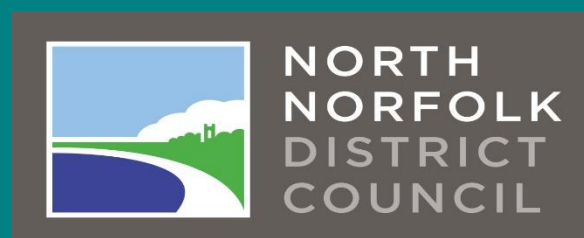


# **Norfolk Strategic Infrastructure Delivery Plan 2020**

**December 2020**



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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 and local amenities as well as connecting business with 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.

This 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 Norfolk and Suffolk Economic Strategy (NSES), Local Industrial Strategy, District Council Local Plans, the County Council's plan "Together for Norfolk – an ambitious plan for our County 2019-2025" priorities, Children's Services Local Growth and Investment Plan and the Norfolk Strategic Planning Framework agreed by all Norfolk planning authorities.

**There are many other infrastructure schemes and projects important 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 Norfolk 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 level projects** on which 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 Government's Industrial Strategy, which identifies growth as being clustered around centres of skills and ideas. All of the projects will deliver the physical infrastructure that is essential to promote these economic growth locations.

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 are less well known. 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.

The scheme development of these projects is demonstrated by a tick system, shown below:

- No ticks = Issue identified but no work carried out to identify project/solution
- ✓ = Feasibility work on scheme has begun to identify options
- ✓✓ = Feasibility/development work underway on preferred option
- ✓✓✓ = Project is shovel ready

## Norfolk Strategic Infrastructure Delivery Plan 2020

The 2020 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. As fresh schemes emerge, a new section called **Regeneration** has been added to this year's plan to capture developing schemes that encompass a wide range of activities that have a profound regenerating and revitalising effect on an area and community and will require supporting infrastructure.

**East Norwich Regeneration** scheme represents an "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 the East Norwich as a productive quarter of for the future growth of the city, that could generate up to 4,000 homes, 100,000 square meter 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.

In rail projects, there are also significant progress achieved in **Ely area enhancement** scheme which is lead by Network Rail. Network Rail has secured £13.1m funding from 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. Enhancement will significantly improve train connectivity between Norfolk and Cambridgeshire and Stansted Airport as well as the Midlands and the Northern part of UK.

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 and could graduate to the main section of the plan as these projects 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 that work is that traffic flows are currently about 38,000 vehicles per day. If a new road was being planned for to accommodate this level of traffic it would need to be of a dual carriageway standard. This illustrates the inadequacy of the current road. The A149 is not part of the governments new Major Road Network (MRN) where it could be considered for funding from that programme. However, a full dualling scheme from the Hardwick Junction to the Knights Hill roundabout would cost more than the ceiling for that fund which is £50m. Therefore, a more appropriate source of funding for such an improvement would be the governments Large Local Major (LLM) scheme funding pot if it were an agreed priority for the region.

## Impacts of the Pandemic

2020 is an unprecedented and extraordinary year deeply affected by the global pandemic of Covid-19. At the time of producing this Infrastructure Delivery Plan, the social, economic and political impacts of the pandemic are still unravelling and ever changing. The social restriction measures put in place to contain the spread of the disease have meant millions of employees across the Country have been forced to stop working and supported financially by the Coronavirus Job Retention Scheme. Office of Budget Responsibility has forecasted a 35% decrease in GDP in second quarter of 2020 and a peak of 12% unemployment rate in the fourth quarter of 2020.

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

This year NCC launched the Norfolk Strategic Fund of £6.75 million to provide funding for Norfolk local authority/New Anglia LEP led projects aimed at achieving the above-mentioned purpose through specific target projects or by bringing forward the delivery of key Infrastructure. One example of this is funding has been secured for the Snetterton Heath through the Norfolk Strategic Fund which will enable work to commence Autumn 2020 aimed at identifying solutions to the infrastructure necessary to deliver the intended growth at this site.

**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 2019 suggests Norfolk authorities will need to collectively plan for at least an additional 75,186 (approx. 4,200 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. As well as 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 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

