricity Transmission System (NETS)*”

Key Proposal (for Norfolk)

The key proposal set out in the NOA as it affects Norfolk is the:

- Construction of a **new 400kV double circuit in north East Anglia** to facilitate power transfer requirements across the relevant boundaries. Substation works is required to accommodate the new circuits, ESO recommended **connection date 2030-2031**

It is understood that the requirement for the new line arises from the offshore wind sector (consented schemes), which are likely to put significant pressure on the existing network.

Engagement / NCC Response

At this stage in the process any engagement / consultation by NGESO is **non-statutory**. In the event that the proposals set out in the NOA document are taken forward by National Grid (National Grid Electricity Transmission (NGET)), then this will be under the NSIP regime (see below - Next Steps).

The County Council has responded to the draft proposal in the NOA for a new 400 KV power line between Norwich and Bramford in a letter signed off by Cllr Andy Grant (Environment and Waste Cabinet Member). The response has been discussed and shared with other Local Authorities in Norfolk and Suffolk; and with the New Anglia LEP. We have sought further evidence of “need” particularly in light of the

High Court decision to quash the Secretary of State's consent for the Norfolk Vanguard Offshore Wind Farm Project.

The County Council's initial stance has been to encourage any new power lines to be placed underground where possible. However, it is accepted that there may be some significant opportunities arising from a new power line in terms of:

- (a) Secondary interconnection along the route with the local DNO (UKPN) – providing power along the growth areas along the A11 corridor at Thetford; Attleborough; Snetterton; and in the Greater Norwich area;
- (b) Opportunities for decarbonisation including the potential to use sub-stations for Electric Vehicle charging points and supporting last mile connectivity;
- (c) Opportunities of working with schools and colleges in the area to develop the skills associated and required in this developing sector; and
- (d) Considering local clean energy solutions as part of any reinforcement programme with flexible grid connection that supports business.

Energy baseline evidence

In addition to the work on the ONTR the County Council has also collaborated with the [Energy Systems Catapult](#) (ESC) and [Eastern New Energy](#) (ENE) to produce a Norfolk Local Energy Asset Representation (LEAR). The LEAR is the data foundation for developing the most appropriate pathway to net zero and is a useful visualisation and mapping tool. The outputs from the LEAR provide a robust data evidence base that can guide the County Council and partners towards which clean energy opportunities are the most effective for our area and aid decision making, prioritise resources, and support project and investment decisions.

The LEAR provides a representation of the local energy system in Norfolk covering an area of well over 5,000 km² and a population of around 915,000 people. In order for the model to represent an area as large as Norfolk, the region had to be split into three sub-regional areas: 'Central and West Norfolk', 'Norwich & South Norfolk' and 'Norfolk Coastal'.

The Norfolk LEAR is the first step towards developing a net zero pathway and can be taken forward in a number of ways. Now completed we will be working with ENE to deliver a practical decarbonisation project but there is an opportunity to take the LEAR data foundation and develop a [Local Area Energy Plan](#) (LAEP). The LAEP provides a clear actionable pathway of what the transition to achieve net zero carbon emissions is likely to require in terms of infrastructure and investment in a particular locality over time. With both Norfolk and Suffolk County Councils producing a LEAR we are working alongside the New Anglia LEP to see how this can be progressed collectively.

Infrastructure projects in Local Authority Control

The County Council in collaboration with partners is seeking to progress a number of key infrastructure initiatives for the next 10 years as listed below.

All of the projects in this list are judged on four criteria:

- Delivering significant housing and jobs growth
- Identified in existing plans/programmes
- Have a committed route to delivery
- Significant Local Authority control or interest.

Road Projects

ProjectName	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Broadland Growth Triangle Link Road	2021	£38m	Project is shovel ready	Developer finance, CIL, BRP, HIF
Attleborough Link Road	TBC	£18m	Feasibility/development work underway on preferred option	BRP, developer finance, New Anglia LEP, Homes England loan, HIF
A10 West Winch Housing Access Road	2024	£65m	Feasibility/development work underway on preferred option	Developer funding, DfT Major Road Network
A140 Long Stratton Bypass	2023	£37.5m	Feasibility/development work underway on preferred option	Developer funding, New Anglia LEP, CIL, NPIF, Government Major Road Network
A148 Fakenham Roundabout Enhancement	2025	£3.5m	Feasibility/development work underway on preferred option	NPIF, New Anglia LEP

ProjectName	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Norwich Western Link	2023	£198m	Feasibility/development work underway on preferred option	New Anglia LEP, DfT, Local major transport scheme
A17/A47 Pullover Junction	2025	TBC	Feasibility work on scheme has begun to identify options	DfT,NCC

Rail Project

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Broadland Business Park Rail Station	Late 2020s	£6.5m	Feasibility work on scheme has begun to identify options	New Anglia LEP, RailIndustry

Utilities Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Thetford Energy Supply	2021	£6.5m-£9.5m	Feasibility/development work underway on preferred option	BRP, New Anglia LEP, Private Sector
Attleborough Energy Supply	TBC	£22m	Feasibility/development work underway on preferred option	BRP, New Anglia LEP, Private Sector
Snetterton Heath Energy Supply Phase II	TBC	TBC	Feasibility work on scheme has begun to identify options	New Anglia LEP, Private Sector, BRP

Sustainable Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Weavers Way	2019	£3.1m	Project is shovel ready	RDPE, HLF, New Anglia LEP
The Green Loop	2019/20	£5.8m	Project is shovel ready	DfT, New Anglia LEP, Sustrans, Lottery, Developer contributions, CIL
Broadland Country Park	2020/21	£2m	Feasibility/d evelopment work underway on preferred option	Broadland District Council, CIL, BRP
Burlingham Country Park	2021	TBC	Feasibility/d evelopment work underway on preferred option	BRP, CIL, NCC, Developer contribution

Education Project

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Broadland Growth Triangle Secondary School	2025/26 – dependent on development progress	£26m	Feasibility work on scheme has begun to identify options	NCC, BRP, CIL

Regeneration Project

ProjectName	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
East Norwich Regeneration Area	2021 – for master planning	TBC, £600,000 committed	Feasibility work on scheme has begun to identify options	Norwich City Council, New Anglia LEP, Homes England, Developer Contribution

Road Projects

Broadland Growth Triangle Link Road

The project will provide a road linking the strategic employment areas of Broadland Business Park and Norwich Airport through the development sites within the northern suburbs of Norwich. It will significantly increase the accessibility of employment sites in the Broadland Growth Triangle area and support the development of approximately 55 hectares of employment land in this vicinity. A section of the link between Wroxham Road and Salhouse Road has already been delivered through development and is expected to be open to traffic in the near future. The remaining sections are outlined below.

