Norwich Western Link Transport Assessment (TA) Part 1 of 2

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Foreword

This Transport Assessment (TA) has been prepared to accompany the planning application for a new link road scheme being proposed to the west of Norwich, known as the Norwich Western Link (NWL) and referred to in this TA as the Proposed Scheme.

The TA considers the effects of the Proposed Scheme on all users of the local transport network within the scope of assessment as well as relevant A47 junctions on the Strategic Road Network (SRN). The TA adopts a multi-modal approach to assessment and considers the scheme to include a proposed set of transport mitigation measures as well as the new highway link itself.

This document should be read in conjunction with the **Sustainable Transport Strategy (STS)** (Document Reference 4.02.00) which explains a package of local transport improvements which are proposed to support sustainable travel patterns within the study area west of Norwich once the Proposed Scheme is in place. Elements of the Proposed Scheme are defined as follows:

- The highway mainline element of the new proposed dual carriageway within the Proposed Scheme is referred to as the “Classified Road”;
- The interventions in the surrounding highway network, including the provision of new public rights of way, the diversion and reclassification of existing roads and rights of way and improvements to side roads that will enhance non-motorised user provision as an integral part of the Proposed Scheme and in relation to which planning permission is sought. These measures are referred to as the “Proposed Scheme’s Non-Motorised User Provision”; and
- The package of Complementary Sustainable Transport Measures (CSTM) are a range of complementary sustainable transport measures that would be brought forward in the wider west of Norwich region complementary to, but distinct from, the Proposed Scheme. The CSTM comprises two categories of measures; the cycle friendly routes described in section 7.2 of the STS and the bus strategy described in sections 7.3 and 7.4 of the STS. The cycle friendly routes would be brought forward by the Applicant within the bounds of existing

highways under its highway authority powers and seek to take advantage of the reduction in traffic on local roads as a result of the operation of the Proposed Scheme to make such routes more attractive for journeys by bicycle. The bus strategy comprises the promotion of bus routes and bus stop enhancements to the west of Norwich which would be supported by the redistribution of traffic arising from the operation of the Proposed Scheme. The bus strategy would be implemented by the Applicant in partnership with bus operators. The CSTM do not form part of the Proposed Scheme but are complementary measures that would be brought forward to maximise the sustainable transport benefits flowing from the redistribution of traffic from local roads.

A pre-application public consultation for the Proposed Scheme was carried out from 15 August to 9 October 2022. Feedback received from this consultation has been reviewed and taken into account in this TA. In particular, the traffic mitigation proposals south of A47 and North of A1067 have been updated and the strategic traffic modelling which informed the TA has been amended to reflect the proposed mitigation changes.

The background traffic growth forecasting within the NATS strategic traffic model (Norwich Area Transport Strategy) has also been updated to include the latest DfT published information from the National Trip End Model version 8.0 (NTEM 8.0) which was published in August 2022. It should be noted that the traffic data published at the time of the public consultation in 2022 was based on an earlier version of the forecasting assumptions known as NTEM 7.2 which was developed in 2016.

The background traffic growth assumptions in the new NTEM 8.0 forecast includes relevant housing and employment growth locations identified within the adopted Greater Norwich Local Plan.

This TA focusses predominantly on the operation of the highway network at peak times of day and junction capacity, whereas all day movement and highways link flows, severance effects and Non-Motorised User impacts are considered in **Chapter 19** of the Environmental Statement (Document Reference 3.19.00).

Glossary of Abbreviations and Defined Terms

A

AADT - Annual Average Daily Traffic

AAWT – Annual Average Weekday Traffic

ATC - Automatic Traffic Count

ATE – Active Travel England

A47 TUD – North Tuddenham to Easton A47 dualling scheme

A&E – Accident and Emergency

B

BR – Bridleway

BEP – Broadway Enterprise Park

C

CO2e - Carbon Dioxide equivalent

CEMP – Construction Environment Management Plan

CL – Accident cluster site

CSTM – Complementary Sustainable Transport Measures

CTMP – Construction Traffic Management Plan

CPA – County Planning Authority

D

DCO – Development Consent Order

DEP - Dudgeon Offshore Wind Farm Extension Project

DfT - Department for Transport

DM - Do Minimum Scenario

DS - Do Something Scenario

DS+M – Do Something Scenario with Mitigation

DEFRA – Department of Environment, Food and Rural Affairs

E

EAST - Early Appraisal Sifting Tool

EqIA - Equality Impact Assessment

ES – Environmental Statement

ESDAL – Electronic Service Delivery for Abnormal Loads

F

FBC – Full Business Case

FP – Footpath

FEZ – Food Enterprise Zone

G

GB – Green Bridge

GIS - Geographical Information System

GNLP – Greater Norwich Local Plan

GNDP – Greater Norwich Development Partnership

H

HE – Highways England (now National Highways)

HGV – Heavy Goods Vehicle

J

JtW - Journey to Work

JR – Judicial Review

L

LGV – Light Goods Vehicle

LLG - Local Liaison Group

LTN - Local Transport Note

LTP – Local Transport Plan

LMVR – Local Model Validation Report

LDO – Local Development Order

LHA – Local Highway Authority

M

MCC - Manual Classified Count

MMQ – Mean Max Queue

MP - Member of Parliament

N

NATS - Norwich Area Transport Strategy Model

NB - Northbound

NCC - Norfolk County Council

NCN - National Cycle Network

NCN1 – National Cycle Network Route 1

NDR - A1270 Broadland Northway (previously known as Norwich Northern Distributor Road)

NH - National Highways

NMU - Non-Motorised User (this includes pedestrians, cyclists and horse riders)

NNUH - Norfolk & Norwich University Hospital

NPPF – National Planning Policy Framework

NRP - Norwich Research Park

MRN – Major Road Network

NSIDP – Norfolk Strategic Infrastructure Delivery Plan

NSIP – Nationally Significant Infrastructure Project

NTS - National Travel Survey

NWL - Norwich Western Link

O

OAR - Options Assessment Report

OBC - Outline Business Case

OCEMP – Outline Construction Environmental Management Plan

OD – Origin-Destination

ONS - Office for National Statistics

OSR - Option Selection Report

OGV – Other Goods Vehicle

P

PCT - Propensity to Cycle Tool

PCU – Passenger Car Unit

PIA – Personal Injury Accidents

P&R - Park and Ride

PROW – Public Right of Way

PSV – Public Service Vehicle

R

RFC – Ratio of Flow to Capacity

S

SAC - Special Area of Conservation

SATURN – Simulation and Assignment of Traffic in Urban Road Networks

SB – Southbound

SEP - Sheringham Shoal Offshore Wind Farm Extension Project

SOBC - Strategic Outline Business Case

SoCI – Statement of Community Involvement

STS - Sustainable Transport Strategy

SSSI – Site of Special Scientific Interest

SRN – Strategic Road Network

SRO – Side Road Order

T

TA – Transport Assessment

TAG – Transport Analysis Guidance

TAL – Traffic Advisory Leaflet

TCF - Transforming Cities Fund

TfN - Transport for Norwich

TM – Traffic Management

ToR - Terms of Reference

TRO - Traffic Regulation Order

U

UEA - University of East Anglia

UL – Uncertainty Log

W

WCHAR - Walking, Cycling & Horse Riding Assessment Report

WCHR - Walking, Cycling and Horse Riding (National Highways Assessment)

1 Executive Summary

1.1 Background

1.1.1 This Transport Assessment (TA) has been prepared to accompany the planning application for a new link road scheme being proposed to the west of Norwich, known as the Norwich Western Link (NWL) and referred to as the 'Proposed Scheme'.

1.1.2 The Site is located approximately 10 km to the north-west of the city of Norwich. In addition to Norwich, the nearest settlements to the Proposed Scheme include Weston Longville, Ringland, Weston Green, Honingham, Hockering, Attlebridge and Easton.

1.1.3 The Proposed Scheme consists of the construction of a new road linking the A1270 Broadland Northway from its western-most junction with the A1067 Fakenham Road to the A47 trunk road near Honingham. The 'Classified Road' would pass through predominantly farmland lined with hedgerows and trees and the edges of woodland.

1.1.4 An overview plan is shown in **Figure 1-1** below.

Figure 1-1 Proposed Scheme Location Plan

1.1.5 National Highways (NH) have a Development Consent Order approved for dualling the A47 from North Tuddenham to Easton (referred to herein as the A47 TUD scheme). This includes upgrading the existing B1535 Wood Lane junction to a new grade separated dumbbell roundabout. The Proposed (NWL) Scheme would connect to the northern roundabout of the A47 TUD Wood Lane junction via a new north eastern arm to be added by the Applicant. The proposed A47 TUD scheme layout is shown in **Appendix 15** (Document Reference 4.01.15)

1.2 Transport Justification for the Scheme

1.2.1 The Scheme Objectives are set out within Chapter 2 of the TA and further justification of the need for transport intervention is provided in Chapter 4.

1.2.2 Once the A47 TUD has been constructed by NH, the Proposed Scheme will complete a continuous dual carriageway route which connects directly to

A1270 Broadland Northway on the western edge of Norwich. This would also facilitate orbital movement around Norwich.

1.2.3 The new road is needed to intercept traffic entering the city on the western edge of Norwich and alleviate pressure from strategic movements through rural communities. 'Reducing the Dominance of Traffic' is part of the Vision set out within the Transport for Norwich Strategy, 2021. The new route would offer improved journey times for residents, businesses, emergency services, and visitors, and deliver economic benefits for local communities.

1.2.4 There are a number of existing transport problems that the Proposed Scheme has been developed to address. These include:

- There is no existing direct Major Road Network link between A47 and A1270 on the west side of Norwich that is suitable and efficient for the forecast levels of strategic traffic and HGV movement.
- There are a limited number of existing bridges crossing the River Wensum on the west side of Norwich and the majority of these are physically and geometrically constrained and unsuitable for HGVs or high volumes of traffic. Hence a more suitable crossing is required.
- Existing minor rural roads through communities such as Weston Longville and Ringland would continue to be used by through traffic and HGVs seeking to move between the A47 and A1270 on the west side of Norwich. This makes them less attractive for non-motorised modes for local journeys.
- With the A47 North Tuddenham to Easton dualling scheme in place, impacts on local communities will be exacerbated as the number of available routes will be reduced, so impacts will be more focussed on the remaining routes. This effect is not expected to be able to be mitigated sustainably in the longer term, without a new strategic road such as the Proposed Scheme.

- Journeys between the A47 and A1270 would continue to use the less direct and inefficient via the B1535 route from A47 to A1270.
- Existing priority junctions on A1067 will reach capacity in the future.
- There will be increased pressure on the A47 southern bypass and it will become more difficult for traffic from central Norwich to access junctions on the Strategic Road Network along the southern bypass.
- Constrained routes with residential frontages and school accesses through the urban fringe of Norwich for example via Costessey, and Taverham will receive additional orbital traffic, which could be more appropriately accommodated on a purpose-built route.
- Collision risks are expected to increase as drivers are enticed to travel on routes through rural minor roads with constrained highway geometry in response to congestion on other longer routes. Conflicts with opposing flows on narrow routes will increase and gaps in traffic at key junctions will reduce without additional strategic highway capacity.