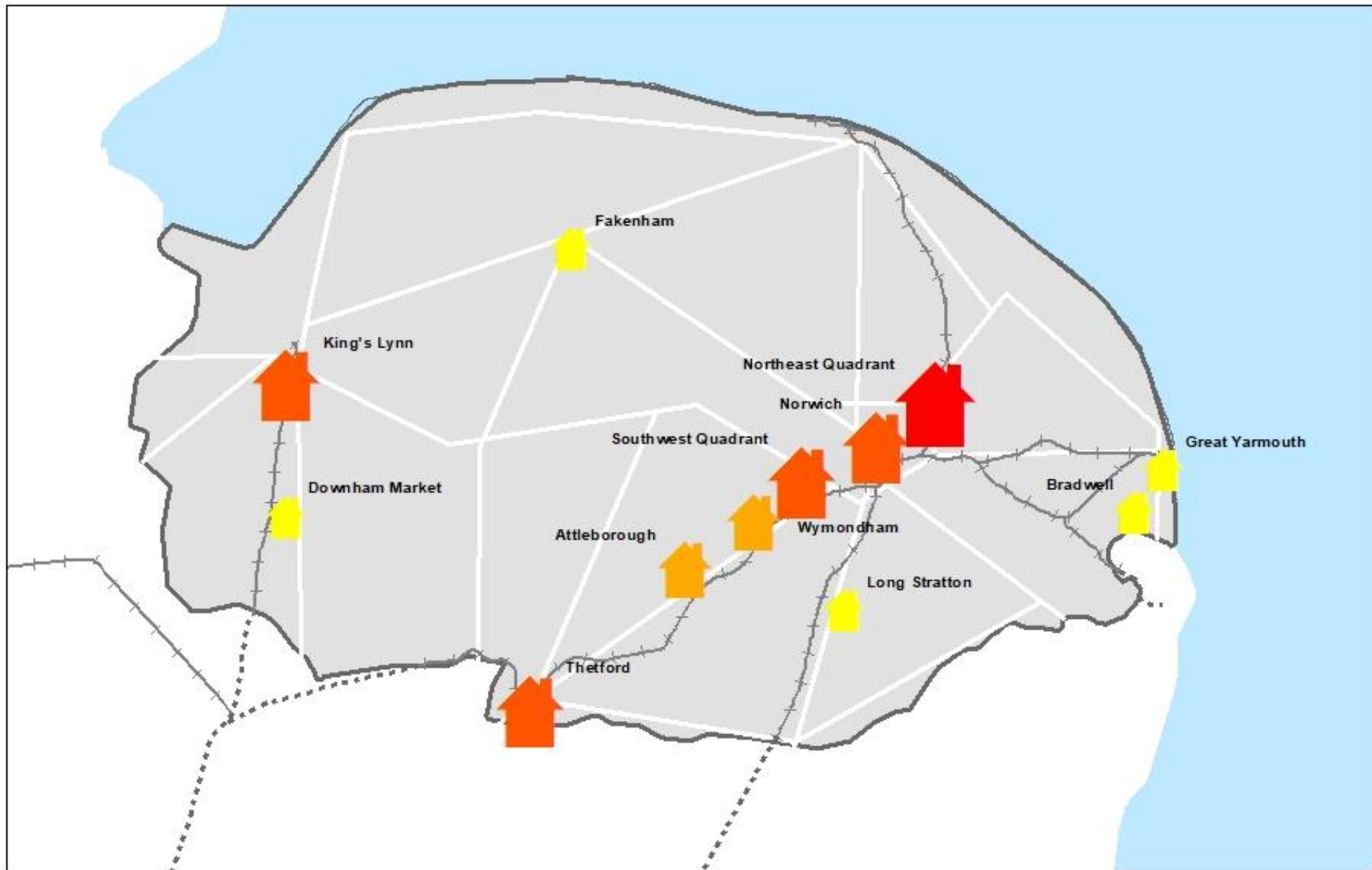
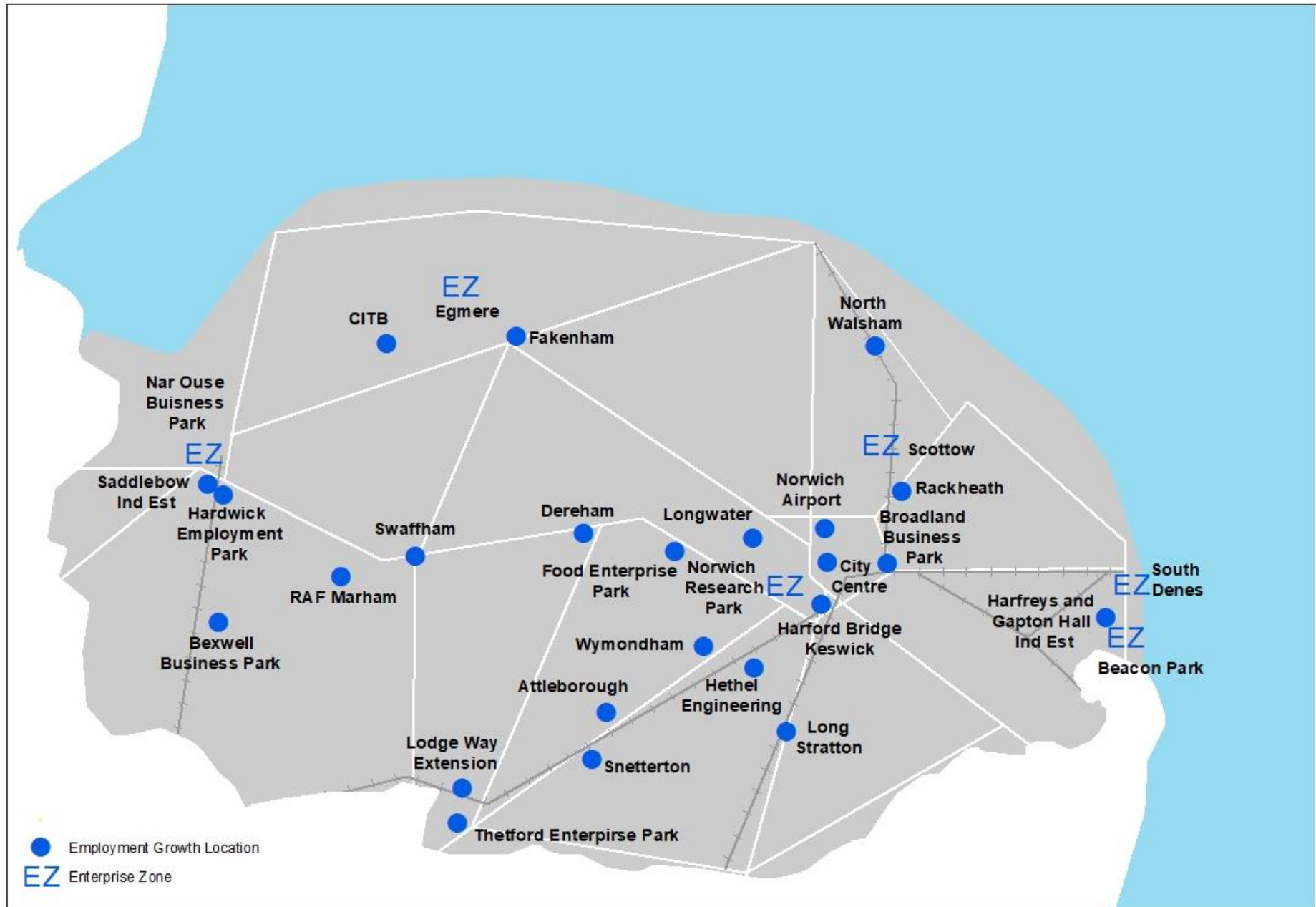
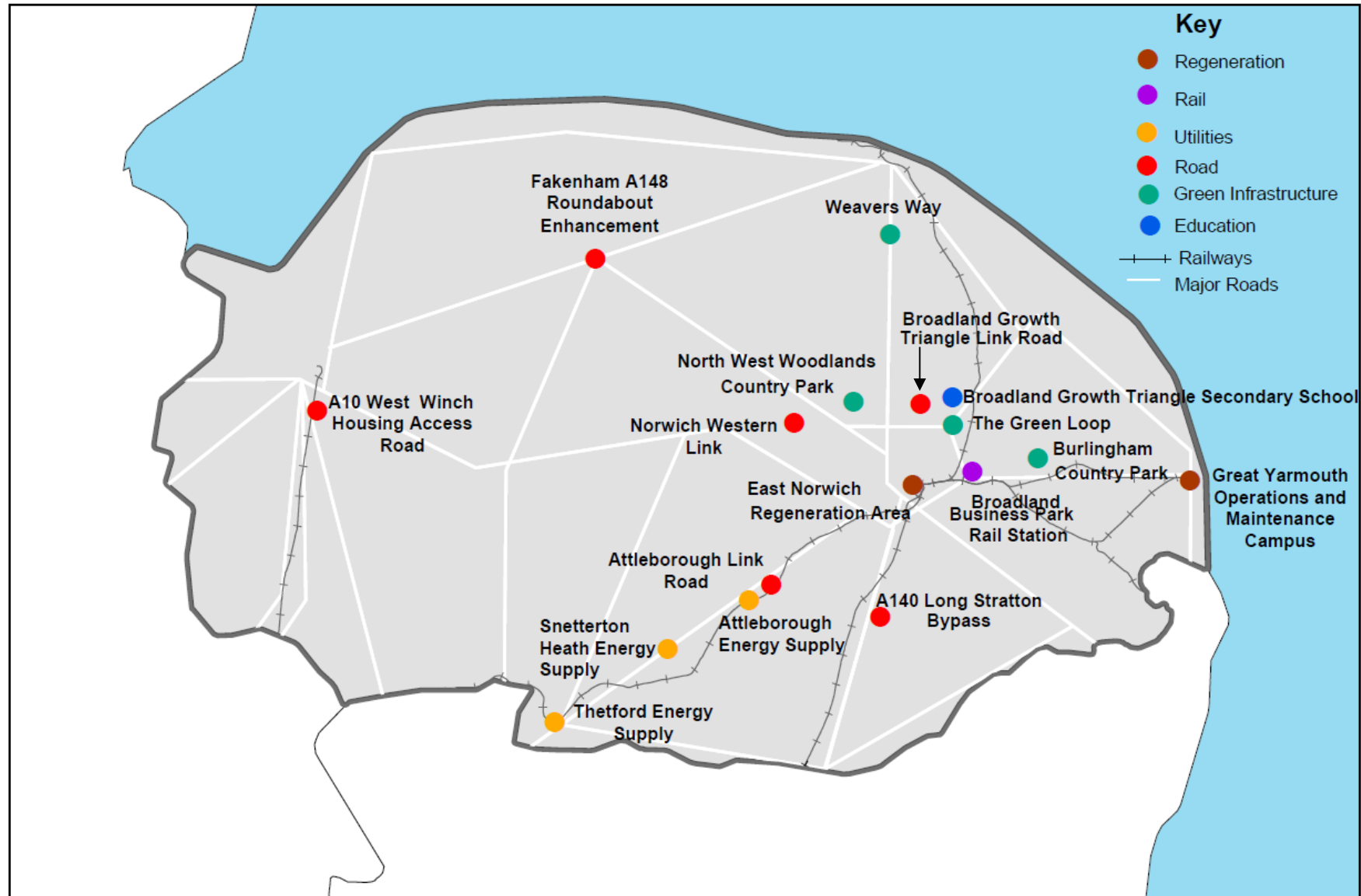


Figure 2 Key employment sites



**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 NSES key places, and will create 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 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 along the coast 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 (NALEP)
- Homes and Communities Agency
- 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

In December 2013, Broadland, Norwich City, Norfolk County and South Norfolk councils signed a City Deal with central government. A core theme supports infrastructure delivery to promote accelerated delivery of planned growth for infrastructure in Greater Norwich.