Broadland Growth Triangle Link Road

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Airport Industrial Estate to St Faiths Road	Additional feasibility and scheme development costing approx. £200k	Feasibility underway to establish optimal location, nature and timing of vehicular link to Airport. Developer on site and delivering estate road link with mini roundabout on Repton Avenue. Temporary construction link between Repton Avenue and Meteor Close has been constructed.	CIL, developer finance	Project is shovel ready
St Faiths Road to North Walsham Road and North Walsham Road to Wroxham Road	Additional feasibility and scheme development costing approx. £500k	A detailed application has been submitted part of the link between St Faiths Road and Norwich RFU. NCC and BDC are working with the developer to achieve a planning approval.	CIL, BRP, HIF, developerfinance	Project is shovel ready

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Salhouse Road to Plumstead Road	Possible need for additional feasibility and scheme development costing approx. £300k	<p>Outline planning permission for development scheme across majority of link granted. Reserved matters application submitted for link between Salhouse Road and triangle land.</p> <p>Scheme for signals on Salhouse Road submitted and delivery anticipated by March 2022.</p>	CIL, HIF, developer, finance	Project is shovel ready
Plumstead Road to Broadland BusinessPark	n/a	<p>BDC and NCC are in ongoing negotiations with developer about delivery of the link road.</p> <p>Key constraint is Middle Road Bridge.</p>	Developer finance	Project is shovel ready

Attleborough Link Road

A key transport priority for Attleborough, required for planned strategic growth (4,000 dwellings) on the Attleborough Sustainable Urban Extension (SUE), is a link road between the B1077 near Bunns Bank to London Road to the south of the town. The link road will distribute new and existing traffic away from the town centre and enable traffic management measures to be implemented within the town centre such as HGV restrictions. Delivery of the link road is a planning requirement of the scheme and will be phased so that up to 1,200 homes can be built before the link road is required to be opened in full. The Attleborough SUE is allocated and has planning permission. Discussions are ongoing with development interests and key partners in order to bring forward the full completion of the road before the requirements of the planning obligations are triggered. Homes England have now acquired the first phase of the SUE and are holding discussion with lead promoter of the site in respect of potentially acquiring further phases. Funding was secured from the 2018/19 Norfolk Business Rates Pool towards developing a Strategic Outline Business Case for the road and work has commenced in this regard and due to be completed by the end of 2021.

Attleborough Link Road

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Development phase: Preliminary Design; Statutory procedures and powers; Construction preparation	Circa £1.8m	Two years	BRP, local authority, developer finance Qualifications for BRP or New Anglia LEP: Required for 4,000 new houses and 1,500 new jobs. Strategic scheme identified in the NSIDP. Funding would be for detailed technical work designed to progress strategic schemes towards readiness for implementation.	Completion of this stage will take the project from feasibility work on scheme has begun to identify options, to feasibility/development work underway on preferred option
Construction phase	£18m	TBC	BRP, developer finance, New Anglia LEP, Homes England loan, HIF Required for 4,000 new houses and 1,500 new jobs. Strategic scheme identified in the NSIDP. Funding would be for construction.	Completion of this stage will take the project from feasibility/development work underway on preferred option, to project is shovel ready

A10 West Winch Housing Access Road

The West Winch Housing Access Road (WWHAR) is required to facilitate planned housing growth in the South East King's Lynn Growth Area (SEKLGA). It will enable distribution of trips from the new development and alleviate congestion on the A10 through West Winch and at the Hardwick junction. The principle of this new route is set out in the King's Lynn and West Norfolk Local Plan.

The scheme includes some improvements at the Hardwick junction and dualling of a short length of the A47. The WWHAR is supported by Transport East as a priority for Major Road Network funding and a Strategic Outline Business Case (SOBC) was submitted to DfT in March 2021. At the time of writing NCC is in dialogue with DfT and hope to hear a positive response to the SOBC later in 2021 at which point work will commence on the Outline Business Case (OBC).

A10 West Winch Housing Access Road

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Scheme development work to SOBC	£1.209m	Jan 2018- March 2021	Already funded by BRP, NCC and KLWNBC	Feasibility work on scheme has begun to identify options
Scheme development work to OBC and planning application	£1.949m	April 2021 – October 2022	If SOBC is approved will be funded by DfT (85%) with the remainder from BRP, NCC and KLWNBC	Feasibility/development work underway on preferred option
Full Business Case (FBC) and detailed design and procurement to start of works	TBC	November 2022 to Q1 2025	If the SOBC is approved will be funded by DfT(85%) with the remainder from BRP, NCC and KLWNBC. Funding for construction is anticipated from the DfT Major Road Network fund with the local contribution from developers. Homes England support may also be available in the form of loans or grants	Project is shovel ready

A140 Long Stratton Bypass

Long Stratton is located approximately 10 miles south of Norwich on the A140 Norwich to Ipswich road. There is planned growth in Long Stratton of at least 1,800 dwellings in the period 2008-2026 to deliver a bypass but this growth is also highly dependent on the provision of water supply, sewerage, and improved electricity supply. The need for a bypass has long been a priority and is considered to be a prerequisite to provide for the needs of the proposed growth. South Norfolk District Council has adopted an Area Action Plan for Long Stratton. A revised planning application has been submitted by the developer in 2021.

A140 Long Stratton Bypass

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
An economic viability study for the Long Stratton bypass. This will be carried out by an expert consultant to provide an estimated cost of the bypass; estimated funding gap; direct and indirect economic benefits of the bypass; and added benefits of early delivery of the bypass	£200,000 (funded)	Dec 2017 to July 2018	Funded from: Pooled Business Rates: £100,000 SNC: £15,000 HCA: £35,000 NCC: £50,000	Will take scheme from feasibility work on scheme has begun to identify options, to feasibility/development work underway on preferred option
Development phase: Detailed design; Statutory procedures and powers; Construction preparation	Circa £5m	Two and a half years	BRP, local authority, developer, Government Major Road Network Qualifications for BRP and or New Anglia LEP funding: Required for 1,800 new houses and to overcome traffic problems on A140. Strategic scheme identified in the NSIDP. Funding would be for detailed technical work designed to progress strategic schemes towards readiness for implementation.	Completion of this stage will take it from feasibility/development work underway on preferred option, to project is shovel ready

Fakenham A148 Roundabout Enhancement

A planning application has been received for 950 residential dwellings adjacent to and south of the A148 between Water Moor Lane and the Morrisons roundabout to the east. Access to the new residential development is proposed via a new roundabout on the A148 (at the Water Moor Lane junction) with a link road through to the existing roundabout serving Morrisons. There are longer term aspirations to take forward housing allocations adjacent and beyond the A148 at this location. As the Highway Authority NCC indicated that a roundabout would be required to be built at the current A148/B1105 junction as a condition of the planning permission if residential development to the west of Water Moor Lane is progressed.

Fakenham A148 Roundabout Enhancement

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Development of planning application including time for statutory consultation of 13 weeks	TBC	18 Months – To develop planning application and supporting documentation including environmental assessment, ecological and arboricultural surveys.	NPIF, New Anglia LEP Required to support the delivery of one of North Norfolk's largest Local Plan allocations of 950 dwellings	Feasibility/development work underway on preferred option
Acquisition of land	TBC	6 months	NPIF, New Anglia LEP	Feasibility/development work underway on preferred option
Utilities diversion	TBC	9 months – to deliver and implement any required utility diversions	NPIF, New Anglia LEP	Feasibility/development work underway on preferred option
Construction phase	Estimated £3.5m	5 months	NPIF, New Anglia LEP	Project is shovel ready

Norwich Western Link

This Norwich Western Link is to connect the Broadland Northway at Taverham to the A47 west of Norwich and has been identified as one of the County Council's priority road infrastructure schemes.

Norwich Western Link

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Development phase: Outline Business Case submitted; Design and Build Contractor appointed, Statutory procedures and powers; Design for Construction preparation	£24m	(2021 – 2023) Statutory process (development and delivery) and detailed design/construction prep	BRP, New Anglia LEP, local major transport scheme, local authorities Qualification for BRP/New Anglia LEP funding: Strategic scheme identified in the NSIDP. • Support sustainable housing growth in the western quadrant • Improve the quality of life for local communities • Support economic growth • Protect and enhance the natural environment • Improve strategic connectivity with the national road network Funding for detailed technical work designed to progress strategic schemes towards readiness for implementation	Will take scheme from feasibility/development work underway on preferred option, to project is shovel ready
Construction phase	Indicative £198m including development phase costs, fees, risk, and other items	Two years (2023 to 2025)	New Anglia LEP, local major transport scheme, local authorities. Strategic scheme identified in the NSIDP. • Support sustainable housing growth in the western quadrant • Improve the quality of life for local communities • Support economic growth • Protect and enhance the natural environment • Improve strategic connectivity with the national road network Funding would be for construction	Issue identified but no work carried out to identify project/solution

A17/A47 Pullover Junction, King's Lynn

The A17/A47 Pullover Junction improvement is required to reduce congestion and delay in the King's Lynn area and to support the planned growth set out in the adopted Local Plan. This includes the significant allocation of 4,000 new homes in the South East King's Lynn Growth Area (SEKLGGA). The roundabout is a known pinch point on the A47 trunk road at its junction with the A17. The A47 is a high priority route for the local authorities and stakeholders which is borne out by the existence of the A47 Alliance group which supports and lobbies for dualling the whole length of the route due to its economic importance for the region.