1.2.5 There are over 30,000 journeys per day crossing through the west of Norwich, via the A47 seeking to access the A1067 and/or A1270. Many of these trips are on longer distance desire lines cutting through the area to the west of Norwich where there is no Primary A Road standard route available between A47 and A1270 – only minor rural roads and B1535 exist currently which are unsuitable for high volumes of strategic traffic and larger vehicles.

1.2.6 The Proposed Scheme will offer a shorter distance route to the west end of A1270 Broadland Northway from the A47 and to the A140 for trips towards the North Norfolk coast than via existing minor rural routes and also in comparison with alternative routes around the east side of Norwich.

1.2.7 Currently vehicles often take short cuts through the minor rural road network on the west side of the city, through villages such as Weston Longville and Ringland. The roads were not designed to cater for strategic traffic and this behaviour impacts on residential amenity, quality of life and limits active travel

opportunities for local residents. Efforts have already been made to provide traffic calming measures through the villages and to reclassify non-residential roads as HGV routes further west but this is not sufficient to prevent trips taking short cuts through the rural villages and the situation is predicted to worsen in the future without the Proposed Scheme.

1.2.8 Provision of the Proposed Scheme would therefore alleviate existing rural villages from inappropriate use of geometrically constrained minor rural roads by commuters and traffic on longer distance journeys, travelling between origins and destinations outside of the immediate area. This includes traffic seeking access to destinations to the north of Norwich including tourists visiting the North Norfolk Coast and longer distance commuter trips between key employment and residential areas around the edges of Norwich and to the north and east of the city. Similarly, it would also cater for traffic originating to the north and east of Norwich travelling to destinations south and west of Norwich. Many of these longer distance trips are unlikely to be able to switch to other modes of travel, so a new highway link is the only option which would realistically address this issue.

1.2.9 There are existing single-track sections of road through villages such as Weston Longville and Ringland which have a theoretical capacity of about 300 vehicles per hour (based on research referred to in DfT Traffic Advisory Leaflet TAL 2/04). This translates to an Annual Average Daily Traffic (AADT) equivalent to around 3,600 vehicles per day. Strategic modelling indicates that the AADT capacity threshold is likely to be exceeded in the opening year of 2029 if the Proposed Scheme does not proceed.

1.2.10 The Proposed Scheme will provide a dual carriageway link on the west side of the city which is purpose-built to be suitable for strategic traffic and HGVs and offer a more resilient network in the future.

1.2.11 According to consultation feedback, this issue has been a significant concern to local residents in rural villages between the A47 and A1067 for around the last 20 years. However, with the Proposed Scheme in place there would be a

dramatic reduction in traffic travelling through the villages of Weston Longville and Ringland, with 88-95% reduction predicted in the opening year (as compared to the 2029 baseline forecast without the Proposed Scheme). Traffic through Taverham and Costessey would also reduce by about 20% as a result of the proposals.

1.2.12 Traffic reduction through these villages will help make the network more suitable and attractive for walking and cycling and would help to promote active travel. Associated local noise and air quality improvements will also contribute to improved quality of life for local residents in rural communities.

1.2.13 The Proposed Scheme will improve strategic access to, and connectivity of key land uses on the western edge of the city including Norfolk and Norwich University Hospital, University of East Anglia and Norwich Airport. It will also reduce pressure on the southern A47 bypass and enhance access to a major retail site on the western edge of Norwich at Longwater.

1.2.14 Whilst the Proposed Scheme is not development dependent (that is to say, it is not required specifically to service and provide access to new development), there are several major developments proposed around the western edge of Norwich which would nonetheless benefit from improved accessibility as a result of the Proposed Scheme. Some of these are recognised in the Greater Norwich Local Plan which has recently been adopted. This includes site allocations for major developments about 1,400-1400-1500 dwellings at Taverham and circa 1000 dwellings at Easton.

1.2.15 There is a Local Development Order (LDO) in place for a Food Enterprise Zone at Easton. Food Enterprise Zones (FEZs) are a UK Government initiative introduced by the Department for Food, Environment and Rural Affairs (DEFRA) in 2015. The aim of the FEZ is to develop a flagship, centralised, commercial facility comprising food production, food research, education and ancillary businesses. The FEZ site covers approximately 19 hectares of land with up to 50,000sqm development permitted. It is located 300m south of the A47, adjacent to Blind Lane. The Proposed Scheme will be

accessible from the FEZ site within 2 minutes journey time via the A47, so will enhance strategic access to the A1270 and rural areas north of the city.

1.2.16 Employment expansion was recently permitted at Norwich International Airport. The Broadland Enterprise Park (a major employment growth site to the north of the city) is also on the edge of the Transport Assessment study area adjacent to the junction of the A1270 and A140. These sites would benefit from swifter and more efficient access via the Proposed Scheme from the south and west of Norwich.

1.2.17 A variety of business parks and employment sites are located along the A140 Sweet Briar Road which is part of the outer ring road. Current occupiers include Amazon UK Logistics centre, Volvo Truck and Bus Centre, Briar Chemicals – a major chemical plant, amongst many others. Access to these sites was significantly impacted during the closure of the A140 Sweet Briar Road (part of the outer ring road to the west of Norwich) in April 2022 for a period 99 days during emergency works to a burst water main. The Proposed Scheme runs broadly parallel with Sweet Briar Road. It is therefore clear that the Norwich Western Link would offer a beneficial new route to improve network resilience in the event of future temporary road closures and roadworks on the A140.

1.2.18 There is currently a lack of suitable routes crossing the River Wensum on the west side of the city. This is a key constraint which restricts north-south movement between the radial corridors of Fakenham Road (A1067) and Dereham Road (A47/A1074).

1.2.19 Existing bridges over the river on parallel routes are narrow and have limited capacity due to weight restrictions in some cases. The Proposed Scheme would solve this problem by directly connecting the radial routes with a new dual carriageway viaduct over the River Wensum. The elevated structure will also span over the flood plain, whereas existing bridges are often at low level and may become more susceptible to flood risk in the future as a result of

climate change. The Proposed Scheme would offer a more resilient route providing a suitable alternative in the event of flooding.

1.3 Policy Support

1.3.1 The Proposed Scheme is recognised within the Transport for Norwich (TfN) Strategy, the Local Transport Plan (LTP4), Norfolk Strategic Infrastructure Delivery Plan (NSIDP) and the newly adopted Greater Norwich Local Plan (GNLP).

1.3.2 In relation to economic growth, a total of 33,000 new jobs are sought and sufficient employment land is allocated to accommodate this within the GNLP. The Local Plan vision includes the following in paragraphs 128 and 129, which highlight key links between Norwich and Cambridge as an economic tech growth corridor:

1.3.3 “128. Our plan will stimulate economic recovery leading to the creation of a strong, enterprising, productive and broad-based economy, and the growth of a wide range of economic sectors, supported by an increasingly skilled workforce. We will see a focus on our local strengths in knowledge intensive sectors. This will include significant growth in digital creative industries in the city centre and in health, life sciences, agri-tech and bio-technology at the Norwich Research Park and the Food Enterprise Park at Honingham, along with advanced manufacturing and engineering at Hethel. This clean growth will place Greater Norwich at the forefront of tackling the global challenges and opportunities of energy, environment, life sciences, genetics and climate change. Together these will strengthen our leading role nationally and internationally in these sectors which will be critical to moving towards the post-carbon economy.“

1.3.4 “129. Most of the jobs growth we expect to see will be delivered on key strategic sites in and around Norwich with good access to public transport, the major road network and a comprehensive cycling network. This will contribute to the growing national importance of the Cambridge Norwich Tech Corridor and strengthen Norwich’s role as the regional capital.”

1.3.5 In relation to housing growth a total of 40,541 new homes are identified to be need and sites to accommodate 45,041 homes are allocated to provide sufficient capacity including and 11% buffer. Paragraphs 135 and 136 of the local plan vision emphasise the importance of the 'Cambridge-Norwich Tech Corridor' as set out below. This emphasis on east-west connectivity between jobs and homes in Cambridge and Norwich suggests that a Norwich Western Link would be well placed to support the Local Plan Vision by enhancing connectivity on the west side of Norwich and reducing travel times to Cambridge.

1.3.6 "135. We plan to concentrate the building of new homes in and around Norwich and in the Cambridge Norwich Tech Corridor. In Norwich city centre and other highly accessible and sustainable locations, higher density homes including flats will be built, providing particularly for the needs of younger people and including purpose-built student accommodation, whilst also meeting the needs of other members of our community. This will have helped to create lively and vibrant city and district centres, enabling people to access services and jobs easily and to travel sustainably. 136. Our suburbs, market towns and villages will also be vibrant places to live with good access to services and facilities, supported by new housing and jobs and changing technologies. Homes here will be built at appropriate densities to respect and enhance local character and to meet the needs of all in mixed communities."

1.3.7 In relation to infrastructure, the Norwich Western Link is specifically acknowledged in the Local Plan Vision in paragraph 138, replicated below:

1.3.8 "138. By 2038 our transport system will be enhanced by a combination of infrastructure improvements and new technologies. Connectivity will improve both within Greater Norwich and to other parts of the country and beyond. This will include better rail services to London, Cambridge, Stansted, Milton Keynes, Oxford and the West, growth at Norwich International Airport and road improvements to the A11, A47, the Norwich Western Link and the A140".

1.3.9 In accordance with the Transport for Norwich (TfN) Strategy, paragraph 5.11, which includes a statement of policy in relation to strategic connections which confirms that "*strategic connections and hinterland access will be promoted to enhance the role of Norwich as the regional capital*". One of the '*supporting actions to that statement of policy confirms that Norfolk County Council will carry out strategic assessments of the consequence of completing the committed strategic schemes (including improvements to the A47, the committed Transforming Cities programme and the Norwich Western Link) to identify the opportunities to deliver enhanced sustainable transport measures to support public transport and active travel*'. A Sustainable Transport Strategy containing the CSTM and NMU Provision have therefore been identified as supporting measures for the Proposed Scheme.

1.4 Baseline Conditions

1.4.1 Strategic modelling indicates that the existing problems set out above will be worsened with the planned National Highways (NH) A47 North Tuddenham to Easton Improvement Scheme (A47 TUD) in place, as increased traffic is expected to be drawn through the area between A1067 and A47 to reach the proposed section of new dual carriageway. The A47 TUD scheme will also close off several existing roads crossing through the area, so there will be increased pressure on the remaining routes which include minor road routes through the villages of Weston Longville and Ringland.

1.4.2 Without the Proposed Scheme in place, traffic using the minor roads through Weston Longville is predicted to almost double by 2044 and traffic through Ringland village is expected to almost quadruple in the same period of time.

1.5 Scheme Design and Mitigation

1.5.1 The Proposed Scheme will be a new dual carriageway standard road link approximately 6km in length, connecting to the A1067 via a new at grade roundabout. A section of the A1067 will be upgraded to dual carriageway standard between the Classified Road and the existing A1067/A1270 roundabout about 340m to the east.

1.5.2 At the southern extent of the Proposed Scheme, the road will connect with the A47 TUD scheme being delivered by NH, which is currently anticipated to open around Spring 2027.

1.5.3 Side roads crossing the Proposed Scheme will be closed to motorised vehicle traffic with the exception of Ringland Lane which will remain open to all traffic with the Proposed Scheme bridging over the existing road.