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:

Scheme	Funding agreed	Works proposed	Homes unlocked
<b>Marginal viability fund (single and lower tier authorities)</b>			
Kingsfleet Urban Extension, Thetford	£9.95m	Power infrastructure	5,000
Anglia Square, Norwich	£12m	Decontamination, archaeology, demolition, drainage, roads	1,230

		and parking, water, electricals and gas	
Cringleford, South Norfolk	£7.8m	Infrastructure (Homes England's Accelerated Construction Fund.)	350
<b>Forward funding (upper tier authorities)</b>			
Broadland growth triangle	£57m	Infrastructure	7,720
<b>Total</b>	<b>£86.75m (currently – not including Broad Growth Triangle)</b>		<b>14,300</b>

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

NCC, in partnership with Norwich City Council, Broadland District Council and South Norfolk Council, has made an application to the Department for Transport (DfT) as part of the Transforming Cities Fund (TCF) through Transport for Norwich (TfN). The fund aims to make it easier for people to access jobs, training and retail, and also aims to respond to issues around air quality.

In January 2019, TfN was awarded £6.1m from Tranche 1 of the TCF to deliver six improvement schemes for delivery during 2019/20. These schemes were as follows:

- Improvements to Norwich Bus Station
- Continuation and completion of pedestrian, cycle and traffic flow improvements to the Prince of Wales Road area, extending into Bank Plain and London Street
- Cycle, pedestrian and highway improvements to the green pedalway in Thorpe St Andrew
- Provision of an additional section of off-carriageway cycle path along the blue pedalway in Hethersett
- Provision of a new cycle share scheme in Norwich
- Pedestrian access improvements at the Heigham Street/Mile Cross Road and Dereham Road/Bowthorpe Road junctions, including provision of a 20mph speed restriction in the residential areas between the junction.

Following an initial application for Tranche 2 TCF funding in November 2019, we were advised in March 2020 that although there were significant elements of our TCF application that they liked, some additional work was needed and that a resubmission was required. This was to secure a share of £117m of TCF funding, which had been set aside for Norwich, Portsmouth and Stoke-on-Trent to competitively apply for. We were advised to submit a core package requiring an investment of circa £32M from the DfT, with options for a high or low package of

£32M +/- £5M respectively. DfT has recently confirmed that we will receive £32m from the Transforming Cities Fund. The funding will deliver vital infrastructure improvements to improve travel times for bus passengers on the most popular transit routes, giving city bus operator, First Eastern Counties, confidence to invest a further £18m in its fleet and local services.

We 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.

We have considered the impacts that COVID-19 is currently having on travel behaviours, employment, education and training and how our programmes will need to be delivered to help mitigate these impacts in the short / medium term as lockdown measures are eased and support longer term recovery.

We are seeking to continue investing in the city centre and key transport corridors because the transport network in Norwich radiates out from the historic city centre in a hub-and-spoke arrangement. This has been in place for a considerable time and is the basis on which the current transport network has evolved. Our TCF programme retains investment in the following areas / corridors:

- Norwich city centre;
- Wymondham to city centre;
- Easton to city centre;
- Airport to city centre;
- Sprowston to city centre;
- Rackheath to city centre.

The TCF programme will be delivered through three linked approaches:

**Transforming the bus network.** Transforming the transport network will be achieved by creating six clean transport priority corridors that link key transport hubs, economic growth areas, existing and new homes and educational provision across the Greater Norwich Region. On these clean transport priority corridors, the programme will:

- Provide a minimum 8-minute daytime service frequency on key corridors, timetable co-ordination between operators and more evening and weekend services;
- Support Park & Ride and other express bus services;
- Provide dedicated bus priority measures along the clean transport priority corridors;
- Provide direct, low-carbon bus corridors into the city centre for residents;
- Prioritise buses and cycling to ensure shared and clean modes are competitive with the private car;

- Promote shared transport interventions through a sustained and co-ordinated behaviour change programme to reduce single-vehicle occupancy.

**Transforming the city centre.** This will be achieved through:

- Delivering a step-change in the quality of infrastructure that supports public transport, walking and cycling in the city centre;
- Redesigning bus stops so that buses can easily access and vacate bus stops;
- Improving walking connections within the city centre;
- Removal of through-traffic from specific areas and providing extra inner ring road junction capacity;
- Providing additional bus stop capacity.

**Transforming the passenger experience.** This will be achieved through:

- Roll out of mobility hubs at key locations;
- Enhancing the role of Park & Ride in Norwich;
- Improving real-time service information with disruption and punctuality alerts;
- Working with transport providers to promote and increase the use of multi-operator, multi-modal and contactless ticketing;
- Accelerating the delivery of capped ticketing for individual and multiple bus operators;
- Improving value for money measured through Transport Focus customer satisfaction surveys;
- Significantly improving vehicle quality and on-vehicle information through investment by bus operators.

## Infrastructure Funding Statement

The 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 been 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 2020

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 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
- King's Lynn Lynnsport Link Road- 3.5m
  
- A140 Hempnall Roundabout - £4m
- A11/Outer Ring Road Daniels Road junction improvement- £2m
- Great Yarmouth congestion-busting projects- £3.3m
- 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:

- Attleborough Town Centre Improvements- £4.5m
- Snetterton Energy Supply - £3.6m
- Great Yarmouth sustainable transport package (Part 2) - £3.5m
- 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

## Planned, not yet started:

- Great Yarmouth Third River Crossing- £120m
- A47 improvements £2-300m (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
- Snetterton Energy Supply Short term power needs £6.1m
- Thetford SUE - £14m

# 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 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, 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 will be invested to implement Fibre to the Premises for over 10,000 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 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 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. The Rural Gigabit Connectivity (RGC) programme began on 19 May 2019 and will run until the end of March 2021.

The RGC programme aims to assist Building Digital UK which is part of the Department for Digital, Culture, Media and Sport, and partner organisations, in delivering nationwide gigabit-capable connections in locations that are unlikely to benefit from commercial investment.

## Full Fibre

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. 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 £200m RGC programme, remains open for new applications until 31 March 2021 (or until the funding runs out).

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](#).

Gigabit-capable broadband connections offer the fastest and most reliable speeds available, and the Government is committed to a vision of a digitally connected Britain.

## 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. This is a new project for 2020 see page 83.

# 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 Committee in January 2020.

## Major growth areas which will require multi-school solutions:

- Thetford Sustainable Urban Extension (SUE) -5,000 new dwellings;
- North Norwich Growth Triangle (formerly called Broadland Growth Triangle) (Sprowston/Old Catton/Rackheath) -12,000+ new dwellings; and
- Attleborough SUE - 4,000 new dwellings.
- 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 forecasts indicate that for 2020 admissions the catchment cohort in Thetford may rise by one form of entry which can be managed within existing schools.

Working with the land promoters on the Thetford SUE sites have been secured free of charge for three new primary phase schools each of 420 places. 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 92 have commenced and 6 completed. This phase includes the site for the first new primary school with a potential opening date of 2021. The design for the new school has begun along discussions with Pigeon on access and road infrastructure.

Pupil forecasts indicate that the current provision of places is sufficient until the new housing commences. There is some spare capacity, which will be useful once housing commences and until first new school is built.

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 will grow year by year up to 420 places to accommodate children from the housing within the area it is situated.

The Beeston Park outline planning application for 3,500 dwellings is being promoted by TOWN on behalf of U+I plc. The site continues to progress and NCC have been regularly updated. As with most large scale, complicated developments progress has been slow. Phase 1 of the scheme (733 dwellings) is progressing relatively well: a detailed scheme for the 1<sup>st</sup> phase link road is under consideration and negotiation with house builders are understood to be ongoing. Subject to the grant of consent for the link road, and negotiations with house builders being successfully concluded, development could start on site in the next 1-3 years. Timely progress of phases 2 and 3 will depend on further funding availability, given the unsuccessful outcome of Norfolk's HIF bid.

To the west of the growth triangle, Orbit homes (225 dwellings) are planning to commence shortly with first completions in 2020 and land at the Norwich Rugby Club has a developer interested. A development of 340 homes in Old Catton by Taylor Wimpey has commenced and expect first occupations in 2020.

The large allocation in Rackheath for 3,000 dwellings, although the final scheme may be closer to 4,000, is moving slowly and may not commence for a few years yet. However, several 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 planned south of Salhouse Road for circa. 1,200 dwellings continue to progress well. Two developers have now secured detailed planning permission for 600+ dwellings and these have either commenced or will soon do so. Negotiations are ongoing with a further development partner in respect of the remainder of the scheme.