The problems stem from a tidal flow through the junction with heavy movements towards King's Lynn in the morning peak and away from King's Lynn in the evening peak. An effect of this is that there are only small gaps in circulating traffic past the A17 approach in the morning making it difficult to negotiate the junction. In the evening peak, when there is a strong movement away from King's Lynn the queues are on the A47 approaches. On the A47(SE) approach this appears to be caused by the volume of traffic exceeding the capacity of the entry onto the roundabout, while the queueing on the A47 (SW) approach is caused by a high circulatory flow of traffic.

This junction has been identified as a priority scheme by Transport East and features on DfT programme of Major Road Network schemes for implementation in the current programme period (a start date before April 2025).

A17/A47 Pullover Junction

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Pre Strategic Outline Business Case (SOBC) – Concept solutions	£100k	December 2020 – June 2021	Funded from Business Rates Pool (BRP), National Highways and NCC Cabinet approved allocation	Feasibility work on scheme has begun to identify options
Scheme development work to SOBC	£0.5m Detailed fee proposal required	July 2021 – Dec 2022 (dependent upon identifying funding for SOBC)	Not yet identified (NCC) Required as soon as possible to keep to programme	Feasibility work on scheme has begun to identify options
Scheme development work to Outline Business Case (OBC)	£0.5m Detailed fee proposal required	Jan 2023 – Dec 2023	DfT/NCC (if SOBC is successful)	Feasibility/development work underway on preferred option
Full Business Case (FBC) and detailed design and procurement to start of works	TBD	Jan 2024 – April 2025	DfT/NCC	Project is shovel ready

Rail Project

Broadland Business Park Rail Station

Currently services operate every hour between Norwich and Sheringham. New rolling stock has recently been delivered across the whole of the franchise. However, further capacity improvements are required to accommodate passenger demand and local partners have been pressing for services every half hour (rather than hourly). Broadland Business Park is a strategic employment site located adjacent to the rail line just east of Norwich. Initial feasibility work establishing the benefits of adding a new station at this location is complete. The next stage for the project is still being considered.

Broadland Business Park Rail Station

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Feasibility GRIP 2 and option selection GRIP 3	£140k	Dec 17 (completed)	Funded through BRP and BDC Qualifications for BRP and or GrowthDeal funding: Strategic scheme identified in the NSIDP.	Feasibility work on scheme has begun to identify options
Further work to develop single option	Not known. Likely to be Circa £250,000	2022 1 year	BRP, local authorities, Network Rail Qualifications for BRP and or GrowthDeal funding: Strategic scheme identified in the NSIDP. Funding would be for detailed technical work designed to progress strategic schemes towards readiness for implementation	To take scheme from feasibility work on scheme has begun, to identify options to feasibility/development work underway on preferred option
Development phase: Preliminary Design; Statutory procedures and powers; construction preparation	Circa £2m	2023-2027 3-5 years	BRP, Growth Deal, local authorities, Network Rail	To take scheme from feasibility/development work underway on preferred option, to project is shovel ready
Construction phase	Circa £20m	Circa 2028 1 year	BRP, Growth Deal, local authorities, Network Rail	Strategic scheme identified in the NSIDP. Funding would be for construction

Utility Projects

Thetford Energy Supply

Thetford Sustainable Urban Extension (SUE) is allocated, and has outline planning permission, for 5,000 dwellings as well as 22.5 hectares of commercial land. Detailed planning permission has been granted for approx. 1,000 dwellings within Phase 1 of the SUE. Construction of houses upon sub-phase 1A commenced in spring 2018.

The Thetford Enterprise Park (TEP) comprises approx. 50 hectares of land to the west of the SUE, at the northern extent of the Town, accessed off the A1066 Mundford Road. It is allocated for employment uses.

Construction of a new primary substation to be located on the Thetford SUE is due to start imminently. Funding has been secured via the Housing Infrastructure Fund (HIF) to deliver this new facility and thereby increase the power capacity available within Thetford. The new primary substation will have sufficient capacity to serve the energy needs of both the housing and commercial development occurring upon the SUE site.

A feasibility study has been undertaken which considers options for delivering sufficient power capacity to meet the energy needs of the TEP and estimates the cost (based upon current prices) associated with each of these.

It is envisaged that the new primary substation will provide sufficient power capacity to also serve the energy needs of the TEP as well as that of the SUE. However, in order to serve the TEP, network reinforcement works would be required as well as 11kv distribution infrastructure.

Thetford Energy Supply

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Delivery of power infrastructure sufficient to meet the short-term power needs of Thetford Enterprise Park.	Current estimate £3m	TBC	BRP, New Anglia LEP	Feasibility/development work underway on preferred option
Delivery of power infrastructure sufficient to meet the medium to long-term power needs of TEP.	Current estimate £6.5m	TBC	BRP, New Anglia LEP	Feasibility/development work underway on preferred option

Attleborough Energy Supply

Attleborough Sustainable Urban Extension (SUE) is allocated, and has outline planning permission, for 4,000 dwellings and 10 hectares of commercial land.

A feasibility study has been undertaken which considers options of delivering power to the SUE.

Attleborough SUE

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Delivery of power infrastructure sufficient to meet the short to medium-term power needs of Attleborough SUE	TBC	TBC	BRP, New Anglia LEP, Private Sector	Feasibility/development work underway on preferred option
Delivery of power infrastructure sufficient to meet the long-term power needs of Attleborough SUE	Current estimate £22m	TBC	BRP, New Anglia LEP, Private Sector	Feasibility/development work underway on preferred option

Snetterton Heath Energy Supply

The Snetterton Heath commercial area is Breckland's largest employment site with approx. 90 hectares of allocated land.

Feasibility work has commenced to consider the options for delivering sufficient power capacity to meet the energy needs of Snetterton Heath and will estimate the cost (based upon current prices) associated with each of these.

In order to increase the power capacity at the location, funding has been secured to deliver a new primary substation at Snetterton and a single 6MVA transformer. Erection of the new primary substation is expected to commence during January 2022 (Phase I). It is anticipated construction of the facility, and installation of initial 6MVA transformer, will be completed late 2022.

The design of the substation has been future-proofed in order that it is capable of accommodating up to two further 6MVA transformers. The cost of delivering a second 6MVA transformer is estimated currently at approx. £4m on the basis that to provide additional power capacity at this location will necessitate some network reinforcement.

The cost of delivering an 11kv distribution ring with a 6MVA load is estimated currently at £0.9m.

Although this further works are planned to be delivered through Snetterton Energy Supply Phase II, as yet, funding has not been secured to deliver additional power capacity beyond the initial 6MVA or provide any 11kv distribution.