1.5.4 The Proposed Scheme also caters for Non-Motorised Users (NMUs), including pedestrians, cyclists and horse riders, by incorporating two Green Bridges which are accessible to Non-Motorised Users and a range of suitable NMU facilities alongside the Classified Road link design. The scheme includes new Public Rights of Way (PROW) and improvements to existing routes, as well as joining up the existing fragmented PROW routes to create a logical and coherent network around the scheme in accordance with the principles of LTN 1/20 and Gear Change policies. The NMU Provision plan is shown in Appendix 1 (Document Reference 4.01.01).

Traffic Mitigation Measures

1.5.5 A package of additional traffic mitigation measures has been identified that could be implemented alongside the Proposed Scheme through parishes to the north of the A1067 and south of A47 where traffic is predicted to redistribute in response to the new Classified Road. The package of measures has been developed with input from local communities and refined in response to feedback from public consultation.

Traffic Mitigation Scheme North of A1067

1.5.6 Strategic traffic modelling has been carried out to inform this TA and indicates that without additional mitigation measures, there is expected to be an increase in traffic through the area south of the A47 between Honingham and Wymondham, as traffic with origins and destinations in Wymondham is likely to re-route to access the Proposed Scheme more directly through the minor road network.

1.5.7 Mitigation measures to deter through traffic are proposed through the villages of Felthorpe and Horsford. Measures include speed limit reductions at The Street and Taverham Road, Felthorpe, and Holt Road, Horsford. This would be made to be self-enforcing with supporting measures such as improved Non-Motorised User crossing facilities and priority give way features.

1.5.8 Turning restrictions are also to be considered at the junction of the B1149 with Shortthorn Road in the event that post opening traffic monitoring shows this to be required in the event that agreed limits are observed to be exceeded.

1.5.9 Within the village of Attlebridge, access-only restrictions at Station Road and Felthorpe Road are being considered to accompany the Proposed Scheme in order to eliminate strategic through traffic. This would be subject to a monitor and manage regime and implemented only when observed traffic data shows this to be necessary. An agreed trigger point threshold would be agreed with the local highway authority.

1.5.10 The proposed mitigation measures north of the A1067 comprise the following:

- Access restrictions at Station Road and Felthorpe Road, Attlebridge;
- Turning Restrictions at B1149 junction with Shortthorn Road, Felthorpe;
- Speed reduction through The Street and Taverham Road, Felthorpe; and
- Improved crossing facilities and speed reduction measures through Horsford.

Traffic Mitigation Scheme South of A47

1.5.11 In order to minimise the extent to which through traffic is drawn through Barnham Broom village with the Proposed Scheme in place, additional interventions within the extents of public highway are to be developed to protect residential amenity for residents south of the A47. The measures include speed limit reductions through Barnham Broom village, Carleton Forehoe, Kimberley and the north of Wymondham, with HGV restrictions through Barnham Broom.

1.5.12 Strategic traffic modelling indicates that without additional mitigation measures, there is expected to be an increase in traffic through the area south of the A47 between Honingham and Wymondham, as traffic with origins and destinations in Wymondham is likely to re-route to access the Proposed Scheme more directly through the minor road network.

1.5.13 The proposed mitigation measures south of A47 consist of:

- Speed reduction measures through Barnham Broom village;
- Speed reduction measures through Kimberley;
- Speed limit reductions in the north of Wymondham; and
- Speed reduction measures on Barnham Broom Road, Carleton Forehoe.

1.5.14 The mitigation measures set out above will be brought forward through Traffic Regulation Orders under the Road Traffic Regulation Act 1984. However, based on feedback from the affected communities, a monitor and manage regime is preferred for turning and access restrictions to the north of A1067, so the proposed measures in Attlebridge and Felthorpe could be drawn upon once monitoring post-opening of the Proposed Scheme shows that there is an observed need for intervention, rather than on day 1 opening.

1.5.15 The speed limit changes could be implemented more swiftly and consideration will be given to deploying some of the measures prior to opening of the Proposed Scheme.

1.5.16 The detailed design of the measures will be worked up with further input from the local communities south of the A47 and north of the A1067.

Honingham Lane Closure Option

1.5.17 The Traffic Mitigation proposals include the option of permanently closing Honingham Lane, at a point approximately 100m south of its junction with Church Hill Lane (Weston Road), Ringland. National Highways DCO (Development Consent Order) application for the A47 TUD scheme permits a temporary closure in this location in order to protect Ringland village from

through traffic prior to the opening of the Norwich Western Link scheme. With the Proposed Scheme in place, the option to make this situation permanent would help to minimise traffic on the route from Ringland to Easton which would enhance opportunities for travel by active modes and maintain a low traffic environment through Ringland village. The monitoring regime will therefore include the roads around Ringland and Weston Longville to understand whether making this measure permanent would be a sustainable option. The closure will also result in a traffic free route that is attractive for Non-Motorised Users.

1.6 Sustainable Transport Strategy

1.6.1 A package of Complementary Sustainable Transport Measures (CSTM) in the wider network has been developed to encourage active travel and public transport use to offer alternatives to car travel for shorter journeys in the study area. This is set out within the **Sustainable Transport Strategy** (Document Reference 4.02.00)

1.7 Transport Assessment Scope and Methodology

1.7.1 This TA has been prepared for the Proposed Scheme. A strategic transport model has been developed to assess the potential rerouting of traffic in response to the new highway link and this has been used to identify whether any measures are necessary to mitigate the traffic impacts of the scheme.

1.7.2 The Norwich Area Transport Strategy (NATS) SATURN Model was updated to a 2019 base year with comprehensive surveys across Norwich carried out in October 2019. The NATS model shows how traffic will be likely to re-route and alter existing journey patterns to access the Proposed Scheme. The model is validated to achieve the required DfT TAG compliance standard.

1.7.3 The scope of the Transport Assessment was discussed with the Local Highway Authority and National Highways Development Management teams. At the time of initial scoping discussions, the applicable guidance was Norfolk County Council Safe Sustainable Development note 2019 and DfT Circular

02/13. These guidance documents have subsequently been updated to Safe Sustainable Development July 2022 and DfT Circular 01/22.

1.7.4 The requirement for a full Transport Assessment rather than a Transport Statement is based on the thresholds specified in Appendix A of Safe Sustainable Development 2022. The Proposed Scheme is considered to fall into the category of: 'Any development proposed in a location where the local transport infrastructure is inadequate - for example, substandard roads, poor pedestrian/cyclist facilities and inadequate public transport provision'.

1.8 Policy Compliance

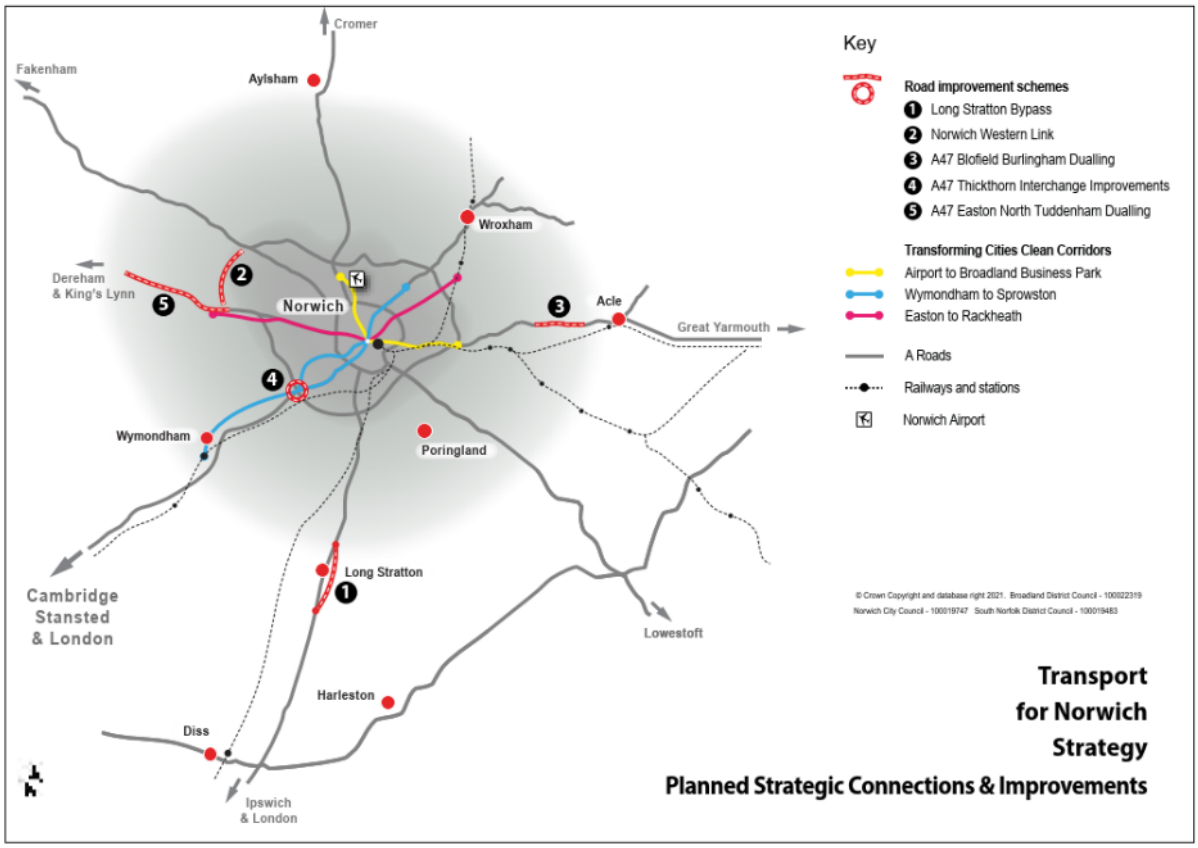
1.8.1 The Proposed Scheme takes into consideration and adheres to following national and local transport related policy and guidance. The following policy documents have been reviewed within Chapter 5 of this TA:

- National Planning Policy Framework (NPPF) 2023
- Planning Practice Guidance (PPG), 2021;
- The DfT Circular 01/22 (2022) – Strategic road network and the delivery of sustainable development;
- Gear Change: A Bold Vision for Walking & Cycling (2020);
- Cycle Infrastructure Design Local Transport Note LTN 1/20 (2020);
- Norfolk Strategic Framework – Shared Spatial Objectives for a Growing County (July 2017);
- Norfolk County Council Climate Strategy (2023)
- Norfolk Strategic Infrastructure Delivery Plan (NSIDP) (2018-2028);
- Norfolk Local Transport Plan LTP4 (2022)
- LTP4 Implementation Plan (2022);
- Safe, Sustainable Development (SSD, revised July 2022);

- Breckland District Council Local Plan (2019);
- Transport for Norwich Strategy (2021);
- Norfolk County Council Local Transport Plan 4 2021 – 2037 (2022) (including its Implementation Plan);
- The Greater Norwich Local Plan (GNLP) 2018-2038;
- Bus Service Improvement Plan for Norfolk (2021); and
- Greater Norwich Local Cycling and Walking Infrastructure Plan (2022).

1.8.2 The Proposed Scheme is specifically acknowledged in the Norfolk Local Transport Plan 4 and the adopted GNLP (Greater Norwich Local Plan). It also forms part of the Transport for Norwich Strategy, 2021 as shown in **Figure 1-2** below and is recognised as one of Norfolk's infrastructure priorities within the NSIDP.