Housing in this area will establish the need for many new schools and impact on existing schools. 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 Sprowston area. Although a preferred site has been identified on the current Sprowston Park

and Ride site, as some time has passed NCC Children's Services are reviewing all options both new and existing.

## **Attleborough**

The town of Attleborough is served by two all-through primary schools, namely Attleborough Primary School and the new 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 2018, around 22% of Attleborough catchment children expressed a preference for a reception class outside catchment.

Breckland District Council granted planning permission to provide up to 4000 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.

NCC, Breckland District Council and the applicant are working together to bring forward early the key element of infrastructure of the link road. It is anticipated that housing will commence no later than 2023/24.

In summer of 2019, NCC Children's Services agreed with Breckland and the land promoters the amount of £25m towards additional primary and secondary school provision as an impact of the urban extension.

In the short-term school places will be monitored through the annual admissions round. In the longer term there is planning for the provision of two new primary schools for Attleborough understanding the parental preference to surrounding villages and how that will impact on the new schools.

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

Up to 4000 dwellings are proposed in West Winch and North Runcton to be delivered in 2 phases, with 1600 up to 2026 and a further 2400 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. 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 NCC have been consulted again in October 2019 as the Borough Council wish to masterplan the whole site, 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 an 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.

## 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 is a non-statutory consultation, which is 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 forms 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.

# **Infrastructure projects in Local Authority Control**

## 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.

### Scheme Development key:

No ticks = Issue identified but no work carried out to identify project/solution

✓ = Feasibility work on scheme has begun to identify options

✓✓ = Feasibility/development work underway on preferred option

✓✓✓ = Project is shovel ready

## Road Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Broadland Growth Triangle Link Road	2021	£38m	✓✓✓	Developer finance, CIL, BRP, HIF
Attleborough Link Road	TBC	£18m	✓✓	BRP, developer finance, NALEP, Homes England loan, HIF
A10 West Winch Housing Access Road	2024	£30-50m	✓✓	Developer funding, DfT Major Road Network
A140 Long Stratton Bypass	2023	£37.5m	✓✓	Developer funding, NALEP, CIL, NPIF, Government Major Road Network

A148 Fakenham Roundabout Enhancement	2022	£3.5m	✓✓	NPIF, NALEP
Norwich Western Link	2023	£160m	✓✓	NALEP, Local major transport scheme

## Rail Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Broadland Business Park Rail Station	Mid 2020s	£6.5m	✓	NALEP, Rail Industry

## Utilities Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Thetford Energy Supply	2021	£6.5m-£9.5m	✓✓	BRP, NALEP,
Attleborough Energy Supply	TBC	£22m	✓✓	BRP, NALEP, Private Sector
Snetterton Heath Energy Supply	TBC	TBC	✓	NALEP, Private Sector, BRP

## Sustainable Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Weavers Way	2019	£3.1m	✓✓	RDPE, HLF, NALEP
The Green Loop	2019/20	£5.8m	✓✓✓	DfT, NALEP, Sustrans, Lottery, Developer contributions, CIL
North West Woodlands Country Park	2020/21	£2m	✓	Broadland District Council, CIL, BRP
Burlingham Country Park	2021	TBC	✓✓	BRP, CIL, NCC, Developer contribution

## Education Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
Broadland Growth Triangle Secondary School	2025/26 – dependent on development progress	£26m	✓	NCC, BRP, CIL

## Regeneration Projects

Project Name	Estimated Start Date	Estimated Cost	Scheme Development	Potential Funding Source
East Norwich Regeneration Area	2020 – for master planning	TBC, £50k for master planning	✓	Norwich City Council, LEP, Homes England, Developer Contribution
Great Yarmouth Operations & Maintenance Campus	2022/23	TBC- £10.4m	✓✓	Enterprise zone Income, NCC, GYBC, Getting Building Fund

# 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 Norwich Link Road				
<b>Description of stage</b>	Airport Industrial Estate to St Faiths Road	St Faiths Road to North Walsham Road and North Walsham Road to Wroxham Road	Salhouse Road to Plumstead Road	Plumstead Road to Broadland Business Park
<b>Estimated cost to deliver the stage</b>	Additional feasibility and scheme development costing approx. £200k	Additional feasibility and scheme development costing approx. £500k	Possible need for additional feasibility and scheme development costing approx. £300k	n/a
<b>Indicative timeframe to deliver stage and start date</b>	<p>Feasibility underway to establish optimal location, nature and timing of vehicular link to Airport - completion by March 2019. Scheme development and planning applications to follow as appropriate.</p> <p>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.</p>	<p>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. Approval anticipated by March 2020 and delivery by March 2021.</p> <p>NCC, BDC and developer are working through the co-development of the HIF bid to develop scheme for remainder of link. If HIF is</p>	<p>Outline planning permission for development scheme across majority of link granted. Reserved matters application submitted for link between Salhouse Road and triangle land. Scheme for signals on Salhouse Road submitted and delivery anticipated by March 2020.</p> <p>Detailed consent for junction with Plumstead Road currently under-consideration. Roundabout junction</p>	<p>Developer current intention is to begin constructing 1<sup>st</sup> phase of the Brook Farm Link Road by the end of 2019.</p> <p>BDC and NCC are in ongoing negotiations with developer about 2<sup>nd</sup> phase of link road.</p> <p>Key constraint is Middle Road Bridge. Scheme for widening and improving presently part of funding bid.</p>



	Work on a permanent link between Repton Avenue and Meteor Close still to start. Construction complete by March 2020.	successful delivery is expected by March 2021.	subject to funding bid.	
<b>Potential funding source</b>	CIL, developer finance	CIL, BRP, HIF, developer finance	CIL, HIF, developer finance	Developer finance
<b>Scheme Development</b>	✓✓✓	✓✓✓	✓✓✓	✓✓✓

## 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 will be 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. 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.

Attleborough Link Road		
<b>Description of stage</b>	Development phase: Preliminary Design; Statutory procedures and powers; Construction preparation	Construction phase
<b>Estimated cost to deliver the stage</b>	Circa £1.8m	£18m
<b>Indicative timeframe to deliver stage and start date</b>	Two years	TBC
<b>Potential funding source</b>	BRP, local authority, developer finance	BRP, developer finance, NALEP, Homes England loan, HIF
<b>Qualifications for BRP and or NALEP funding</b>	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.	Required for 4,000 new houses and 1,500 new jobs. Strategic scheme identified in the NSIDP. Funding would be for construction.

**Scheme Development**

Completion of this stage will take the project from ✓ to ✓✓

Completion of this stage will take the project from ✓✓ to ✓✓✓

## A10 West Winch Housing Access Road

The West Winch Housing Access Road (WWHAR) is required to provide additional highway capacity 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 draft Strategic Outline Business Case (SOBC) was submitted in 2019. NCC intend to submit an updated SOBC including a full economic appraisal by the end of 2020. After this, if approved by DfT, an Outline Business Case (OBC) will be prepared.

A10 West Winch Housing Access Road			
Description of stage	Stage 1: Scheme development	Stage 2: Preparation of planning application and business cases	Detailed design and procurement
Estimated cost to deliver the stage	£280k	Est. £1.98m	TBC
Indicative timeframe to deliver stage and start date	Jan- Dec 2018	Jan 2019-spring 2022	2022 onwards

<b>Potential funding source</b>	Being funded by BRP, NCC and KLWNBC	Being funded by BRP, NCC and KLWNBC	Detailed design and procurement will be funded by DfT if the business case is accepted. Funding for construction is anticipated from the DfT Major Road Network fund as the scheme has been prioritised by Transport East. However, a local contribution of at least 15% will be required which should come from developers. Homes England support may also be available in the form of loans or grants.
<b>Scheme Development</b>	Completion of this stage will take it from ✓ to ✓✓	Initial stage to take from ✓✓ to ✓✓✓	Completion of this stage will take it to ✓✓✓

## 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 is due to be submitted by the developer in 2020.

A140 Long Stratton Bypass			
<b>Description of stage</b>	An economic viability study for the Long Stratton bypass. This will be carried out by an expert consultant to provide a professional opinion on the: 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	Development phase: Preliminary Design; Statutory procedures and powers; Construction preparation NB: This work could be broken down into the three above phases	Construction phase
<b>Estimated cost to deliver the stage</b>	£200,000 (funded)	Circa £5m	Circa £32m