Snetterton Heath Energy Supply

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
11kv distribution network sufficient to accommodate 6MVA load	£0.9m	TBC	Developer finance, New Anglia LEP	Feasibility/development work underway on preferred option
Delivery of additional 6MVA transformer within new primary substation at Snetterton Heath and reinforcements required to electricity network.	Current estimate £4m but TBC	TBC	Developer finance, New Anglia LEP	Feasibility/development work underway on preferred option

Sustainable Projects

Weavers Way

This project will create new walking and cycling infrastructure in rural Norfolk. Weaver’s Way begins in Cromer, following a public rights of way network to the market town of Aylsham. Here it picks up the route of a disused railway line, following its course through the Norfolk countryside to the edge of the Broads National Park at Stalham. It then meanders through the famous wetlands and waterways before re-joining the coast at Great Yarmouth. This project will focus principally on revitalising the disused railway line between Aylsham and Stalham. Route improvements will include new surfacing to ensure year-round accessibility for walkers (including access impaired users) and cyclists, increased safety, and accessibility at road crossings through installation of new gates and improved signage and connectivity to amenities and other routes throughout.

Weavers Way

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Feasibility – Being delivered as one of the three ‘Recycling the Railways’ focused studies.	£45,000	January 2019-Complete	NCC capital – secured Supports housing and jobs growth in both Broadland and North Norfolk District Councils through provision of housing related GI and mitigating the effects of housing growth on vulnerable environmental sites. Also increases the visitor offer supporting tourism related job growth.	Project is shovel ready
Stage 1 delivery – surface and signage	£1,062,343	January 2020-Complete	RDPE – bid successful	Project is shovel ready
Stage 2 delivery – associated industrial heritage buildings brought back into use as visitor facilities	c. £2,000,000	March 2023	HLF, New Anglia LEP	Project is shovel ready

The Green Loop

A 46-mile circular route for walking / cycling and disabled use. Encompassing the Marriott's Way, Bure Valley Path and Broadland Way. Broadland Way is partially built through the Broadland Northway and connects with the Broadland Growth Triangle. Marriott's Way and Bure Valley Path exist and are used currently for walking and cycling but require upgrading in some areas to make them more accessible for disabled users, both routes are biodiversity corridors. Broadland Way has been part built by the Broadland Northway and will link to the east end of the Green Pedal way. The Green Loop will also connect to the Three Rivers Way Cycle route and to Weaver's Way. DfT, Norfolk County Council and Broad's Authority funded Three Rivers Way Cycle route and to Weaver's Way.

The Green Loop

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Feasibility	£45,000	Broadland Way initial feasibility Delivered May2018 Bure Valley Path and Marriott's Way upgrades feasibility started April 19	NCC Capital funding – secured Supports housing growth in the NE Broadland Growth Triangle and the Western Broadland growth allocation areas. Provides mitigation for the impact of the additional houses on vulnerable environmental sites, particularly those located in the Broads Authority Area. Contributes to the local visitor related economy through providing a very attractive sporting facility. Contributes to the health and wellbeing of residents in the Greater Norwich Area.	Project is shovel ready
Phased delivery of Broadland Way and upgrades to Marriott's Way and the Bure Valley Path	£5.7m	Staged – various completion dates dependent on funding source	S106, CIL, DfT, New Anglia LEP, Interreg Experience-secured	Project is shovel ready

Broadland Country Park

Broadland Country Park (previously named the North West Woodlands Country Park) project proposes the creation of a new country park facility surrounded by a large area of woodland, heathland, and fenland in the Greater Norwich area. The project involves the delivery of a series of walking, cycling and trim trial routes, habitat restoration and enhancement schemes, public engagement events, car parking and visitor facilities as well as large woodland play area. The project helps to manoeuvre the Greater Norwich area into a strong position in which to deliver sustainable, well planned communities by enabling a mitigation strategy that alleviates the impact of growth on, and therefore safeguards for generations to come, the internationally designated sites. Ideally located adjacent to the Broadland Northway, the Thorpe Marriott Greenway cycle and pedestrian route, and the purple and yellow bus routes the Broadland Country Park is ideally located to intercept visits to the internationally designated sites and to attract visits from across the Greater Norwich area.

Broadland Country Park

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Stage 1 – Site acquisition	£715,000	October 2019	CIL Qualification for BRP/New Anglia LEP funding: Project delivers green infrastructure mitigation that alleviates the impact of growth in the Greater Norwich area.	Feasibility work on scheme has begun to identify options
Stage 2 - Scheme development: Design, feasibility, and infrastructure delivery plan	£72,000	Nov 2020	BDC, CIL, BRP	Feasibility/development work underway on preferred option
Stage 3 - Preparation and submission of planning application	£138,000	May 2021	BDC, CIL, BRP	Feasibility/development work underway on preferred option
Stage 4. Capital delivery phase	£1,067,100	December 2022	BDC, CIL, BRP	Project is shovel ready

Burlingham Country Park

NCC has owned land at Burlingham for 100 years and has been discussing the best use of this site for several years the site is currently tenanted by two county farms and a small community woodland well-used by local dog walkers and families.

The Burlingham Estate is one of the largest areas of land owned by NCC at over 12.5 km². The site was originally purchased 100 years ago as part of an NCC strategy to re-settle returning servicemen into agricultural businesses.

This project will take an innovative approach to the way new community recreational spaces are conceived and designed. It is no longer enough to just provide open space for people, green space must be multifunctional and deliver on many levels; access for all regardless of ability, the space must improve health and wellbeing, mitigate for climate change and biodiversity loss, be easily accessible by public transport, benefit the economy of the local area as well as alleviating recreational pressure on nearby designated areas and finally provide a legacy that can also be valued by future generations.

Burlingham

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Stage 1- Design Feasibility and Master-planning	£60,000	July 20- September 21	BRP – Funded Qualification for BRP/New Anglia LEP funding: Project delivers green infrastructure mitigation that alleviates the impact of growth in the Greater Norwich area.	Feasibility/development work underway on preferred option
Stage 2- Phased deliver of infrastructure identified through themaster planning work	TBC	September 21 onwards	CIL, BRP, NCC, Developer Funding	Feasibility work on scheme has begun to identify options

Education Project

Broadland Growth Triangle Secondary School

NCC has made a commitment for a new Secondary phase school in the Broadland Growth Triangle area and to date the only site available to us is within the Rackheath Strategic Development. However, another potential site is being considered in the Local Plan consultation. Some work on site assessment has taken place but all options for additional secondary school places need to be considered.

Broadland Growth Triangle Secondary School

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Scoping & option assessment & design feasibility	£100k	Rackheath Strategic Development is moving forward, and discussions are ongoing with the planning team. NCC Children's Services require more certainty on this site before making a firm commitment. In the meantime, other options are still being considered.	NCC Basic Need Qualification for BRP/New Anglia LEP funding: Required to support 13,500 planned homes in Broadland Growth Triangle. In principle agreement exists for BRP funding to support scheme development.	Completion of this stage will take it from feasibility work on scheme has begun to identify options, to feasibility/development work underway on preferred option
Planning	£400k	April 2023 to March 2024, subject to a suitable site being secured and development progress in Broadland Growth Triangle.	NCC Basic Need	Completion of this stage will take it to the project being shovel ready
Construction Phase	£26M	April 2025 to March 2026, subject to a suitable site being secured with access and services provided	NCC funding, Basic Need, CIL, DfE Free School programme.	Delivery phase takes scheme beyond the project being shovel ready