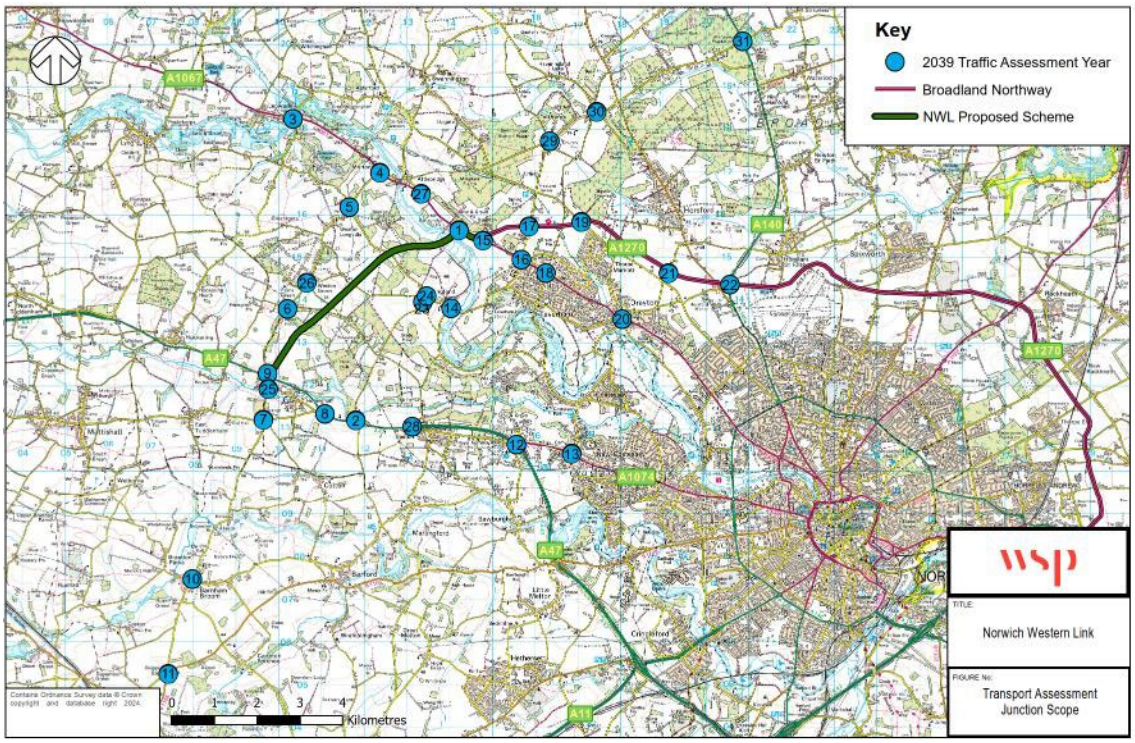
Figure 1-2 TfN Strategy – Planned Strategic Connections and Improvements



1.9 Modelling and Forecasting

Based on a review of the strategic modelling results (prior to traffic mitigation), traffic impacts were considered relevant at junctions in the west of Norwich as shown below in **Figure 1-3**. These junctions were expected to experience significant changes in traffic as a result of the Proposed Scheme.

Figure 1-3 Junction Assessment Scope



1.9.1 Traffic impacts were assessed in more detail by modelling relevant junctions individually using LINSIG (for signal-controlled junctions) and Junctions 9 or 10 software (for priority junctions and roundabouts) to understand the local impacts of the scheme.

1.9.2 Analysis of the NATS model (operational traffic) results showed that the Proposed Scheme is forecast to:

- Enhance access to and increase the utilisation of the A1270 Broadland Northway which provides a northern bypass around Norwich;
- Facilitate orbital movement around Norwich and improve journey times for access to the north of the city from the west of Norwich (and vice versa); and
- Reduce pressure on key junctions along the A47 southern bypass of Norwich including Longwater interchange and Thickthorn A11/A47 interchange as strategic traffic is more evenly distributed between A1270 and A47.

1.10 Conclusions

1.10.1 The TA concludes that the implementation of the Proposed Scheme in combination with the proposed mitigation measures will help to create a more sustainable and resilient transport network for the future which will adequately support forecast traffic levels to 2039 and beyond.

1.10.2 Without the Proposed Scheme the current issues associated with rural 'rat-running' behaviour are expected to grow and contribute towards a future baseline impact which exceeds the theoretical geometrical link capacity of the minor road network in the west of Norwich. These effects will be mitigated by the Proposed Scheme.

1.10.3 There are a number of existing transport problems that the Proposed Scheme has been developed to address. These can be summarised as follows:

- There is no existing direct Major Road Network link between A47 and A1270 on the west side of Norwich that is suitable and efficient for the forecast levels of strategic traffic and HGV movement.
- There are a limited number of existing bridges crossing the River Wensum on the west side of Norwich and the majority of these are physically and geometrically constrained and unsuitable for HGVs or high volumes of traffic. Hence a more suitable crossing is required.
- Existing minor rural roads through communities such as Weston Longville and Ringland would continue to be used by through traffic and commercial vehicles seeking to move between the A47 and A1270 on the west side of Norwich. This makes the minor roads less attractive for non-motorised modes for local journeys.
- With the A47 North Tuddenham to Easton dualling scheme in place, impacts on local communities will be exacerbated as the number of available routes will be reduced, so impacts will be more focussed on the remaining routes. This effect is not expected to be able to be mitigated sustainably in the longer term, with a new strategic road such as the Proposed Scheme.

- Journeys between the A47 and A1270 would continue to use the less direct and inefficient via the B1535 route from A47 to A1270.
- Existing priority junctions on A1067 will reach capacity in the future.
- There will be increased pressure on the A47 southern bypass and it will become more difficult for traffic from central Norwich to access junctions on the Strategic Road Network along the southern bypass.
- Constrained routes with residential frontages and school accesses through the urban fringe of Norwich for example via Costessey, and Taverham will receive additional orbital traffic, which could be more appropriately accommodated on a purpose-built route.
- Collision risks are expected to increase as drivers are enticed to travel on routes through rural minor roads with constrained highway geometry in response to congestion on other longer routes. Conflicts with opposing flows on narrow routes will increase and gaps in traffic at key junctions will reduce without additional strategic highway capacity.

1.10.4 The Proposed Scheme offers a new dual carriageway strategic highway route which is designed to be suitable for all vehicles including HGVs and LGVs and is capable of carrying the predicted volumes of traffic that would otherwise continue to use minor rural roads in the west of Norwich to access the A1270 Broadland Northway from the A47. Key benefits can be summarised as follows:

- The Proposed Scheme offers a direct link between A47 and A1270 on the west side of Norwich which is suitable for strategic traffic and HGVs.
- Through-traffic in rural communities such as Weston Longville and Ringland is forecast to reduce by 88-95% with the Proposed Scheme in place.

- Traffic in the urban fringe on the west side of Norwich is predicted to reduce, for example through Costessey and Taverham traffic is forecast to reduce by about 20%.
- Journey distances can be reduced by about 4.6km per journey for those using B1535 route from A47 to A1270 with the Proposed Scheme in place.
- Journey times are quicker and more reliable for those using B1535 route from A47 to A1270 (a saving of about 6 minutes per vehicle).
- The Proposed Scheme alleviates future junction capacity and safety issues on A1067 at junctions with Marl Hill Road and B1535.
- With through-traffic removed from local villages in the west of Norwich, there are less barriers to walking and cycling and the local network is more conducive to active travel.
- Personal injury collisions are expected to reduce with the Proposed Scheme in place.
- There is forecast traffic reduction on A47 southern bypass east of A11 and south western radial routes into central Norwich (A1174 and B1108) as traffic switches to use available capacity on the A1270 with the Proposed Scheme in place.
- Traffic flows at A47 junctions on the southern bypass east of A11 are predicted to reduce.
- The Proposed Scheme is expected to be in the medium Value for Money Category with an indicative Benefit Cost Ratio (BCR) of 1.5 to 2 so every £1 spent would return approximately £1.50-£2 of economic benefit to the area.

1.10.5 Overall, the TA finds that the Proposed Scheme is likely to provide operational and capacity benefits to the wider highway network and a Sustainable Transport Strategy has been developed to assist with delivering the full set of

scheme objectives, so that the strategic outcomes envisaged for the project can be realised.

1.10.6 Therefore, in the context of the NPPF 2023 planning policy requirements, there should be no reason in highways and transport terms for the scheme not to proceed.

2 Introduction

2.1 Introduction

2.1.1 This Transport Assessment (TA) has been prepared by Norfolk County Council (NCC) as promotor of the Norwich Western Link, hereafter referred to as 'the Applicant.' The TA accompanies the planning application for a new dual carriageway link road in the west of Norwich, called the Norwich Western Link (NWL) and referred to as the 'Proposed Scheme.'

2.1.2 The Proposed Scheme, was identified in the 2021 Norfolk Strategic Infrastructure Delivery Plan as 'one of the County Council's priority road infrastructure schemes.' It will connect the A47 and A1270 Broadland Northway dual carriageways to complete an orbital route around Norwich and will provide an alternative route option for vehicles travelling into Norwich and surrounding settlements. The design of the Proposed Scheme has been informed by a series of early-stage feasibility studies, public consultation and option assessment.

2.1.3 The Proposed Scheme would deliver a new dual carriageway highway link road, approximately 6km in length, interfacing with an upgraded and dualled A47 trunk road at a new grade separated junction at Wood Lane, Honingham to be provided by National Highways. The A47 North Tuddenham to Easton Improvement scheme (referred to as the A47 TUD scheme) is anticipated to open in Spring 2027, following the successful Development Consent Order application, which was approved by the Secretary of State on 12th August 2022.

2.1.4 At the southern extent of the Proposed Scheme the National Highways A47 grade separated junction with B1535 Wood Lane at Honingham will be adapted to add an extra north-east arm for the Classified Road. At its northern end, the Proposed Scheme will connect to the A1067 Fakenham Road via a new at-grade roundabout about 340m west of the western end of the A1270 Broadland Northway. The A1067 between the Proposed Scheme and the A1270 Broadland Northway will also be upgraded to dual carriageway standard. The Proposed scheme alignment is shown indicatively in **Figure 2-1** below.

Figure 2-1 Proposed Scheme Location Plan

2.1.5 The route will be approximately 6.km in length and will include provision for Non-Motorised Users (NMU) and crossing the route via two green bridges with new public rights of way dedicated over them as shown in Appendix 1 (Document Reference 4.01.01).

2.1.6 Strategic modelling predicts that some existing traffic will re-route and alter its existing journey patterns to use the new road once built. The re-routing of traffic is expected to increase the utilisation of the A1270 Broadland Northway and alleviate pressure on the A47 southern bypass around the city of Norwich.

2.1.7 The TA assesses the impact that this re-routing of traffic is likely to have on the surrounding existing highway network and whether any additional measures are needed to mitigate these impacts. In addition, the cycle, pedestrian, equestrian and public transport facilities associated with the Proposed Scheme have been assessed to see if they are in-line with and meet current recommended policy and guidance. The impact that re-routing traffic could have on Personal Injury Accidents (PIAs) has also been assessed as part of this TA.

2.1.8 Mitigation measures are identified where necessary to accompany the Proposed Scheme to limit the extent of traffic re-routing through villages to the north and south of the Proposed Scheme.