<b>Indicative timeframe to deliver stage and start date</b>	Dec 2017 to July 2018	Two and a half years	2023 start on bypass DfT Major Road Network (The scheme has been prioritised by Transport East. Government gave a positive decision on funding and progression to the next stage of development in 2019. Construction of the road is programmed to start in 2023.) 2019 Hempnall Crossroads (construction completed following successful NPIF bid by the county council in 2018)
<b>Potential funding source</b>	Funded from: Pooled Business Rates: £100,000 SNC: £15,000 HCA: £35,000 NCC: £50,000	BRP, local authority, developer, Government Major Road Network	BRP, Developer, NALEP, HIF, Government Major Road Network
<b>Qualifications for BRP and or NALEP funding</b>		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	Required for 1,800 new houses and to overcome traffic problems on A140. Strategic scheme identified in the NSIDP. Funding would be for construction
<b>Scheme Development</b>	Will take scheme from ✓ to ✓✓	Completion of this stage will take it from ✓✓ to ✓✓✓	

## 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 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				
<b>Description of stage</b>	Development of planning application including time for statutory consultation of 13 weeks	Acquisition of land	Utilities diversion	Construction phase
<b>Estimated cost to deliver the stage</b>	TBC	TBC	TBC	Estimated £3.5m
<b>Indicative timeframe to deliver stage and start date</b>	18 Months – To develop planning application and supporting documentation including environmental assessment, ecological and arboricultural surveys.	6 months	9 months – to deliver and implement any required utility diversions	5 months
<b>Potential funding source</b>	NPIF, NALEP	NPIF, NALEP	NPIF, NALEP	NPIF, NALEP
<b>Qualifications for BRP and or NALEP funding</b>	Required to support the delivery of one of North Norfolk’s largest Local Plan allocations of 950 dwellings			
<b>Scheme Development</b>	✓✓	✓✓	✓✓	✓✓✓



## Norwich Western Link

This link – to connect the Broadland Northway at Taverham to the A47 west of Norwich – has been identified as one of the NCC’s priority road infrastructure schemes.

Norwich Western Link		
<b>Description of stage</b>	Development phase: Preliminary Design; Completion and submission of Outline Business Case; Statutory procedures and powers; Procurement and Detailed Design for Construction preparation	Construction phase
<b>Estimated cost to deliver the stage</b>	£12m	Indicative £160m including development phase costs, fees, risk and other items
<b>Indicative timeframe to deliver stage and start date</b>	Three years (2020-2023) -(2020/2021) Prelim Design, OBC development submission and procurement - £4m -(2021 – 2023) Statutory process (development and delivery) and detailed design/construction prep - £8m	Two years (2023 to 2025)
<b>Potential funding source</b>	BRP, NALEP, local major transport scheme, local authorities	NALEP, local major transport scheme, local authorities

<p><b>Qualifications for BRP and or NALEP funding</b></p>	<p>Strategic scheme identified in the NSIDP.</p> <ul style="list-style-type: none"> <li>• Support sustainable housing growth in the western quadrant</li> <li>• Improve the quality of life for local communities</li> <li>• Support economic growth</li> <li>• Protect and enhance the natural environment</li> <li>• Improve strategic connectivity with the national road network</li> </ul> <p>Funding for detailed technical work designed to progress strategic schemes towards readiness for implementation</p>	<p>Strategic scheme identified in the NSIDP.</p> <ul style="list-style-type: none"> <li>• Support sustainable housing growth in the western quadrant</li> <li>• Improve the quality of life for local communities</li> <li>• Support economic growth</li> <li>• Protect and enhance the natural environment</li> <li>• Improve strategic connectivity with the national road network</li> </ul> <p>Funding would be for construction</p>
<p><b>Scheme Development</b></p>	<p>Will take scheme from ✓✓ to ✓✓✓</p>	

# 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. Dialogue is ongoing regarding next stages for the project.

Broadland Business Park Rail Station				
<b>Description of stage</b>	Feasibility GRIP 2 and option selection GRIP 3	Further work to develop single option	Development phase: Preliminary Design; Statutory procedures and powers; construction preparation	Construction phase
<b>Estimated cost to deliver the stage</b>	£140k	Not known. Likely to be Circa £250,000	Circa £2m	Circa £20m
<b>Indicative timeframe to deliver stage and start date</b>	Dec 17 (completed)	2021 1 year	2022-2026 3-5 years	Circa 2027 1 year
<b>Potential funding source</b>	Funded through BRP and BDC	BRP, local authorities, Network Rail	BRP, Growth Deal, local authorities, Network Rail	BRP, Growth Deal, local authorities, Network Rail
<b>Qualifications for BRP and or Growth Deal funding</b>	Strategic scheme identified in the NSIDP.	Strategic scheme identified in the NSIDP. Funding would be for detailed technical work designed to progress strategic schemes towards readiness for implementation	Strategic scheme identified in the NSIDP. Funding would be for detailed technical work designed to progress strategic schemes towards readiness for implementation	Strategic scheme identified in the NSIDP. Funding would be for construction
<b>Scheme Development</b>	✓	To take scheme from ✓ to ✓✓	To take scheme from ✓✓ to ✓✓✓	

# Utility Projects

## Thetford Energy Supply

There are two major areas of committed growth within Thetford – the Thetford SUE and the Thetford Enterprise Park (TEP). Thetford SUE is allocated, and has outline planning permission, for 5,000 dwellings and 22.5 ha of commercial land. Construction of sub-phase 1A of the SUE commenced on site in spring 2018 with the first 343 units now in contract. Construction of a new Primary Substation to be located on the Thetford SUE is due to start early 2021. This is fully funded through the Housing Infrastructure Fund (HIF). The new primary substation will have sufficient capacity to serve the housing development and a large employment area on the SUE as well as the adjacent large employment area to the west known as the Thetford Enterprise Park (TEP). However, in order to serve the TEP, further network reinforcement works would be required, and these are identified in the table below. The two employment sites have a joint capacity for circa. 140,000sq m of B1, B2 and B8 development and potential to create 3,600 jobs. A feasibility study has been undertaken which considers options of delivering power to the TEP.

Thetford Enterprise Park		
<b>Description of stage</b>	Delivery of power infrastructure sufficient to meet the short-term power needs of Thetford Enterprise Park.	Delivery of power infrastructure sufficient to meet the medium to long-term power needs of Thetford Enterprise Park.
<b>Estimated cost to deliver the stage</b>	Current estimate £3m	Current estimate £6.5m
<b>Indicative timeframe to deliver stage and start date</b>	TBC	TBC
<b>Potential funding source</b>	BRP, NALEP	BRP, NALEP
<b>Qualifications for BRP and or NALEP funding</b>	Required to unlock the TEP employment site	Required to unlock the TEP employment site
<b>Scheme Development</b>	✓✓	✓✓

## Attleborough Energy Supply

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

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

Attleborough SUE		
Description of stage	Delivery of power infrastructure sufficient to meet the short to medium-term power needs of Attleborough SUE	Delivery of power infrastructure sufficient to meet the long-term power needs of Attleborough SUE
Estimated cost to deliver the stage	TBC	Current estimate £22m
Indicative timeframe to deliver stage and start date	TBC	TBC
Potential funding source	BRP, NALEP, Private Sector	BRP, NALEP, Private Sector
Scheme Development	✓✓	✓✓

## Snetterton Heath Energy Supply

Snetterton Heath is Breckland’s largest employment site within excess of 150 acres of undeveloped/under-developed employment land. With Phase One (delivering short term power needs) of a major electricity upgrade scheme fully funded and due to commence Autumn 2020, work has begun to identify further infrastructure projects which may be required to support major developments on the site.

Already envisaged is Phase Two of the electricity upgrade scheme which will be required for developments beyond the 6MVA which Phase One will support. Funding has been secured through the Norfolk Strategic Fund which will enable work to commence Autumn 2020 aimed at identifying solutions to the infrastructure necessary to deliver the intended growth at this site.