Regeneration Project

East Norwich Regeneration Area

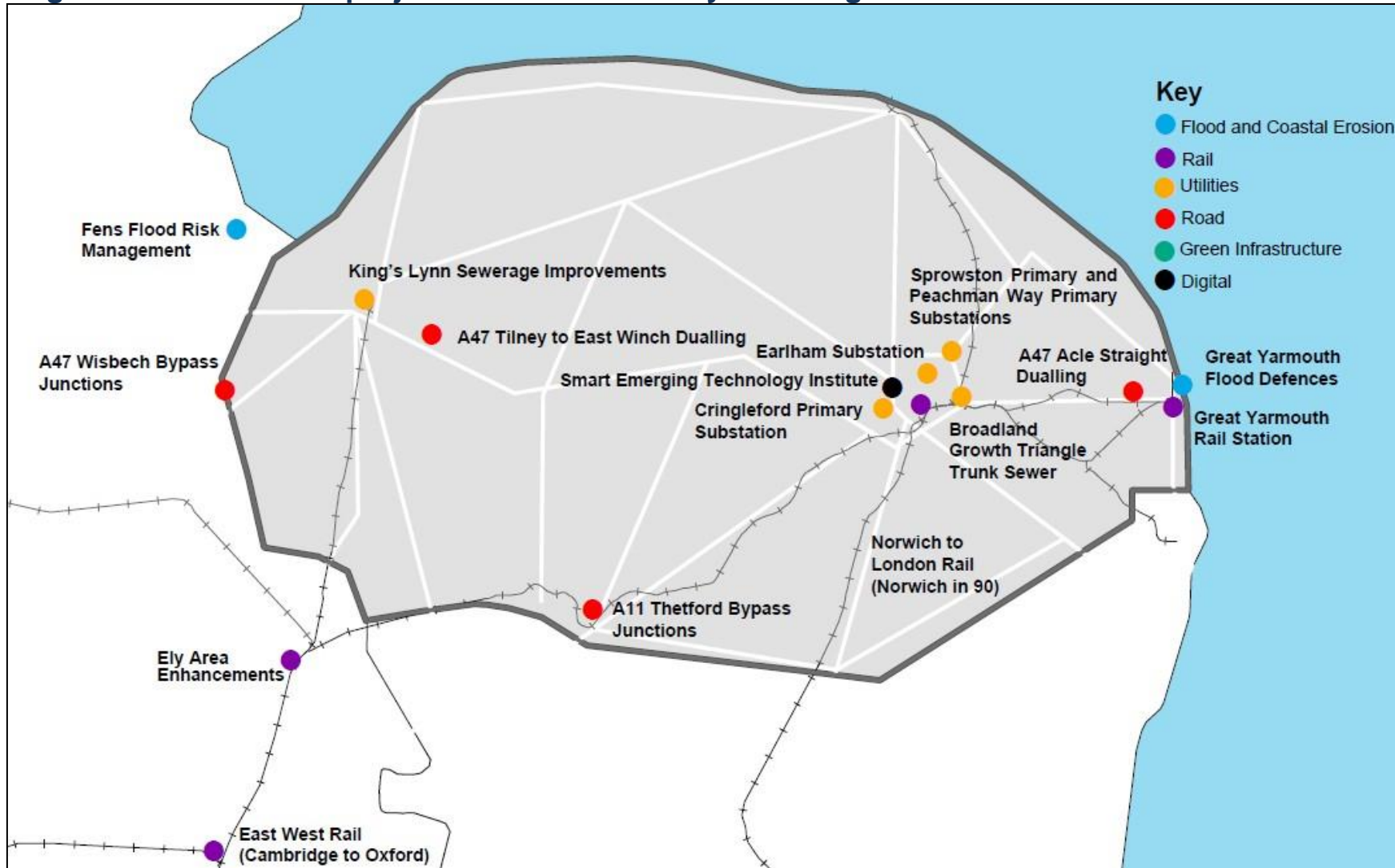
This project is aimed unlocking development in the East Norwich sites, which includes the long term vacant and heavily constrained Deal and Utilities sites and the vacated Britvic/Unilever sites. There is a significant potential to attract public sector investment in the infrastructure needed to ensure delivery. The comprehensive redevelopment of the sites has the potential to create a highly sustainable new quarter for the city, linking the city centre with the Broads, delivering exemplar design and a highly attractive location for living and working. The emerging planning framework for Greater Norwich, The Greater Norwich Local Plan (GNLP), identifies the “East Norwich Strategic Regeneration Area” which includes the three sites. The Regulation 19 GNLP allocates the ENSRA for residential led mixed-use development, to include in the region of 4,000 homes, subject to confirmation through detailed master planning. Part of the site also sits in the Broads authority area, and policy in Broads Local Plan also supports regeneration projects.

East Norwich Regeneration Area

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Consultants Avison Young have been commissioned to produce a masterplan to guide the comprehensive development of the Deal Ground, Utilities and Carrow Works sites in East Norwich, with a view to leveraging in significant public sector investment in the infrastructure needed to ensure delivery. The comprehensive development of the 3 sites has potential to deliver a new mixed-use quarter in Norwich with up to 4,000 new homes and 100,000 sqm of employment. The masterplan will identify the specific infrastructure requirements (including bridges, roads, cycle and footway infrastructure, and marina) required to kick start development, thephased delivery of comprehensive development and associated infrastructure will follow the master planning.	£600k (committed)	Masterplan development is underway, having commenced in March 2021. Stage 1 (production of a preferred option masterplan based on extensive stakeholder and public engagement) should be complete by October 2021 and Stage 1 (including production of a supplementary planning document to support the GNLP policy) byend of March 2022	Masterplan funding confirmed from: Norwich City Council, Norfolk County Council, Norwich Towns Deal, Broads Authority, Homes England, Network Rail, Norfolk Strategic Fund, landowners. Subsequent delivery: potentially Homes England, developer finance, New Anglia LEP, others TBC	Feasibility work on scheme has begun to identify options

**Infrastructure projects to be delivered by
other organisations**

Figure 4 Infrastructure projects to be delivered by other organisations



Road Projects

A11 Thetford Bypass Junctions

Evidence has shown that even without the proposed growth at Thetford, the junctions on the A11 are forecast to operate over their theoretical capacity by 2026, with the Mundford Road (A134) junction experiencing the worst congestion. The issues are exacerbated by the proposed growth of Thetford. As a result, junctions on the A11 bypass around Thetford will need to be upgraded during the Plan period.

A Masterplan for the SUE has been developed and improvements will be made to an appropriate standard agreed with National Highways. It is likely that the agreed scope of work will comprise traffic signals on the roundabouts and speed limits on the A11. Because of the strategic function of the A11, which is the major trunk road connection between Norwich, Cambridge, and London, NCC considers that this is not an optimum solution and will continue to work with partners – principally National Highways – to bring forward measures that do not diminish the strategic status of the route. Ultimately, this might require grade-separation of the junctions.

The Thetford Network Improvement Strategy considered the town as a whole and, as a result, the county council undertook further work to investigate, amongst other things, the feasibility of an alternative solution to accommodating north-south movement in the form of a new road link. However, the work concluded that a new link would likely be difficult to deliver due to environmental constraints. The county council therefore propose to investigate other measures during 2021 in liaison with partners including National Highways.

Infrastructure	A11 Thetford Bypass Junctions
Location	Breckland
Delivers	5,000 homes and 5,000 jobs
Lead authority	National Highways, NCC, Landowners, Breckland District Council
Estimated start date	2025-2030
Estimated cost	TBC
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	NPIF, National Highways Roads Investment Strategy 3 (2025-2030), Major Road Network Funding
Benefits	Improves congestion, required for growth
Link to other Information	Thetford Area Action Plan Thetford Market Town Transport Network Improvement Strategy
Status	Improvements, likely to be signalisation of the junctions, will be phased with the delivery of the housing growth. None yet are programmed. More extensive improvements, required to maintain the strategic function of the A11, would be delivered as part of a future National Highways programme, but is not yet committed. NCC has investigated an alternative involving rerouting the A134 and will undertake further work on options during 2021.