2.2 Scope of Assessment

2.2.1 The scope and assumptions of the TA have been discussed with the Local Highway Authority and National Highways as custodian of the Strategic Road Network (SRN) which are summarised as follows:

- Consideration of relevant planning and transport-related planning policy;
- Consideration of baseline transport conditions for all users of the local transport network, including: traffic conditions on the surrounding local road network; pedestrian facilities; cycle facilities; equestrian facilities; public transport facilities; and Personal Injury Accidents (PIAs) that have occurred on the surrounding local road network;
- The observed 2019 base year data indicates that the local AM peak hour in the west of Norwich is slightly earlier than in central Norwich

and across the wider modelled area. The local peak hour was identified as 07:30-08:30, rather than 08:00-09:00 elsewhere which is the modelled peak hour. Therefore, for the purposes of preparing a robust TA an adjustment factor of (1.0659) has been applied to the modelled AM peak hour based on the observed differences between the local study area peak in the west of Norwich and the wider model peak across the whole of Norfolk. No factor has been applied to the PM peak hour (17:00-18:00), as there was minimal difference between the observed and modelled peak hours;

- Description of the Proposed Scheme in so far as is relevant to the assessment of traffic and transport, including: proposed new access roundabouts; and the walking, cycling and equestrian facilities that are proposed as part of the scheme.
- An assessment of the impacts that re-routing vehicle trips are likely to have on the local highway network and a description of any proposed mitigation of these if required.
- Junction modelling carried out using appropriate software for individual junctions within the scope of assessment for the relevant design year. This was agreed based on the Safe, Sustainable Development guidance (NCC, 2019). For Primary Roads (A Roads such as the A47, A1067, A140, A1074 and A1270) an assessment 10 years after the opening of the Proposed Scheme is required. For B Roads and Secondary Roads, a design year at least 5 years after opening is required and for minor roads and the rural road network, operation in the opening year should be considered as a minimum.
- Taking a robust approach, junction capacity impacts should be considered in 2039 for all TA junctions. This is 10 years after the planned opening of the Proposed Scheme in 2029. The Safe, Sustainable Development guidance has subsequently been updated to a 2022 version which is less prescriptive. However, a 10-year

assessment horizon is considered to remain appropriate, as this is broadly consistent with the build out timescales for the committed developments nearby in the study area and similar to the timeframe for the adopted Greater Norwich Local Plan and the Norfolk County Council Local Transport Plan 4. This principle was agreed with the Local Highway Authority in scoping discussions.

- Where a junction exceeds RFC (Ratio of Flow to Capacity) in excess of 0.85 in the future design year, it is considered to be operating close to theoretical capacity. For new junctions it is expected that an RFC of 0.85 should not be exceeded.
- For all junctions exceeding RFC of 0.85, the forecast queue lengths will be considered in more detail to determine whether the forecast situation is likely to be tolerable.
- Where an existing junction exceeds RFC of 0.85 in the baseline, mitigation is only required if the Proposed Scheme significantly exacerbates an existing capacity issue or causes a capacity issue that would otherwise not occur without the Proposed Scheme. If the new road alleviates pressure on a particular junction, no mitigation is expected to be required as part of the Proposed Scheme.
- Where the new road causes a junction to exceed RFC of 0.85, or if the scheme is shown to significantly worsen an already congested junction, the appropriateness of mitigation is considered further in the context of predicted queues modelled.

2.3 Scheme Objectives

2.3.1 A range of project objectives have been developed to align with the current overarching themes presented in national, regional and local policy, as well as associated guidance.

2.3.2 The objectives have been developed with input from stakeholders from the early stages of the project and are captured in two tiers, as high-level and specific objectives. The specific objectives are shown in **Table 2-1**.

2.3.3 The high-level objectives for the Proposed Scheme reflect issues and opportunities to support the principal aim of achieving a sustainable transport system which is fit for purpose and capable of supporting future planned growth, aligned with the Adopted Development Plan and Transport for Norwich Strategy 2021:

- H1 - Support sustainable economic growth;
- H2 - Improve the quality of life for local communities;
- H3 - Promote an improved environment; and
- H4 - Improve strategic connectivity with the national road network.

Table 2-1 Proposed Scheme Objectives

Strategic Objective	Strategic Outcomes
S1 Improve connectivity and journey times on key routes in Greater Norwich	i) Improve journey time and journey time reliability, on routes through the area west of Norwich ii) Reduce congestion and delay through the area west of Norwich iii) Reassignment of traffic away from existing routes reducing delay and congestion improving existing accessibility. iv) Reduce emergency response times v) Improve network resilience vi) Provide a more-suitable direct route for HGV/LGV vehicles vii) Reduce trips on local minor roads for vehicular traffic

Strategic Objective	Strategic Outcomes
S2 Reduce the impacts of traffic on people and places within the western area of Greater Norwich	i) Reassignment of trips onto appropriate routes ii) Reduce noise in local communities overall in the western area of Greater Norwich iii) Reduce net emissions of CO_2 and other greenhouse gases in local communities overall in the area west of Norwich iv) Improve Non-Motorised User connectivity v) Improve air quality, especially in the built-up areas of west Norwich vi) Minimise traffic impacts on local residents during construction
S3 Encourage and support walking, cycling and public transport use	i) Increase in number of trips taken by walking, cycling and public transport ii) Increased access to public transport, walking and cycling facilities
S4 Improve safety on and near the road network, especially for pedestrians and cyclists	i) Reduced overall network accident rate ii) Reduce the number of people killed or seriously injured on roads in the area west of Norwich iii) Minimise highway safety impacts and severance during construction
S5 Protect the natural and built environment, including the integrity of the River Wensum SAC	i) Biodiversity Net Gain ii) Minimised impact on landscape iii) Minimised impact on heritage iv) Not affect the integrity of the River Wensum SAC v) Reduce carbon emissions to contribute to the Council's net zero aspiration by 2030 vi) Minimise impact of the scheme on climate change vii) Minimise adverse environmental impacts arising from construction
S6 To improve accessibility to key sites in Greater Norwich	i) Improved accessibility to Norwich International Airport, Norfolk & Norwich University Hospital and key employment, housing and education sites ii) Improved accessibility to green areas iii) Improved access to the cycle and Public Rights of Way network

2.4 Structure of Report

2.4.1 The report is structured as follows:

- Section 3 – outlines the Proposed Scheme components which are relevant to this TA;
- Section 4 – provides the justification for and transport benefits of the Proposed Scheme;
- Section 5 - summarises relevant national and local transport policies;
- Section 6 – sets out the existing conditions on the local transport network;
- Section 7 – outlines the future baseline situation in the local area, taking into account committed developments;
- Section 8 – carries out an impact assessment for the Proposed Scheme in the future assessment year;
- Section 9 – sets out a package of mitigation measures and monitoring protocols for the operational stage of the project;
- Section 10 – considers the likely construction traffic impacts and approach to mitigation; and
- Section 11 – provides a summary and concludes the TA.

3 Scheme Proposals

3.1.1 The Proposed Scheme is a new dual carriageway standard 'Classified Road' which will connect an upgraded and dualled A47 trunk road near Wood Lane, Honingham, to the A1067 Fakenham Road, circa 340m west of the western end of A1270 Broadland Northway. The 340m long section of the A1067 between the Classified Road and the A1270 Broadland Northway will also be upgraded to dual carriageway standard.

3.1.2 In addition to the Classified Road, a Sustainable Transport Strategy has been produced to present a package of local transport improvements to support sustainable travel patterns within the study area to the west of Norwich, once the Proposed Scheme is in place. This includes the Non-Motorised User Provision for the scheme and a series of Complementary Sustainable Transport Measures (CSTM) within the Sustainable Transport Strategy. The CSTM elements will be taken forward separately to the Proposed Scheme but the redistribution of vehicular traffic that would occur as a result of the Classified Road operating, is expected to create the conditions for the CSTM elements to proceed.

3.2 Scheme Development and Consultation

3.2.1 Following the opening of the A1270 Broadland Northway in 2018, the Proposed Scheme has been developed as a continuation of an orbital route around the west side of the city. The A1270 was formerly known as the Norwich Northern Distributor Road (NDR) which was recognised by the Secretary of State for transport as a Nationally Significant Infrastructure Project (NSIP). The Proposed Scheme forms the final section of the route which has been developed in close collaboration with National Highways to link with their approved DCO for the A47 North Tuddenham to Easton Improvement Scheme. The A47 forms part of the Strategic Road Network. The A1270 has also subsequently been recognised by DfT as part of the Major Road Network (MRN).

3.2.2 A public consultation was held in summer 2018 to identify transport issues in the west of Norwich – this demonstrated that there was support for the principle of a new link between the A47 and A1270 in the west of Norwich. A further public consultation was held towards the end of 2018 and into 2019 to receive further views on the shortlist of potential route options for the Proposed Scheme. A preferred route was then announced in 2019 and the project was made a regional priority by Transport East, following which a Strategic Outline Business Case (SOBC) was submitted to DfT. The SOBC was approved by DfT in May 2020 and development funding was allocated to the project.

3.2.3 A public consultation was also held in 2020 on local access. Details of this consultation are provided in **Appendix 2** (Document Reference 4.01.02). This considered the interaction of the Classified Road element of the scheme with side roads and Public Rights of Way which cross the proposed alignment. A decision was taken in response to feedback to close all existing roads that cross the scheme to motorised vehicles but retain NMU access via a series of green bridges. It was also concluded that Ringland Lane should be kept open to all traffic once complete to retain connectivity between local villages and minimise the need for farm traffic to divert to the A47 and A1067.

3.2.4 An Outline Business Case was submitted to DfT in 2021 and a design and build contractor was appointed to further develop the scheme designs. A pre-application public consultation was held in summer 2022, to seek feedback on the proposals and inform the details to be submitted as part of the planning application. A copy of the consultation brochure is provided in **Pre-application Consultation Report Appendix 1** (Document Reference 5.01.01).

3.2.5 A Full Business Case (FBC) is planned to be submitted to DfT in 2025, with a proposed start of main construction works in 2026, with the road likely to be open in 2029, subject to all the necessary statutory processes being complete.

3.2.6 Stakeholder and Local Liaison Group engagement has been a core part of the Proposed Scheme's development from conception, allowing for local residents, other interested parties and professionals to comment on the proposals and provide local insights.

3.2.7 The following engagement work has been undertaken to date as shown in **Table 3-1**. Ad hoc meetings have also been held with parish councils and third party organisations. A Local Liaison Group of Parish Council reps from across the area west of A140 has helped to shape the Proposed Scheme plus local access groups have provided input to sustainable transport workshops. These meetings have enabled The Applicant to discuss relevant aspects of the Scheme via events including those listed below.