Snetterton Heath Energy Supply	
<b>Description of stage</b>	Delivery of power infrastructure sufficient to meet the medium to long-term power needs of Snetterton Heath Employment Area
<b>Estimated cost to deliver the stage</b>	TBC
<b>Indicative timeframe to deliver stage and start date</b>	TBC
<b>Potential funding source</b>	BRP, NALEP, Private Sector
<b>Scheme Development</b>	✓



# **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			
<b>Description of stage</b>	Feasibility – Being delivered as one of the three 'Recycling the Railways' focused studies.	Stage 1 delivery – surface and signage	Stage 2 delivery – associated industrial heritage buildings brought back into use as visitor facilities
<b>Estimated cost to deliver the stage</b>	£45,000	£1,062,343	c. £2,000,000
<b>Indicative timeframe to deliver stage and start date</b>	January 2019	January 2020	March 2023
<b>Potential funding source</b>	NCC capital - secured	RDPE – bid successful	HLF, NALEP
<b>Qualifications for BRP and or NALEP funding</b>	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.		
<b>Scheme Development</b>	✓✓✓	✓✓✓	✓✓

## 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		
<b>Description of stage</b>	Feasibility	Phased delivery of Broadland Way and upgrades to Marriott's Way and the Bure Valley Path
<b>Estimated cost to deliver the stage</b>	£45,000	£5.7m
<b>Indicative timeframe to deliver stage and start date</b>	Broadland Way initial feasibility Delivered May 2018 Bure Valley Path and Marriott's Way upgrades feasibility started April 19	Staged – various completion dates dependent on funding source
<b>Potential funding source</b>	NCC Capital funding - secured	S106, CIL, DfT, NALEP, Interreg Experience- secured
<b>Qualifications for BRP and or NALEP funding</b>	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.	
<b>Scheme Development</b>	✓✓✓	✓✓✓

## North West Woodlands Country Park

The North West Woodlands Country Park (NWWCP) 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 NWWCP 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 NWWCP 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 NWWCP is ideally located to intercept visits to the internationally designated sites and to attract visits from across the Greater Norwich area.

North West Woodlands Country Park				
Description of stage	Stage 1 – Site acquisition	Stage 2 - Scheme development: Design, feasibility and infrastructure delivery plan	Stage 3 - Preparation and submission of planning application	Stage 4. Capital delivery phase
Estimated cost to deliver the stage	£715,000	£72,000	£138,000	£1,067,100
Indicative timeframe to deliver stage and start date	October 2019	Nov 2020	May 2021	December 2022
Potential funding source	CIL	BDC, CIL, BRP	BDC, CIL, BRP	BDC, CIL, BRP
Qualifications for BRP and or NALEP funding	Project delivers green infrastructure mitigation that alleviates the impact of growth in the Greater Norwich area.			
Scheme Development	✓	✓✓	✓✓	✓✓✓

## 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 km<sup>2</sup>. 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		
<b>Description of stage</b>	Stage 1- Design Feasibility and Master-planning	Stage 2- Phased deliver of infrastructure identified through the master planning work
<b>Estimated cost to deliver the stage</b>	£60,000	TBC
<b>Indicative timeframe to deliver stage and start date</b>	July 20- April 21	April 21 TBC
<b>Potential funding source</b>	BRP	CIL, BRP, NCC, Developer Funding
<b>Qualifications for BRP and or NALEP funding</b>	Project delivers green infrastructure mitigation that alleviates the impact of growth in the Greater Norwich area.	
<b>Scheme Development</b>	✓✓	✓

# 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	Scoping & option assessment & design feasibility	Planning	Construction Phase
<b>Estimated cost to deliver the stage</b>	£100k	£400k	£26M
<b>Indicative timeframe to deliver stage and start date</b>	Initially the Park & Ride was considered but plans to relocate this facility have been reconsidered since the opening of the NDR. The 'fall back' site at Rackheath is now the only confirmed available site within the Local Plan but another site is being considered more central in the growth triangle. This site is being evaluated for school purpose.	April 2022 to March 2023, subject to a suitable site being secured and development progress in Broadland Growth Triangle.	April 2025 to March 2026, subject to a suitable site being secured and development progress in Broadland Growth Triangle.
<b>Potential funding source</b>	NCC	NCC	NCC, CIL
<b>Qualifications for BRP and or NALEP funding</b>	Required to support 13,500 planned homes in Broadland Growth Triangle. In principle agreement exists for BRP funding to support scheme development.	Required to support 13,500 planned homes in Broadland Growth Triangle.	Required to support 13,500 planned homes in Broadland Growth Triangle.
<b>Scheme Development</b>	Completion of this stage will take it from ✓ to ✓✓	Completion of this stage will take it to ✓✓✓	Delivery phase takes scheme beyond ✓✓✓

# 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 – identifies the “East Norwich Strategic Regeneration Area” which includes the three sites, and stipulates the proposals must meet the requirements of an area-wide masterplan with the potential for a minimum of 2000 homes in a mixed use development.

East Norwich Regeneration Area	
<b>Description of stage</b>	A masterplan is due to be procured shortly to guide the comprehensive development of the Deal Ground, Utilities and Carrow Works sites in East Norwich, with a view to levering 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, The phased delivery of comprehensive development and associated infrastructure will follow the masterplanning stage.
<b>Estimated cost to deliver the stage</b>	500k
<b>Indicative timeframe to deliver stage and start date</b>	Commence master planning July 2020, complete by mid - late 2021 (TBC)
<b>Potential funding source</b>	For masterplan: Norwich City Council, landowners / developers of the key sites, NALEP, Broads Authority, South Norfolk Council (all TBC). Subsequent delivery: potentially Homes England, developer finance, NALEP, others TBC
<b>Scheme Development</b>	✓ (as work is soon to commence on feasibility / masterplanning)

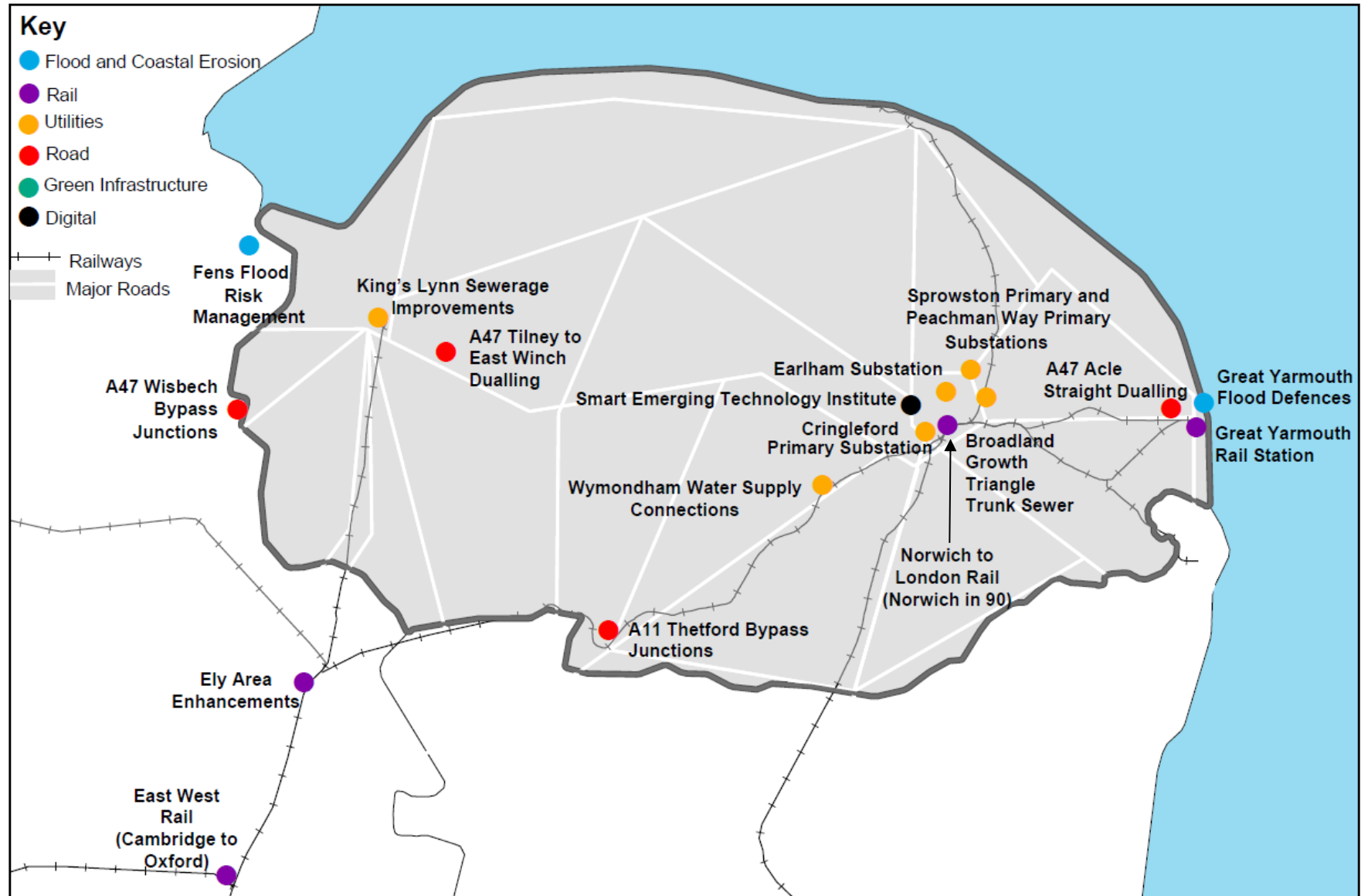
## Great Yarmouth Operations and Maintenance Campus