A47 Wisbech Bypass Junctions

There are significant congestion issues on the A47 Wisbech Bypass especially at the pinch point junctions of the B198 (east and west) and A1101 which are the responsibility of National Highways. Improvements to these junctions could be brought forward as part of National Highways trunk road programme post-2020 and /or development within the town. There are also safety concerns at the A47/Broadend Road which requires a new junction by developers to deliver housing in Wisbech.

Improvements to the A47 Broadend Road junction to replace the existing arrangements with a roundabout and minor improvements to the existing Elm High Road / A47 roundabout will be brought forward with the Growth Deal Funding from the CPCA Business Board for the Wisbech Access Strategy.

Infrastructure	A47 Wisbech Bypass Junctions
Location	King's Lynn and West Norfolk, Fenland
Delivers	960 homes and 10,000sqm office space (up to 2026)
Lead authority	Developers/ National Highways
Estimated start date	TBC (in short term programme)
Estimated cost	£1.1m Elm High Road £3.4m Broadend Road
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	NPIF, developer funding, National Highways Roads Investment Strategy 2 (2020-2025), CPCA Business Board Growth Deal Funding
Benefits	Improved junctions on the A47 will overcome concerns regarding road safety and connect growth areas to the trunk road network.
Link to other information	N/A
Status	Fenland District Council has developed a Wisbech transport strategy, this identifies improvements to roundabouts on the A47 and they are now developing the schemes.

A47 Tilney to East Winch Dualling

The long-term objective of NCC and other partners is for complete dualling of the A47 along the full length of the trunk road from the A1 at Peterborough to Lowestoft. However, it is recognised that this may need to be achieved through a phased approach to improvements. The A47 Alliance agreed that A47 Tilney to East Winch dualling along with the Acle Straight dualling below are two of its priorities.

A number of schemes are committed for construction on the A47 between 2020 and 2025. These are shown on page 16.

Infrastructure	A47 Tilney to East Winch dualling
Location	King's Lynn and West Norfolk
Delivers	There are strategic site allocations in West Winch and North Runcton, adjacent to A47, which provide for 1,600 homes and 1ha employment land, while employment land is identified at Hardwick (27 ha) and Saddlebow (23ha).
Lead authority	National Highways
Estimated start date	2025-30
Estimated cost	£130m
Unfunded cost	£130m
CIL contribution	No
Funding opportunities	National Highways Roads Investment Strategy 3 (2025-2030)
Benefits	Improves connectivity and reliability
Link to other information	A47 Alliance Website
Status	Tilney to East Winch is a current priority of the A47 Alliance.

A47 Acle Straight Dualling

As well as Tilney to East Winch, dualling the Acle Straight is a priority.

Infrastructure	A47 Acle Straight dualling
Location	Broadland, Great Yarmouth
Delivers	The Enterprise Zone covering large parts of Great Yarmouth and Lowestoft will help bring forward 9,000 direct and 4,500 indirect jobs across the area. Furthermore, approximately 14,000 new homes are planned across Great Yarmouth and Lowestoft. The plans for 37,000 new homes and the creation of 27,000 jobs in the Greater Norwich area will further increase demand along the A47 between Greater Norwich and between the Enterprise Zone.
Lead authority	National Highways
Estimated start date	2025-30
Estimated cost	£79m
Unfunded cost	£79m
CIL contribution	No
Funding opportunities	National Highways Roads Investment Strategy 3 (2025-2030)
Benefits	Improve accessibility between Norwich and Great Yarmouth and improve the safety record of the road
Link to other information	A47 Alliance Website
Status	The Acle Straight is a current priority of the A47 Alliance.

Rail Projects

Norwich to London Rail (Norwich in 90)

As part of the franchise agreement there has been complete replacement of the rolling stock and some services (two each way every day) have journey times of 90 minutes. A service frequency of every 20 minutes is also part of the franchise commitment although this has not yet been implemented. Even these improvements however will not deliver sufficient capacity or frequent (at least one every hour) services in 90 minutes.

In recognition of the strength of the study work and lobbying, government formed a Great Eastern Main Line Task Force to define how the ambition for a faster, more reliable, better quality service with more capacity could be delivered to serve the needs of Essex, Suffolk, and Norfolk. The Task Force is currently undertaking study work to identify exactly what infrastructure is required to deliver the required level of service, and the business case for it. This work is due for completion towards the end of 2020.

Infrastructure	Norwich to London Rail (Norwich in 90)
Location	Norwich to London
Delivers	Improvements could generate up to £9.3bn in economic benefits and create 32,600 jobs. The financial benefit of journey time savings is estimated to be £6m annually.
Lead authority	Greater Anglia, Network Rail, New Anglia LEP, Local Authorities
Estimated start date	2024-2029
Estimated cost	Being evaluated
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	Network Rail: Rail Network Enhancements Pipeline
Benefits	London to Colchester in 40 minutes, Ipswich in 60 minutes and Norwich in 90 minutes at least hourly off-peak.
Link to other information	New Anglia Great Eastern Rail Campaign Website
Status	The Great Eastern Mainline Task Force has completed a wider economic benefits study and is working with Network rail on a Strategic Outline Business Case, which will confirm the measures needed, the cost of the measures and the benefits from their implementation.

Great Yarmouth Rail Station

Existing rail services are operated by Greater Anglia as part of the East Anglia franchise. Currently services operate between Norwich and Great Yarmouth every hour, with 30 minutes services at peak times. The East Anglia franchise started in October 2016 and new rolling stock has recently been provided across the whole of the franchise which has helped to address train quality issues. However, a significant improvement is required at Great Yarmouth rail station to improve the arrival experience at this key public transport gateway to the town. Schemes implemented by the local authorities have improved the station forecourt and the onward link to the town centre and marketplace using New Anglia LEP Growth Deal money. There is a long-standing ambition for improvements to the rail station itself and a small amount of Great Yarmouth Town Deal funding has been allocated for engagement with key partners to determine how improvements to the station can be funded and delivered.

Infrastructure	Great Yarmouth Rail Station
Location	Great Yarmouth
Delivers	Improvements to Great Yarmouth Rail Station
Lead authority	Greater Anglia
Estimated start date	2019- 2024
Estimated cost	TBC
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	Network Rail: Rail Network Enhancements Pipeline
Benefits	Facilitate jobs growth and encourage inward investment into the energy coast. Help meet objectives as set out in Policy CS17 of Great Yarmouth Core Strategy
Link to other information	N/A
Status	Potential for inclusion in Network Rail spending programme 2019-2024

Ely Area Enhancements

A large number of rail services pass through Ely: King's Lynn to Cambridge; Norwich to Cambridge; Norwich to Peterborough; Ipswich to Peterborough; and freight services from Felixstowe. Major rail infrastructure improvements are required to accommodate all services committed within franchise agreements and for further frequency improvements in the future. Local authorities are working with local enterprise partnerships, government, and Network Rail to bring forward the improvements for delivery. Network Rail secured £13.1m funding from the Department for Transport and £9.3m funding from Cambridgeshire and Peterborough Combined Authority, New Anglia LEP and Strategic Freight Network to understand the scale of the challenge to increase capacity through Ely and progress early design options for public consultation. Network Rail secured an additional £13.1m funding from DfT in 2020 to develop an Outline Business Case. This is expected to be submitted to DfT in spring 2022. Further design and development of the programme and authorisation will be subject to future funding decisions by the Department for Transport through the Rail Networks Enhancements Pipeline process.