Table 3-1 Stakeholder Engagement Timeline

Date	Activity
February 2017 - onwards	Local Liaison Group Meetings with local Parish Councils to discuss all aspects of scheme development and provide updates on progress.
May - July 2018	Transport Issues Public Consultation – seeking input from members of the public on the need for the scheme, key transport issues and format of a potential solution.
November 2018 - January 2019	Options Public Consultation – sought feedback on 6 potential options and guidance on Complementary measures to accompany the scheme.
August 2019 - onwards	Working with HE (now National Highways) for joined up delivery of the Proposed Scheme and A47 North Tuddenham to Easton dualling scheme
October 2019	Sustainable Transport Stakeholder Workshop 1 setting key principles for design of complementary sustainable transport measures
January 2020	Sustainable Transport Stakeholder Workshop 2 - further development of complementary sustainable transport measures and Non-Motorised User opportunities
July - September 2020	Local Access Public Consultation – sought feedback on potential complementary sustainable transport measures and Non-Motorised User opportunities

Date	Activity
August 2020	Sustainable Transport Stakeholder Workshop 3 - Briefing on content of Local Access Consultation
August 2020 - onwards	Joint Local Liaison Group meetings led by NH and NCC
March 2021	Sustainable Transport Stakeholder Workshop 4 – update on decisions made following local access consultation
July 2022	Active Travel England NMU strategy presentation – discussion on Non-Motorised User proposals
August - October 2022	Pre-Planning Application Public Consultation
April 2023	Active Travel England clarified that ATE are not a statutory consultee for the Proposed Scheme.
May 2023	PROW officer update on the Proposed Scheme NMU Strategy and discussion on PROW diversion feasibility during construction
Late 2023-Early 2024	Updated discussions with local parishes regarding traffic mitigation proposals

3.2.8 Extensive stakeholder engagement and public consultation (including a local access consultation held in 2020) have been carried out to inform the development of the proposals explained within this report.

3.2.9 Further information on public consultation events held to engage with stakeholders and local residents is included within the **Statement of Community Involvement SoCI** (Document Reference 1.03.00).

3.3 Proposed Highway Alignment

3.3.1 The Classified Road will comprise a new dual carriageway, to the west of Norwich, from the A47 to the A1067/A1270, including a new viaduct bridge over the River Wensum and its floodplain. The scheme will provide a direct connection between the Strategic Road Network (SRN) at A47 and the A1270 through the west of Norwich. This will complete an orbital route around Norwich, which forms part of the Major Road Network (MRN). The scheme consists of:

- A dual carriageway road, including a viaduct over the River Wensum and associated floodplain;
- Connection to a new Wood Lane 'grade separated' junction with the A47 constructed as part of the A47 North Tuddenham to Easton improvement promoted by National Highways;
- An 'at grade' roundabout junction with the A1067;
- Dualling of a section of the existing A1067 between the proposed new roundabout and existing A1270 roundabout;
- A highway bridge carrying the Classified Road over Ringland Lane;
- New Non-Motorised User crossings of the Classified Road via two green bridges and at Ringland Lane underpass;
- Diversion and extension of existing Public Rights of Way and new routes to create a coherent and joined-up network; and
- Shared surface cycleway/footway link from Weston Longville to Attlebridge alongside Marl Hill Road and crossing of A1067.
- Change of use for Low Farm building from a residential dwelling to B1 Office use (Class E).
- Surface water drainage - principally infiltration basins, sediment forebays and associated carrier drains / channels.

3.3.2 The Proposed Scheme also includes landscaping, planting, ancillary works, and environmental mitigation.

3.3.3 Further details and description of the scheme and design are provided in **Chapter 3 of the ES** (Document Reference 3.03.01) and the **Design and Access Statement** (Document Reference 1.02.00).

3.3.4 Traffic mitigation proposals in villages north of A1067 and south of A47 as shown in Chapter 9 of this TA.

3.4 Treatment of Side Roads

3.4.1 As set out within the **STS** (Document Reference 4.02.00), there are five existing Public Highways and two existing Public Rights of Way which cross the Classified Road alignment. These are shown in **Figure 3-1**.

Ringland Lane

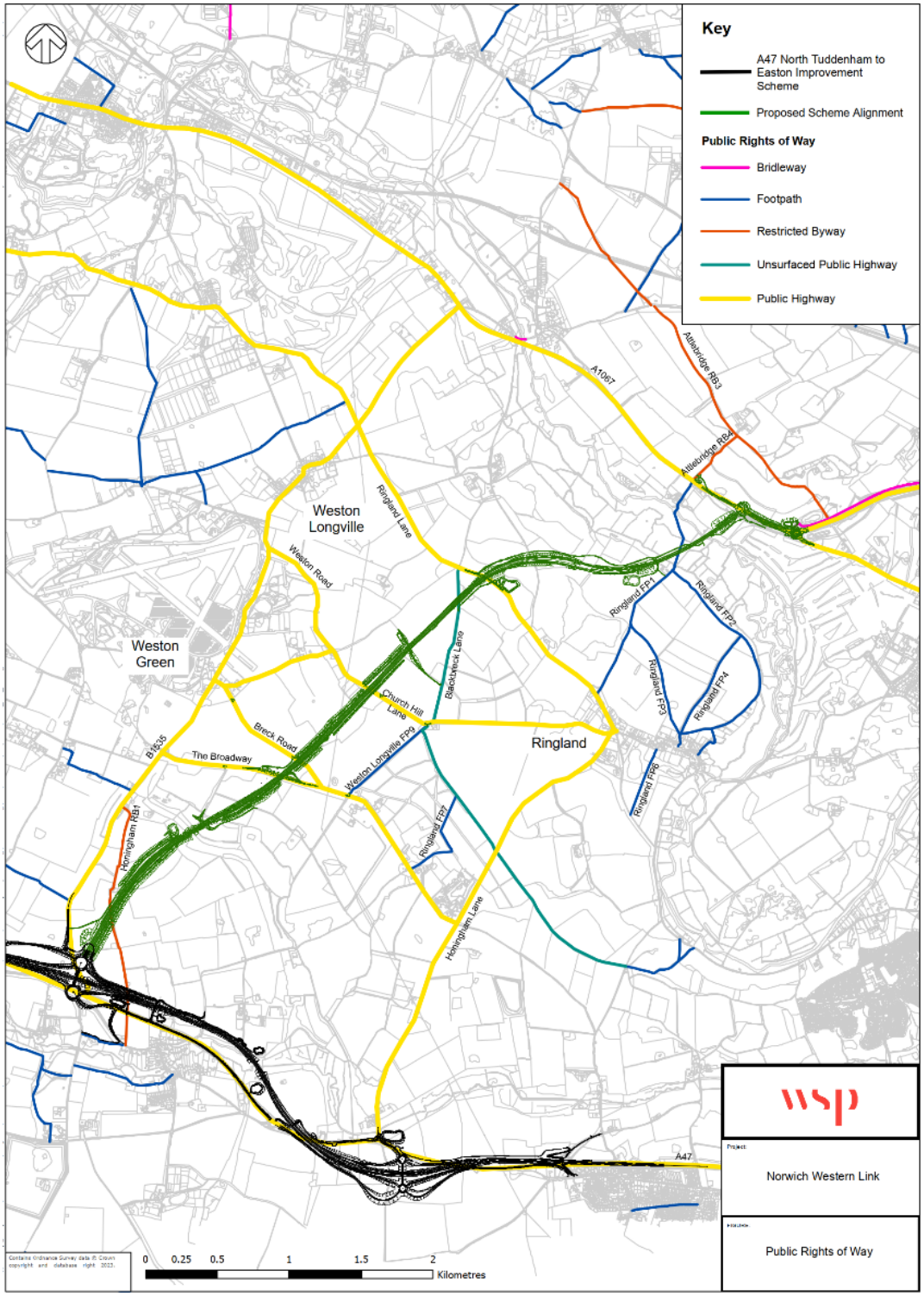
3.4.2 Public feedback captured via the 2020 Local Access Consultation supported the principle of one route remaining open to all traffic to facilitate local access between communities either side of the Proposed Scheme. This would enable residents to access key facilities, as well as avoiding long diversion routes via the A47 or A1067.

3.4.3 Ringland Lane is the most frequently used route crossing the Classified Road, with better forward visibility for road users, and as a Class C Road, it is maintained to a higher standard. Ringland Lane is a rural road connecting the villages of Ringland and Weston Longville. It has a narrow alignment varying in width from about 3m to about 5m on approach to Ringland Village. There are informal passing bays where the verge has been considerably eroded by vehicles.

3.4.4 Ringland Lane will be kept open to all traffic via an underpass of the Proposed Scheme, although it would be closed as necessary during construction in the interests of highway safety. The bridge spanning over Ringland Lane would provide sufficient height clearance above Ringland Lane so that, for example, farm vehicles accessing adjacent land could still use the route with the Proposed Scheme in place. During temporary closures traffic will be diverted to the A1067 and A47 alternative routes. The Broadway will be available as an alternative diversion route for Non-Motorised Users.

3.4.5 Ringland Lane west of the Classified Road is included in the NMU provision and will form part of the CSTM to the east, with enhanced links planned to nearby PROWs. The proposed underpass would also provide connectivity for Non-Motorised Users either side of the Proposed Scheme.

Figure 3-1 Existing Routes Crossing the Proposed Scheme Alignment



Church Hill Lane (Weston Road)

3.4.6 In the central section, Church Hill Lane (Weston Road) connects Ringland with Weston Green. The existing road is a narrow rural lane (about 3m wide),

with limited forward visibility in paces, with low observed traffic flows. Church Hill Lane (Weston Road) is to be severed where it is crossed by the Proposed Scheme, with turning heads provided to accommodate U-turns. Vehicular access will be maintained for existing properties, businesses and agricultural land, with access restrictions at either end.

3.4.7 The section to the west of the Proposed Scheme would become a bridleway restricted to pedestrians, cyclists and equestrians only (whilst retaining private means of access for adjacent land parcels). Sections to the east would be entirely closed approximately to the point where Weston Road meets Blackbreck Lane and replaced with a private means of access. The closure of Church Hill Lane (Weston Road) would encourage a small number of vehicles to divert to alternative routes such as Ringland Lane, the A1067 Fakenham Road, or the A47. Non-Motorised Users would be diverted north to a new green Bridge crossing the Classified Road referred to as the Morton Green Bridge.

Breck Lane (also known as Breck Road)

3.4.8 Breck Lane (Breck Road) is a narrow rural lane (approximately 3m wide) with restricted forward visibility in places; it runs in a south-easterly direction from Weston Green. Breck Lane (Breck Road) becomes Telegraph Hill approximately 150m east of Weston Green Road.

3.4.9 Breck Lane (Breck Road) is to be severed where it is crossed by the Classified Road. However, access will be maintained to existing agricultural land. To the west of the Proposed Scheme, Breck Lane will become a restricted byway for use by pedestrians, cyclists and equestrians only (including non-motorised carriages). The section on the eastern side, where the road becomes Telegraph Hill, would be closed to the public entirely. Suitable turning facilities will be provided for U-turning vehicles.

The Broadway

3.4.10 The Broadway is a narrow (approximately 3m wide), tree-lined, rural lane running broadly east-west from Telegraph Hill in the east, to Paddy's Lane in

the west. The Broadway is to become a bridleway for use by pedestrians, cyclists and equestrians (and private means of vehicular access to adjacent land) only. It would cross the Classified Road via a green bridge, which would also serve as a wildlife crossing. Motorised traffic would be diverted to alternative routes, such as the A47 to the south and the A1067 to the north and Ringland Lane. Suitable turning facilities will be provided for U-turning vehicles.

3.4.11 The Broadway has been identified as a key location to support habitat connectivity, both for wildlife and pedestrians, cyclists and equestrians.

Blackbreck Lane

3.4.12 Blackbreck Lane is an unsurfaced Public Highway within the central section of the route. As part of the Proposed Scheme the section of route between Church Hill Lane (Weston Road) and Ringland Lane will be available for access only by pedestrians, cyclists and equestrians, including non-motorised carriages and redesignated as a Restricted Byway. A short section of Blackbreck Lane will be diverted to the east of the Classified Road connecting with Ringland Lane. The short section to the northwest of the Proposed Scheme will be stopped up.