Creation of an Operations and Maintenance Campus for the energy sector in Great Yarmouth. The sector provides the town, and the wider area, with arguably the single most important economic opportunity for a generation. The project will capitalise on land in Great Yarmouth Borough Council ownership, close to the Southern North Sea wind farm arrays with access to deep water as well as the river port. Repairs and an enhancement package are required to make the facility more accessible and attractive for businesses investing here. Detailed demands and needs analysis have shown that 650 new jobs could be located here. The scheme has recently received funding of £6m from the Government's Getting Building Fund.

Great Yarmouth Operations & Maintenance Campus	
<b>Description of stage</b>	Feasibility
<b>Estimated cost to deliver the stage</b>	£10.4m - TBC, costs to be confirmed after feasibility work complete. Report due August 2020
<b>Indicative timeframe to deliver stage and start date</b>	Feasibility report concluded by August 2020  Report to be taken to Cabinet. If approved, procurement would commence 2020/21 and capital project 2021-2022/23
<b>Potential funding source</b>	Reclaimed Pot B Enterprise Zone income, in addition to £1m contribution from NCC and £1m contribution from Great Yarmouth Borough Council
<b>Scheme Development</b>	✓✓

**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, the five 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 Highways England. 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 Highways England – 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 will undertake further work to investigate the feasibility of a package of measures including looking at alternate solutions to the A11 junctions and the A134 Major Road Network route through the town. This work will be completed during 2020.

Infrastructure	A11 Thetford Bypass Junctions
Location	Breckland
Delivers	5,000 homes and 5,000 jobs
Lead authority	Highways England, NCC, Landowners, Breckland District Council
Estimated start date	2020-2025
Estimated cost	TBC
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	NPIF, Highways England Roads Investment Strategy 3 (2025-2030), Major Road Network Funding
Benefits	Improves congestion, required for growth
Link to other Information	<a href="#">Thetford Area Action Plan</a>
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 Highways England programme, but is not yet committed. NCC will investigate an alternative involving rerouting the A134.

## 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 Highways England. Improvements to these junctions could be brought forward as part of Highways England's 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.

Junction improvements/Broad End Road scheme will be brought forward under the Growth Deal Funding from the CPCA Business Board for the Wisbech Access Strategy. Short term to 2021 £10.5m. Medium Term scheme Elm High Road with CPCA funding to 2026.

Infrastructure	A47 Wisbech Bypass Junctions
<b>Location</b>	King's Lynn and West Norfolk, Fenland
<b>Delivers</b>	960 homes and 10,000sqm office space (up to 2026)
<b>Lead authority</b>	Developers/ Highways England
<b>Estimated start date</b>	2020
<b>Estimated cost</b>	TBC
<b>Unfunded cost</b>	TBC
<b>CIL contribution</b>	No
<b>Funding opportunities</b>	NPIF, developer funding, Highways England Roads Investment Strategy 2 (2020-2025), CPCA Business Board Growth Deal Funding
<b>Benefits</b>	Improved junctions on the A47 will overcome concerns regarding road safety and connect growth areas to the trunk road network.
<b>Link to other information</b>	N/A
<b>Status</b>	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
<b>Location</b>	King's Lynn and West Norfolk
<b>Delivers</b>	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).
<b>Lead authority</b>	Highways England
<b>Estimated start date</b>	2025-30
<b>Estimated cost</b>	£130m
<b>Unfunded cost</b>	£130m
<b>CIL contribution</b>	No
<b>Funding opportunities</b>	Highways England Roads Investment Strategy 3 (2025-2030)
<b>Benefits</b>	Improves connectivity and reliability
<b>Link to other information</b>	<a href="#">A47 Alliance Website</a>
<b>Status</b>	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
<b>Location</b>	Broadland, Great Yarmouth
<b>Delivers</b>	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.
<b>Lead authority</b>	Highways England
<b>Estimated start date</b>	2025-30
<b>Estimated cost</b>	£79m
<b>Unfunded cost</b>	£79m
<b>CIL contribution</b>	No
<b>Funding opportunities</b>	Highways England Roads Investment Strategy 3 (2025-2030)
<b>Benefits</b>	Improve accessibility between Norwich and Great Yarmouth and improve the safety record of the road
<b>Link to other information</b>	<a href="#">A47 Alliance Website</a>
<b>Status</b>	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	48,000 jobs along the line. Improvements would lead to the creation of over a further 8,700 permanent jobs by 2043.
Lead authority	Greater Anglia, Network Rail, NALEP, Local Authorities
Estimated start date	2019- 2024
Estimated cost	Being evaluated
Unfunded cost	TBC
CIL contribution	No
Funding opportunities	Network Rail Control Period 6
Benefits	Track improvements (potentially comprising Trowse swing bridge, Haughley Junction, loops in Essex and level crossing upgrades) between Norwich and London, achieving London to Colchester in 40 minutes, Ipswich in 60 minutes and Norwich in 90 minutes at least hourly off-peak.
Link to other information	<a href="#">New Anglia Great Eastern Rail Campaign Website</a>
Status	The Great Eastern Mainline Task Force has commenced work on re-evaluating the business case, which will confirm the measures needed, the cost of the measures and the benefits from their implementation.'

## Great Yarmouth Rail Station

Existing 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. New rolling stock is being delivered across the whole of the franchise. New trains came into operation on this line during 2019. This has helped to address quality issues with the rolling stock, but a major upgrade is required at Great Yarmouth rail station to improve this gateway to the town. Work, undertaken by the local authorities to improve the Great Yarmouth Rail Station forecourt and onward links to the town centre using Growth Deal money, has recently been completed. There has been a long-standing ambition for improvements to the Rail Station itself.

Infrastructure	Great Yarmouth Rail Station
<b>Location</b>	Great Yarmouth
<b>Delivers</b>	Improvements to Great Yarmouth Rail Station
<b>Lead authority</b>	Greater Anglia
<b>Estimated start date</b>	2019- 2024
<b>Estimated cost</b>	TBC
<b>Unfunded cost</b>	TBC
<b>CIL contribution</b>	No
<b>Funding opportunities</b>	Network Rail Control Period 6
<b>Benefits</b>	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
<b>Link to other information</b>	N/A
<b>Status</b>	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 has secured £13.1m funding from 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. Between September and November 2020, there will be the first phase of public consultation. Further design and development of the EACE programme, including future consultation events later in 2021 and 2022, and authorisation will be subject to future funding decisions by the Department for Transport following the Rail Networks Enhancements Pipeline (RNEP) process.