Infrastructure	Ely Area Enhancements
Location	East Cambridgeshire
Delivers	£120m wider economic benefits, and 1,000 homes and 1,000 jobs.
Lead authority	Network Rail
Estimated start date	Mid 2020s
Estimated cost	TBC
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	Network Rail: Rail Network Enhancements Pipeline
Benefits	Supports better connectivity on the Cambridge Norwich, Peterborough Norwich, and King's Lynn Cambridge corridors.
Link to other information	New Anglia website
Status	Currently Network Rail is developing an Outline Business Case, which is expected to be submitted to DfT in spring 2022.

East West Rail (Cambridge to Oxford)

The complete East West Rail scheme comprises a strategic rail route that will link Ipswich and Norwich to Cambridge, Bedford, Milton Keynes, Bicester, and Oxford, allowing connections to Swindon, the Thames Valley, south west England and south Wales providing a connection across the important Oxford to Cambridge “high tech arc.” The route will potentially allow freight trains to connect the ports of Felixstowe and Harwich with the Great Eastern, East Coast, Midland, West Coast and Great Western main lines without the need to travel on congested tracks around North London.

Government has set up a Special Delivery Vehicle for the project and this is currently taking forward design and development work on a new line from Cambridge to Bedford. Delivery of this could be completed in the mid-2020s. Major work is ongoing to reinstate rail lines from Bedford to Bicester (with services already running from Bicester to Oxford) with services expected from the end of 2023.

East West Rail is supported by NCC and is focussed on making sure that the benefits of this substantial investment come to Norfolk by ensuring that services extend at least as far as Norwich (on existing lines). A Preliminary Strategic Outline Business Case is in the process of being finalised, which shows a good case for this.

Infrastructure	East West Rail (Cambridge to Oxford)
Location	Cambridge to Oxford
Delivers	Establishes a railway connecting East Anglia with central, southern, and western England.
Lead authority	East West Rail Company. Working with local authorities along the route, DfT and Network Rail
Estimated start date	Late 2020s
Estimated cost	TBC
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	Government via special purpose delivery vehicle
Benefits	Connects Oxford and Cambridge to major economies in New Anglia.
Link to other information	East West Rail website
Status	Phase 1 Oxford to Bicester complete Phase 2 Bicester to Oxford commenced late 2019 with services from end of 2023 Phase 3 Bedford to Cambridge expected to be built by the mid-2020s. Work is ongoing to identify how services might extend to Norwich and Ipswich (on existing tracks) following completion of Phase 3. A Preliminary Strategic Outline Business Case is in the process of being finalised, which shows a good case for this.

Utility Projects

Sprowston Primary and Peachman Way Primary Substations

These substations are identified in the Greater Norwich Energy Infrastructure Study (March 2019) as constrained and unable to currently support more development. The constraint of these substations affects development in the Broadland Growth Triangle including Rackheath and Beeston Park. Reinforcements or upgrades to the electricity network are required when demand exceeds capacity. If development sites cannot proceed due to insufficient capacity, alternative measures must be considered in order to deliver these.

Infrastructure	Sprowston Primary	Peachman Way Primary
Location	Broadland	Broadland
Delivers	A possible 10,000 homes	A possible 10,000 homes and Broadland Business Park
Lead authority	UK Power Networks	UK Power Networks
Estimated start date	TBC	TBC
Estimated cost	£2.5-10m	£2.5-10m
Unfunded cost	£2.5-10m	£2.5-10m
CIL contribution	Yes	Yes
Funding opportunities	CIL, private sector	CIL, private sector
Benefits	Support the delivery of 10,000 homes and job development at airport and Rackheath	Support the delivery of 10,000 homes and job development at airport and Rackheath
Link to other information	GNDP Local Investment Plan and Programme	GNDP Local Investment Plan and Programme
Status	Baseline requirement	Baseline requirement

Earlham Substation

This substation is identified in the Greater Norwich Energy Infrastructure Study (March 2019) as constrained and unable to currently support more development. The constraint of this substation affects development in Costessey, the Food Enterprise Zone, Longwater/Easton, Norwich Research Park (NRP) and Threescore. Significant amounts of spare capacity have already been reserved by users within the Research Park and reinforcements or upgrades to the electricity network are required when demand exceeds capacity. If development sites cannot proceed due to insufficient capacity, alternative measures must be considered in order to deliver these.

Infrastructure	Earlham Substation
Location	South Norfolk
Delivers	900 homes at Easton and jobs at NRP and Food Hub
Lead authority	UK Power Networks
Estimated start date	TBC
Estimated cost	£2.5-10m
Unfunded cost	£2.5-10m
CIL contribution	Possibly
Funding opportunities	CIL, private sector
Benefits	Critical for growth of NRP and will support the delivery of growth into the SW Norwich – 900 homes at Easton and Food Hub
Link to other information	N/A
Status	Baseline requirement

Cringleford Primary Substation

This substation is identified in the Greater Norwich Energy Infrastructure Study (March 2019) as constrained and unable to currently support more development. The constraint of this substation affects development in Cringleford and Hethersett. With new housing close to Cringleford Primary and spare capacity utilised as backup for the hospital reinforcements or upgrades to the electricity network are required when demand exceeds capacity. If development sites cannot proceed due to insufficient capacity, alternative measures must be considered in order to deliver these.

Infrastructure	Cringleford Primary Substation
Location	South Norfolk
Delivers	2,500 homes
Lead authority	UK Power Networks
Estimated start date	TBC
Estimated cost	£2.5-10m
Unfunded cost	£2.5-10m
CIL contribution	Possibly
Funding opportunities	CIL, private sector
Benefits	Supports housing growth in SW Norwich and provides back up supply to Norfolk and Norwich Hospital.
Link to other information	N/A
Status	Baseline requirement

Broadland Growth Triangle Trunk Sewer

There is no significant capacity constraint from the existing works at Whitlingham or Belaugh, but there is in the existing sewerage network. An existing trunk main connecting from Sprowston to Whitlingham has a limited amount of capacity. After capacity within this main is used, new infrastructure would be required to give a connection of adequate capacity to the Whitlingham Water Recycling Centre. Connections to the foul sewerage networks to serve development sites are an on-going project which is driven by developers applying to Anglian Water to connect to the public sewerage network.

Infrastructure	Broadland Growth Triangle Trunk Sewer
Location	Broadland
Delivers	A possible 10,000 homes
Lead authority	Anglian Water
Estimated start date	2011-2026
Estimated cost	TBC
Unfunded cost	TBC
CIL contribution	Yes
Funding opportunities	Private sector
Benefits	Supports the delivery of 10,000 homes to the northeast of Norwich
Link to other information	GNDP Local Investment Plan and Programme
Status	Baseline requirement

King's Lynn Sewerage Improvements

To help facilitate growth in King's Lynn, sewerage improvements may be required. Connections to the sewerage network are an on-going project which is driven by developers applying to Anglian Water to connect to the foul sewerage network.

Infrastructure	Upgraded wastewater flow capacity in King's Lynn	Major sewerage improvements at King's Lynn
Location	King's Lynn and West Norfolk	King's Lynn and West Norfolk
Delivers	Housing growth in King's Lynn	Housing growth in King's Lynn
Lead authority	Anglian Water	Anglian Water
Estimated start date	TBC	TBC
Estimated cost	Circa £500,000	£1-1.2m
Unfunded cost	Circa £500,000	£1-1.2m
CIL contribution	Possibly	Possibly
Funding opportunities	Private sector	Private sector
Benefits	To help facilitate growth in King's Lynn, sewerage improvements may be required	To help facilitate growth in King's Lynn, sewerage improvements may be required
Link to other information	N/A	N/A
Status	Baseline requirement	Baseline requirement

Sustainable Projects

Great Yarmouth Flood Defences 2017 onwards (Epoch 2)

There are approximately 12km of flood defences in Great Yarmouth that help reduce the risk of tidal flooding to over 5000 dwellings and 1000 businesses from the River Yare. However, the steel piled quays supporting our flood defence walls are badly corroded and need replacing. Failure of these defences during a surge tide event would result in rapid flooding of properties in the lower lying land adjoining the river. We have developed a 5-epoch project over the next 40 years to address this issue, prioritised based on the condition of the defences.