3.5 Treatment of Existing Public Highways to be Closed to Vehicles

3.5.1 Where roads listed above are stopped up such that they no longer permit vehicular traffic (other than access), turning facilities will be installed to enable errant users to turn around. Restricted access will be imposed via width restriction features, such as gates or bollards.

3.5.2 The changes to public access rights over the above roads and changes to private means of access to land are to be implemented via the Side Roads Order made under the Highways Act 1980.

3.5.3 The proposals are shown in **Appendix 1** (Document Reference 4.01.01).

3.6 Existing Public Rights of Way

3.6.1 A Walking, Cycling & Horse Riding Assessment Report (WCHAR) was produced in accordance with the Design Manual for Roads and Bridges GG142 guidance for a large highway scheme. This identified opportunities for walking, cycling and horse riding within 5km around the Classified Road's main alignment. The WCHAR identified opportunities for improving connectivity and the quality of existing PROWs, which are currently fragmented and do not function as a joined-up network. An initial NMU Strategy was developed, which has now evolved into the Proposed Scheme's Non-Motorised User Provision shown in **Appendix 1** (Document Reference 4.01.01), to address these issues whilst also mitigating potential severance issues caused by the Classified Road, where existing routes crossed by the scheme are severed.

3.6.2 There are two existing PROWs which cross the Proposed Scheme: Ringland Footpath FP1, and Honingham Restricted Byway RB1.

Ringland Footpath FP1

3.6.3 At the north end of the Classified Road, the existing FP1 will remain on its current alignment, with the Classified Road's viaduct passing over it. This path was observed to be in very low usage in 2021 surveys and was away from potential desire lines from the nearest settlements of Ringland and Weston Longville towards existing key facilities that NMUs would potentially wish to access. It was also recognised that this route passes through the floodplain, so is not accessible at all times of year when flooding occurs and any further improvement works may impact on flood risk. Hence a decision was taken during an early stakeholder workshop that no works or changes would be carried out to the existing FP1 route. However a shared footway/cycleway further west adjacent to Marl Hill Road is instead proposed to offer a more sustainable solution that can be implemented more readily outside of the floodplain, so would be usable throughout the year and hard surfacing can be introduced. This route also caters more strongly for existing desire lines between Weston Longville and Attlebridge.

Honingham Restricted Byway RB1

3.6.4 The existing Honingham Restricted Byway RB1 passes through open farmland, with access to the south severed by the existing A47 alignment and access to the north only possible from the B1535, with no footways or cycleway to ensure safe access for users. The Restricted Byway RB1 is to be diverted to the eastern side of the Classified Road, and towards the A47. An underpass is also to be provided by NH as part of the A47 North Tuddenham to Easton Improvement scheme to offer a grade separated connection to Honingham.

3.7 Low Farm Change of Use

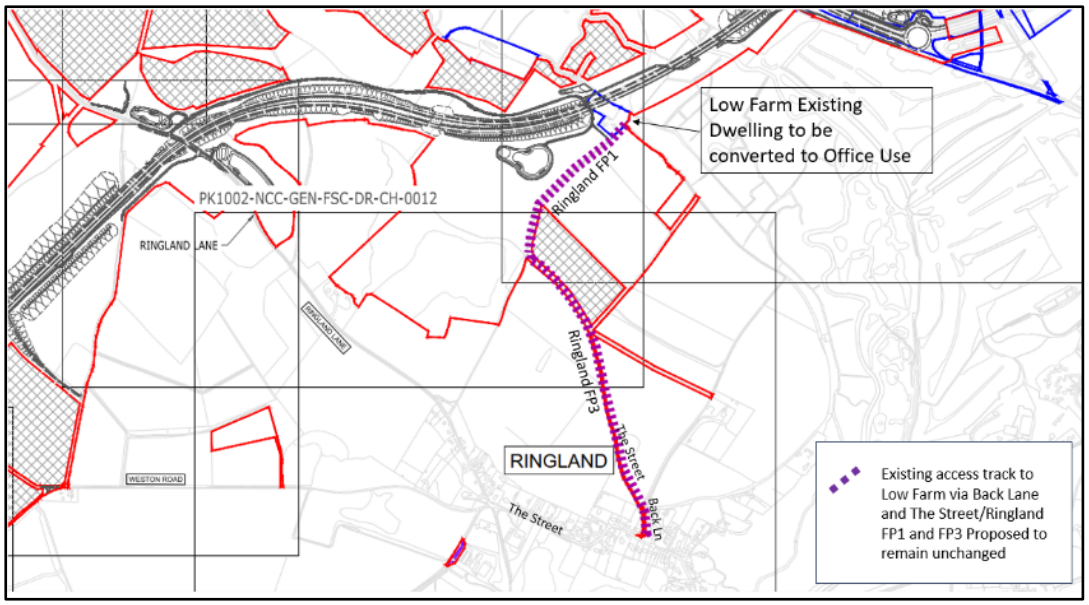
3.7.1 The existing residential property at Low Farm is proposed to be converted to office use (Class E). During the construction phase, this would enable the property to be used as a workplace for staff supervising the construction works. Up to 5 employees would be based in the existing building. No material changes will be made to the property internally or externally. Office furniture will be located within the property, including several desks, office chairs, document storage (filing cabinets / tambour units / cupboards), to facilitate the use of the property as a small-scale office.

3.7.2 The office will have operating hours of 07:00 – 19:00 Monday to Friday, with the potential for 08:00 – 13:00 on Saturdays.

3.7.3 As shown in **Figure 3-2** below, Low Farm currently takes access via a shared private access track known as Back Lane, Ringland which leads to The Street. The route has an unbound surface and varies in width from about 2.8m to about 6m in places. The existing width at Back Lane is similar to the character of other local roads in the surrounding rural area.

3.7.4 As a residential dwelling Low Farm would be expected to generate around 5-6 vehicle movements per day. Back Lane is also currently a public footpath (Part of Ringland FP3 and FP1) so is also regularly used by pedestrians.

Figure 3-2 Low Farm Location and Site Access Plan



3.7.5 The proposed change of use of this property to office use is expected to result in a similar level of daily vehicle trip generation. However, a higher proportion of the daily trips would be carried out by LGV or HGV vehicles with the proposed use in mind. No modifications are proposed to parking or access arrangements. Cycle parking could be accommodated within the existing outbuildings. The existing residential dwelling would already be serviced by refuse vehicles and the access route is wider than a standard fire appliance vehicle, so would be accessible by emergency service vehicles. However, commercial waste services would be procured by the occupiers.

3.7.6 The existing access to the site connects with The Street, Ringland via a priority shared access private drive that is also used by six adjacent residential properties and for access to surrounding farmland. There are also a number of small businesses operating in the immediate vicinity accessed from the centre of Ringland Village, for example, the adjacent cul-de-sac of Pitt Farm Green also provides access to commercial properties of a comparable scale.

3.7.7 Once the Proposed Scheme is completed, retaining the property for commercial office use is expected to be more compatible with the future situation than reverting to residential and would support growth in the small

business sector with an increasing number of small businesses operating locally since the Covid 19 pandemic. The Federation of Small Businesses published statistics on growth in the small business sector across the UK, noting that between 2010 and 2023 the business population increased by 1.1 million (+24%) (source: UK Small Business Statistics). Creating space and opportunity for future local jobs in this location would potentially enable a small number of residents in the rural area of Ringland and Weston Longville to work locally or setup a small business.

3.8 Construction Access and Phasing

3.8.1 Early enabling works such as utilities diversions and establishment of site compounds are planned to commence in November 2025. The main construction of the Proposed Scheme is programmed to commence in early 2026 and the scheme is expected to be completed and open to traffic in 2029.

3.8.2 There are two main site compounds proposed for the construction phase of the Proposed Scheme – the main compound would be located west of the Classified Road between The Broadway and Breck Lane (Breck Road), accessed via B1535 and Paddy's Lane from A47.

3.8.3 A satellite compound would be located in the northern section accessed via Ringland Lane. For construction access to the northern section of the route and for construction of the viaduct, access would be taken via the A1067, Marl Hill Road and Ringland Lane. Access through the villages of Ringland and Weston Longville would be limited to enabling works access and ecological mitigation access. There would be no construction HGV access through the village of Weston Longville. Early stage enabling works will take place at various locations, including access via Back Lane, Ringland. A haul road will be constructed south of Ringland Lane (west of the proposed alignment) to minimise congestion and conflicts for HGV movements.

3.8.4 The main alignment of the Classified Road south of Ringland Lane will be used as an internal haul route through the site to minimise the requirement for construction vehicles to use the surrounding highway network once internal

connectivity through the site is achieved. This will help to contain noise, vibration and dust within the scheme boundary as far as reasonably practicable.

3.8.5 A summary of the construction proposals is provided in **Chapter 3 of the ES** (Document Reference 3.03.00).

3.9 Proposed A1067 Fakenham Road Works

3.9.1 The northern section of the Classified Road will include a connection with the western end of the A1270 Broadland Northway by dualling about 340m of the existing A1067 Fakenham Road. A new roundabout will be constructed to connect the Classified Road to the A1067.

3.9.2 The existing A1067/A1270 roundabout will be modified with dualling of the western approach arm and changes to the circulatory carriageway of the roundabout to increase the capacity of the junction.

3.9.3 Alongside the vehicular improvements, a new segregated walking and cycling route is proposed to the north of the new roundabout to connect into the existing PROW network and cycleways alongside the A1270 Broadland Northway.

3.9.4 An off-highway NMU link is also proposed alongside Marl Hill Road to connect the villages of Attlebridge and Weston Longville, with onward connections to the Marriott's Way; this will also enhance access to bus services on the A1067 for Weston Longville residents.

3.10 National Highways A47 North Tuddenham to Easton Dualling Scheme

3.10.1 In August 2022 National Highways received DCO (Development Consent Order) approval from the Secretary of State for Transport to dual the A47 between North Tuddenham and Easton, replacing the existing single carriageway link. The improvements include a new dumbbell roundabout junction at the existing A47 / Wood Lane / Berrys Lane junction. The NH

Scheme proposals based on the DCO application are shown in **Appendix 15** (Document Reference 4.01.15)

3.10.2 The grade separated junction improvements proposed at Wood Lane by NH include the severance of Berrys Lane, Honingham. This is intended to deter through traffic from using routes via the villages south of A47. The Wood Lane B1535 connection to the northern roundabout at Wood Lane junction will also be made less direct, so that vehicles accessing the Classified Road will have a more direct route available. The NH interchange has been designed to accommodate the future traffic flows as predicted using the NATS strategic model with and without the Proposed Scheme.

3.10.3 As part of the NH scheme, the existing roundabout at Easton will be removed and replaced with a new grade separated NMU bridge crossing the A47 and providing enhanced connectivity between communities north and south of the dual carriageway. The CSTM Cycle Friendly Routes are designed to link with this new bridge. The Honingham Roundabout will be bypassed and the existing section of A47 single carriageway road around Honingham will be de-trunked and transferred to the Local Highway Authority for adoption.