Infrastructure	Ely Area Enhancements
<b>Location</b>	East Cambridgeshire
<b>Delivers</b>	£120m wider economic benefits, and 1,000 homes and 1,000 jobs.
<b>Lead authority</b>	Network Rail
<b>Estimated start date</b>	Mid 2020s
<b>Estimated cost</b>	TBC
<b>Unfunded cost</b>	TBC
<b>CIL contribution</b>	No
<b>Funding opportunities</b>	Network Rail Control Period 6, NALEP
<b>Benefits</b>	Supports better connectivity on the Cambridge Norwich and King’s Lynn Cambridge corridors.
<b>Link to other information</b>	<a href="#">New Anglia website</a>
<b>Status</b>	Currently Network Rail are undertaking £9.3m of feasibility and design work which will be published in 2019 for inclusion in National Rail spending programme 2019/24.

## 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).

Infrastructure	East West Rail (Cambridge to Oxford)
<b>Location</b>	Cambridge to Oxford
<b>Delivers</b>	Establishes a railway connecting East Anglia with central, southern and western England.
<b>Lead authority</b>	East West Rail Company. Working with local authorities along the route, DfT and Network Rail
<b>Estimated start date</b>	Late 2020s
<b>Estimated cost</b>	TBC
<b>Unfunded cost</b>	TBC
<b>CIL contribution</b>	No
<b>Funding opportunities</b>	Government via special purpose delivery vehicle
<b>Benefits</b>	Connects Oxford and Cambridge to major economies in New Anglia.
<b>Link to other information</b>	<a href="#">East West Rail website</a>
<b>Status</b>	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.

# 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
<b>Location</b>	Broadland	Broadland
<b>Delivers</b>	A possible 10,000 homes	A possible 10,000 homes and Broadland Business Park
<b>Lead authority</b>	UK Power Networks	UK Power Networks
<b>Estimated start date</b>	TBC	TBC
<b>Estimated cost</b>	£2.5-10m	£2.5-10m
<b>Unfunded cost</b>	£2.5-10m	£2.5-10m
<b>CIL contribution</b>	Yes	Yes
<b>Funding opportunities</b>	CIL, private sector	
<b>Benefits</b>	Support the delivery of 10,000 homes and job development at airport and Rackheath	
<b>Link to other information</b>	<a href="#">GNDP Local Investment Plan and Programme link</a>	
<b>Status</b>	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 has 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
<b>Location</b>	South Norfolk
<b>Delivers</b>	900 homes at Easton and jobs at NRP and Food Hub
<b>Lead authority</b>	UK Power Networks
<b>Estimated start date</b>	TBC
<b>Estimated cost</b>	£2.5-10m
<b>Unfunded cost</b>	£2.5-10m
<b>CIL contribution</b>	Possibly
<b>Funding opportunities</b>	CIL, private sector
<b>Benefits</b>	Critical for growth of NRP and will support the delivery of growth in to the SW Norwich – 900 homes at Easton and Food Hub
<b>Link to other information</b>	N/A
<b>Status</b>	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
<b>Location</b>	South Norfolk
<b>Delivers</b>	2,500 homes
<b>Lead authority</b>	UK Power Networks
<b>Estimated start date</b>	TBC
<b>Estimated cost</b>	£2.5-10m
<b>Unfunded cost</b>	£2.5-10m
<b>CIL contribution</b>	Possibly
<b>Funding opportunities</b>	CIL, private sector
<b>Benefits</b>	Supports housing growth in SW Norwich and provides back up supply to Norfolk and Norwich Hospital.
<b>Link to other information</b>	N/A
<b>Status</b>	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	Northeast Norwich 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	<a href="#">GNDP Local Investment Plan and Programme link</a>
Status	Baseline requirement

## Wymondham Water Supply Connections

Water resource is available in principle for up to 4,400 dwellings for Wymondham (commitment for approximately 2,600 homes at 2018). However, network improvements will be required before connection can take place. Connections to the water supply are an on-going project which is driven by developers applying to Anglian Water to connect to the water supply network.

Infrastructure	Wymondham Water Supply Connections
Location	South Norfolk
Delivers	Up to 4,400 homes
Lead authority	Anglian Water
Estimated start date	TBC
Estimated cost	£22m
Unfunded cost	TBC
CIL contribution	Yes
Funding opportunities	Private sector
Benefits	Supports the delivery of up to 4,400 homes
Link to other information	<a href="#">GNDP Local Investment Plan and Programme link</a>
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 waste water flow capacity in King's Lynn	Major sewerage improvements at King's Lynn
<b>Location</b>	King's Lynn and West Norfolk	King's Lynn and West Norfolk
<b>Delivers</b>	Housing growth in King's Lynn	
<b>Lead authority</b>	Anglian Water	Anglian Water
<b>Estimated start date</b>	TBC	TBC
<b>Estimated cost</b>	Circa £500,000	£1-1.2m
<b>Unfunded cost</b>	Circa £500,000	£1-1.2m
<b>CIL contribution</b>	Possibly	Possibly
<b>Funding opportunities</b>	Private sector	
<b>Benefits</b>	To help facilitate growth in King's Lynn, sewerage improvements may be required	
<b>Link to other information</b>	N/A	N/A
<b>Status</b>	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)
<b>Location</b>	Great Yarmouth
<b>Delivers</b>	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.
<b>Lead authority</b>	Environment Agency (lead technical partner) working in partnership with Great Yarmouth Borough Council, NCC, NALEP, Peel Ports, Broads Authority and the Tidal Defence Business Partnership (representing local businesses).
<b>Estimated start date</b>	Epoch 2 construction work began in October 2019.  The current estimated start for the Epoch 3 construction work is mid-2023, but this will be subject to obtaining adequate partnership funding.
<b>Estimated cost</b>	Epoch 2 has a construction cost of £40.3m 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 £29.5m, however refined and revised through options appraisal and design.

<b>Unfunded cost</b>	Epoch 2 requires a further £1.5m of future maintenance commitment from local sources. Epoch 3 is at an early stage. The project's viability is likely to depend on securing around 75% of the cost through partnership funding.
<b>CIL contribution</b>	No
<b>Funding opportunities</b>	Partners of the project, growth and regeneration investment, developer contributions, critical infrastructure providers and businesses
<b>Benefits</b>	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.
<b>Link to other information</b>	<a href="#">Great Yarmouth Tidal Defence Project</a>
<b>Status</b>	The Epoch 2 construction works are in progress addressing 40 walls across the town with completion planned for spring 2021. £18m Partnership funding has been secured to gain approval to spend £27m FDGiA (capital and revenue).  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.



## 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
<b>Location</b>	Area around Southery, Denver, Upwell, Outwell, Kings Lynn
<b>Delivers</b>	<p>The Great Ouse Fens considered in the project covers 2,184km<sup>2</sup> 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>
<b>Lead authority</b>	Environment Agency
<b>Estimated start date</b>	Ongoing project. Implementation phase from ~2030.
<b>Estimated cost</b>	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.
<b>Unfunded cost</b>	Approximately £1.6bn required from contributors. TBC - from £100m to 2120 CIL
<b>CIL contribution</b>	Possibly
<b>Funding opportunities</b>	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.

<b>Benefits</b>	Land protected for economic growth, appropriate housing development and new transport infrastructure enabled, particularly East Wisbech, West Winch and A10 and A47 improvements.
<b>Link to other information</b>	<a href="#">Great Ouse Tidal River Baseline Report 2017</a>
<b>Status</b>	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 East of England Smart Emerging Technologies Institute is a planned research and innovation initiative aiming to create the fastest collaborative research testbed in Europe. It will be a science, technology and business asset for the region that will push the boundaries of leading science research. SETI (a virtual institute led by UEA) will nurture a unique ecosystem, supporting research, innovation, benchmarking and validation of new applications and services, through large scale testbed experiments using the latest machine learning, artificial intelligence (AI) and digital communications technologies across the region's key sectors.

Smart Emerging Technology Institute (SETI)	
<b>Description of stage</b>	Initial feasibility study has been completed. Development of detailed business case is due to start summer 2020.
<b>Estimated cost to deliver the stage</b>	c. £50k
<b>Indicative timeframe to deliver stage and start date</b>	December 2020
<b>Potential funding source</b>	NALEP Innovation fund and in-kind staff contribution from UEA, SNC and CNTC (all secured)
<b>Scheme Development</b>	✓✓ 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)
- A17 Pullover Roundabout
- A140 north of Long Stratton
- Great Yarmouth North Quay Regeneration
- Great Yarmouth Outer Harbour Southern Terminal
- Great Yarmouth Town Centre Improvements