Infrastructure	Great Yarmouth Flood Defences 2019 onwards Epoch 2 (2016 – 2021), Epoch 3 (2021 – 2026), Epoch 4 (2026 – 2046), Epoch 5 (2046 – 2061)
Location	Great Yarmouth
Delivers	The Environment Agency is currently delivering Epoch 2 (2016 –2021) to refurbish and improve approximately 4km of flood defences and the supporting quayside. A Limpet Dam will be used to enable patching of the corroded pile sections and installation of cathodic protection to stop future accelerated low water corrosion. It is anticipated that adopting this approach will allow a further 30 years of life to be gained from the assets for an estimated 30% of the cost of replacement and manage the flood risk to around 2000 homes and 700 businesses. The challenge is to secure funding to deliver the next epoch of work required to manage the flood risk to the town grows. The partners are working together to identify a sustainable income stream to ensure the vital investment for the next phase of work and continued maintenance. All opportunities and beneficiaries should be explored.
Lead authority	Environment Agency (lead technical partner) working in partnership with Great Yarmouth Borough Council, NCC, New Anglia LEP, Peel Ports, Broads Authority, and the Tidal Defence Business Partnership (representing local businesses).
Estimated start date	Epoch 2 construction work began in October 2019 and the current completion date is spring 2022. Works on a further two walls are currently being developed and it is envisaged these works will be completed in December 2023.
Estimated cost	Epoch 2 has a construction cost of £41.4m with an additional £6.2 million required to maintain the Epoch 2 defences over the next 30 years. Epoch 3 has an estimated construction cost of £33m, however refined and revised through options appraisal and design.
Unfunded cost	Epoch 3 is at an early stage. The project’s viability is likely to depend on securing around 63% (approx.£20.5m) of the cost through partnership funding.
CIL contribution	No

Funding opportunities	Partners of the project, growth and regeneration investment, developer contributions, critical infrastructure providers and businesses
Benefits	The flood defences support the economic growth and development of Great Yarmouth with the potential to support 34,000 jobs and £1.5 billion to the economy over the lifetime of the Epochs. Enabling 50ha of prime location undeveloped land and opportunity to enable appropriate resilient development, in line with local development strategies and supporting policies.
Link to other information	Great Yarmouth Tidal Defence Project
Status	<p>The Epoch 2 construction works are in progress addressing 40 walls across the town with completion planned for spring 2022. £18m Partnership funding has been secured to gain approval to spend £27m FDGiA (capital and revenue).</p> <p>Epoch 3 is at an early stage of business case development. A substantial amount of partnership funding will again need to be secured in order for this project to progress as planned. Partners are beginning work to identify funding sources for Epoch 3 and to identify a sustainable income stream to meet future investment required to manage flood risk to the town.</p>

Future Fens – Flood Risk Management

The Great Ouse Fens are approximately 370,000 hectares of rural lowland, much of this is below mean sea level. 66,000 hectares of this area are within Norfolk. The Fens are high grade agricultural land and currently have a high standard of flood risk management provided by a complex system of watercourses and key water management assets in Norfolk, including the Denver Sluices, King Lynn tidal defences, South Level Barrier bank, and major pumping stations.

New housing development proposed for Downham Market, Wisbech and Kings Lynn, as well as new transport infrastructure crossing the Fens will put additional pressure on the Fens flood risk infrastructure.

Infrastructure	Future Fens – Flood Risk Management
Location	Area around Southery, Denver, Upwell, Outwell, Kings Lynn
Delivers	<p>The Great Ouse Fens considered in the project covers 2,184km² of Cambridgeshire and Norfolk adjacent to the lower reach of the Great Ouse catchment from Earith to The Wash. The area includes around 130,878 residential properties, 13,068 non-residential properties and 184,895 hectares of agricultural land.</p> <p>This project will provide the evidence base for the consideration of future and potential flood risk investments required across the Fens. Phase 1 of FCERM in the Fens is the baselining stage, bringing asset and investment information together to determine the scale of the challenge, which in turn will enable visualisation and engagement with a vast array of interested parties.</p> <p>Phase 2 will involve the strategic appraisal of the adaptive infrastructure choices available to decision makers within the Fens. Given the scale and complexity of this, it is estimated that Phase 2 may take between 5 to 10 years to develop and conclude.</p>
Lead authority	Environment Agency
Estimated start date	Ongoing project. Implementation phase from ~2030.
Estimated cost	Phase 2 Strategy cost approximately £10-15M. Predicted future capital investment need in flood risk management over next 100 years is £2.7bn, with approximately £1.1bn from Government.
Unfunded cost	Approximately £1.6bn required from contributors. TBC - from £100m to 2120 CIL
CIL contribution	Possibly
Funding opportunities	Central Government (Flood and Coastal Erosion Risk Management Grant in Aid); Local Government (Regional Flood and Coastal Committee Local Levy), Internal Drainage Boards, and other funding sources from beneficiaries.

Benefits	Land protected for economic growth, appropriate housing development and new transport infrastructure enabled, particularly East Wisbech, West Winch and A10 and A47 improvements.
Link to other information	Great Ouse Tidal River Baseline Report 2017
Status	The Environment Agency have begun study work to plan the best way of managing future flood risk in the Great Ouse Fen Area, including investment needs. Existing cost estimations are based on initial understanding of the core, tidal river area of the Fens; needs for the Fens as a whole will be significantly in excess of these currently known figures.

Digital Project

Smart Emerging Technology Institute (SETI)

The Smart Emerging Technologies Institute is digital communications infrastructure initiative aiming to create the fastest collaborative research testbed in Europe. SETI (a virtual institute led by UEA in partnership with Cambridge University, BT Adastral Park and Essex University) will provide a global capability to support leading edge research, benchmarking and validation of new applications and services, through large scale experiments using the ultrafast digital communications infrastructure.

Once delivered, SETI has the potential to push the boundaries and fast track the application of machine learning, artificial intelligence (AI) etc.

Smart Emerging Technology Institute (SETI)

Description of stage	Estimated cost to deliver the stage	Indicative timeframe to deliver stage and start date	Potential funding source	Scheme Development
Initial feasibility study has been completed. Development of detailed business cases due to start summer 2021.	c. £50k	4 months August 2021	New Anglia LEP Innovation fund and in-kind staff contribution from UEA, SNC and CNTC (all secured)	Feasibility/development work underway on preferred option

Up and Coming Projects

There is a list of up-and-coming projects, to assist in the creation of a pipeline of schemes so we are aware of the major infrastructure likely to come forward in the future and as more information on these new projects becomes available they can be considered for inclusion in future versions of the NSIDP. This section is for those projects which fit the criteria for the NSIDP but where enough information is not known for projects to be fully included in the plan at this time. These projects are:

- North Walsham Link Road
- Trowse Rail Bridge
- Thetford A134 to A11 connection
- Longwater additional access
- Transport Infrastructure to support Norwich East
- A149 King's Lynn Bypass
- A10 Setchey (south of West Winch)
- A140 north of Long Stratton
- Great Yarmouth North Quay Regeneration
- Great Yarmouth Outer Harbour Southern Terminal
- Great Yarmouth Town Centre Improvements
- Great Yarmouth Learning Centre and University Campus
- Business Incubator on the Great Yarmouth Energy Park
- Active Travel in Breckland
- Power and Access enhancements at Hethel