3.10.4 A further grade separated dumbbell roundabout junction will also be provided close to the existing A47 junction with Taverham Road and Blind Lane. This will connect to the Honingham Roundabout to the west, Taverham Road to the north and Easton village to the east. However, Blind Lane to the south will be severed. There will also be no connection to the northeast to Church Lane, Easton.

3.10.5 Further west, a new underpass will be provided at Mattishall Lane, Hockering, enabling all users to pass under the new section of A47 to access Mattishall and East Tuddenham. Church lane, Honingham will also be closed where it crosses the dualled A47.

3.10.6 The NH DCO scheme has been subject to a Judicial Review and legal challenge has caused delay. In February 2024, the Court of Appeal dismissed the challenge. This TA assumes that all of the National Highways

schemes in the A47 corridor are able to proceed and open to traffic prior to the opening of the Proposed Scheme in 2029; (locally around Norwich, this includes A11/A47 Thickthorn Junction Improvement scheme and Burlingham to Blofield Improvement scheme). The A47 TUD works are expected to commence in early 2025 with completion around 26 months later in 2027.

3.11 Mitigation Package

3.11.1 The strategic modelling indicates that with the Proposed Scheme in place, traffic would re-route to access the new road. Whilst most of the re-routing is confined to the Primary Road Network (A Roads and Strategic Roads), without further intervention, this is expected to cause increases in traffic through a small number of villages to the north of the A1067 and south of the A47.

3.11.2 A traffic mitigation package has been developed with input from affected communities and taking into account public consultation feedback. The mitigation is included as part of the Proposed Scheme, seeking to limit increases of traffic through the villages of Felthorpe, Attlebridge and Horsford to the north of A1067 and Barnham Broom, Kimberley, Carleton Forehoe and the northern edge of Wymondham. Traffic flows are forecast to change significantly in response to the scheme in the Do Something scenario without mitigation. A threshold of 1000 vehicle AADT (Annual Average Daily Traffic) increase has been set for consideration of mitigation measures.

3.11.3 The proposed package of measures for Felthorpe, Attlebridge and Barnham Broom was published for consultation in summer 2022. However, in response to public feedback the mitigation proposals have been modified since the summer 2022. The updated mitigation proposals are explained in **Chapter 9**.

3.12 Sustainable Transport Strategy

3.12.1 Developed alongside the Classified Road proposals, the Sustainable Transport Strategy (STS) presents the NMU Provision which is included as part of the Proposed Scheme and shown in **Appendix 1** (Document

Reference 4.01.01) and further Complementary Sustainable Transport Measures (CSTM) in the wider network surrounding the Proposed Scheme which will be facilitated by the traffic redistribution on local roads that the Proposed Scheme is expected to deliver. The CSTM elements can be delivered as a separate project once the Classified Road is open to traffic.

3.12.2 Initial proposals for the STS were developed for the Local Access public consultation in 2020, with feedback used to further refine the NMU Provision which is intended to mitigate severance caused by the Classified Road. Feedback on the wider CSTM proposals and other feasibility criteria were also used to shortlist elements to be prioritised, as set out in **Appendix 2** of the STS (Document Reference 4.02.02).

3.12.3 Further detail is provided within the Sustainable Transport Strategy (Document Reference 4.02.00).

3.13 Non-Motorised User Provision (developed from the NMU strategy)

3.13.1 The Non-Motorised User (NMU) Provision addresses the localised severance of existing PROWs and public access routes arising from the construction of the Classified Road aiming to offer a range of solutions to improve facilities for pedestrians, cyclists and equestrians. It also offers substantial enhancement of the local PROW network around the Classified Road by joining up existing routes with additional new PROW links connecting what are currently isolated sections of individual footpaths to create a more comprehensive network with increased usage rights to make the routes accessible to a wider range of users.

3.13.2 As the NMU Provision has been developed, relevant policy and design guidance at both the national and local level, including findings from the WCHAR study (Walking Cycling and Horse Riding Assessment and Review) have been considered. Stakeholders have also helped to identify the key themes and priorities for the project with regards to provision for NMUs.

3.13.3 Traffic surveys were carried out to understand how well the existing routes are used. Specific engagement on NMU design aspects, has included meetings and workshops with the following:

- Local Liaison Group (Parish Council Representatives);
- NMU Stakeholder Workshop;
- Local Access Forum & Public Rights of Way Sub-Group;
- County and District Council Members;
- Norfolk County Council Officers;
- National Highways; and
- Environmental Groups.

3.13.4 The proposed NMU Provision includes a mix of grade separated crossings of the Classified Road by either an over bridge or underpass) and routes alongside to enable the PROW network to be preserved and connected to onward route as part of the Proposed Scheme. The NMU Provision has been formulated with several Guiding Principles to follow:

- Aim to retain and enhance PROWs;
- Diversion routes to be kept as a reasonable length and development in accordance with the DfT guidance [CD143];
- Seek to improve accessibility having regard to the Sustrans and British Horse Society guidance. The Sustrans Traffic-free routes and greenways design guidance (November 2019) should be used to inform design for shared-used cyclists, pedestrian and equestrian facilities as appropriate;
- Avoid or minimise disturbance to adjacent landowners and farm operations;

- Proposed maintenance tracks can be utilised as new links between PROWs and local roads for an efficient solution which minimise land take, cost and maximise public benefit of elements of the scheme which need to be constructed by making them publicly accessible;
- Where minor roads or private accommodation routes to be retained cross the Classified Road, bridges or underpasses will be provided where practicable for use by NMUs, including equestrians;
- Around the A47 junction, the design and development of NMU routes should be coordinated with National Highways to create a joined-up strategy;
- Landscaping proposals will take into account security of footpath users, particularly in remote rural areas, promoting enjoyment of routes where possible with appropriate landscape mitigation where routes pass close to noisy edges of the project or A47 routes; and
- Wayfinding and signage should be provided in accordance with Sustrans guidance.

3.13.5 Using the above principles and outputs from engagement with members of the public and stakeholder groups, an early version of the NMU Provision was developed, which was presented at the Local Access Public Consultation, running from Monday 27th July to Sunday 20th September 2020. The proposals as presented are included in **Appendix 2** (Document Reference 4.01.02).

3.13.6 The Local Access Consultation proposals in 2020 were generally well received, with good levels of public support evident for the closure of existing public highways that cross the Classified Road at The Broadway, Breck Lane (Breck Road), Church Hill Lane(Weston Road) and Blackbreck Lane. These routes are therefore proposed to be stopped up to motor vehicles where they cross the Classified Road ('Access Only' restrictions will be imposed where local land access is required to be retained for agricultural access). Turning

facilities will be installed to enable errant users to turn around and where sections of carriageway are no longer required there would be a reduction in highway maintenance costs.

3.13.7 Public access rights over the routes retained would be reduced to allow NMUs only. Restricted access will be achieved via width restriction features such as gates and bollards.

3.13.8 However, it was also evident that it would be practical for one route to remain open to all traffic to facilitate local access between nearby communities (for example Weston Longville and Ringland). This would enable residents to access key facilities in the two villages such as pubs, shops and village halls, as well as avoiding long diversion routes via the A47 or A1067. The feedback from consultation was considered for each route that crosses the Classified Road to inform the design development of the preferred option.

3.13.9 The feedback received regarding Church Hill Lane (Weston Road), The Broadway and Breck Lane (Breck Road) supported the closure of the routes crossing the Proposed Scheme, with NMU access retained and diverted to the proposed green bridges at The Broadway (GB1) and an additional green bridge was added. This is referred to as the Morton Green Bridge (GB4).

3.13.10 For Ringland Lane, a decision was made to keep the route open for all traffic, as this would also assist emergency access, refuse servicing and farm vehicles access, rather than diverting large, slow vehicles to the A47 and A1067 strategic links. This would help to retain connectivity between the communities of Weston Longville and Ringland who share local facilities. It would also reduce the length of diversions routes for agricultural traffic and minimise the need for tractors and farm machinery to use Primary Roads such as the A1067 and A47.

3.13.11 The revised NMU Provision, taking into account public feedback is shown in **Appendix 1** (Document Reference 4.01.01) and the proposals are explained in the STS (Document Reference 4.02.00). Extracts of the NMU Provision Plan are shown below in **Figure 3-3** and **Figure 3-4**

Route 1a: Honingham Restricted Byway RB1 crossing of A47

3.13.12 Route 1a would be provided by National Highways as part of the A47 TUD scheme. It is intended to mitigate severance of the existing Honingham RB1 as a consequence of both the proposed A47 TUD scheme and the NWL Proposed Scheme. Route 1a offer a new grade separated crossing of A47 where the revised RB1 route intersects the new A47, an underpass will be constructed by National Highways to allow safe passage of users, shared with private access to the Easton Estate.

Route 1b: Honingham Restricted Byway RB1 diversion route

3.13.13 Route 1b involves creating a new diversionary route linking Route 1a and the old A47 to the south (Route 1a will be constructed by National Highways), with The Broadway to the north. The new route will closely follow the Classified Road along the highway boundary to minimise the extent of land take, with adequate separation from the highway to minimise disturbance to users of the new route. To the north, this route will connect with The Broadway, with onward connections to Weston Green and Ringland.

3.13.14 Public access rights over the remnants of the original Honingham RB1 north of the former A47 will be extinguished. However, the existing RB1 route to the south of A47 will be retained for public access.

Route 2: The Broadway (Public Highway)

3.13.15 The proposal is to prohibit motor vehicles (except for access), at the western end of The Broadway from its junction with Paddy's Lane to create a tranquil public bridleway for NMU access and ecology. The route will include an overbridge crossing the Classified Road to retain access and avoid severance over this route. Although access to motor vehicles will be prohibited, access will be preserved for private vehicles serving private property, predominantly agricultural land holdings. Vehicle gates will be introduced to deter unauthorised access by motor vehicles.

Route 3: Breck Lane (Breck Road) (Public Highway)

3.13.16 Breck Lane (Breck Road) is to be closed to all motor vehicle traffic, except for access to adjacent private land. The south-east section of Breck Lane (Breck Road) is to be stopped up and diverted to The Broadway proposed overbridge and will be a Restricted Byway. A new Restricted Byway will link Breck Lane (Breck Road) to The Broadway on the western side of the Classified Road alignment.

Route 4: Church Hill Lane / Weston Road (Public Highway)

3.13.17 Church Hill Lane is to be stopped up to all traffic at the crossing of the Classified Road and the section to the west will become a bridleway, and for provision of private access. Users will then be diverted to Route 9 alongside the Classified Road and over the proposed Morton Green Bridge for onward connections towards Ringland and Attlebridge. To the east side, the route is to be stopped-up for all users, except for access to adjacent private land.

Route 5: Blackbreck Lane (Unsurfaced Highway Maintained by Norfolk County Council)

3.13.18 Blackbreck Lane is an existing unsurfaced public highway that provides connectivity between Church Hill Lane and Ringland Lane to the east of the Classified Road. The northern extent of Blackbreck Lane will be severed by the Classified Road, and so a short diversion to the east side of the new road will be created to preserve connectivity with Ringland Lane. The remainder to the north side will be stopped-up, with all rights extinguished. The remaining parts of Blackbreck Lane between Ringland Lane and Church Hill Lane (Weston Road) will become a Restricted Byway.

Route 6: Ringland Lane

3.13.19 Ringland Lane is to remain open to all traffic with an underpass created, preserving access for all users. A new section of footway within the underpass is to be provided to link Route 5 and Route 10 to Ringland Lane.

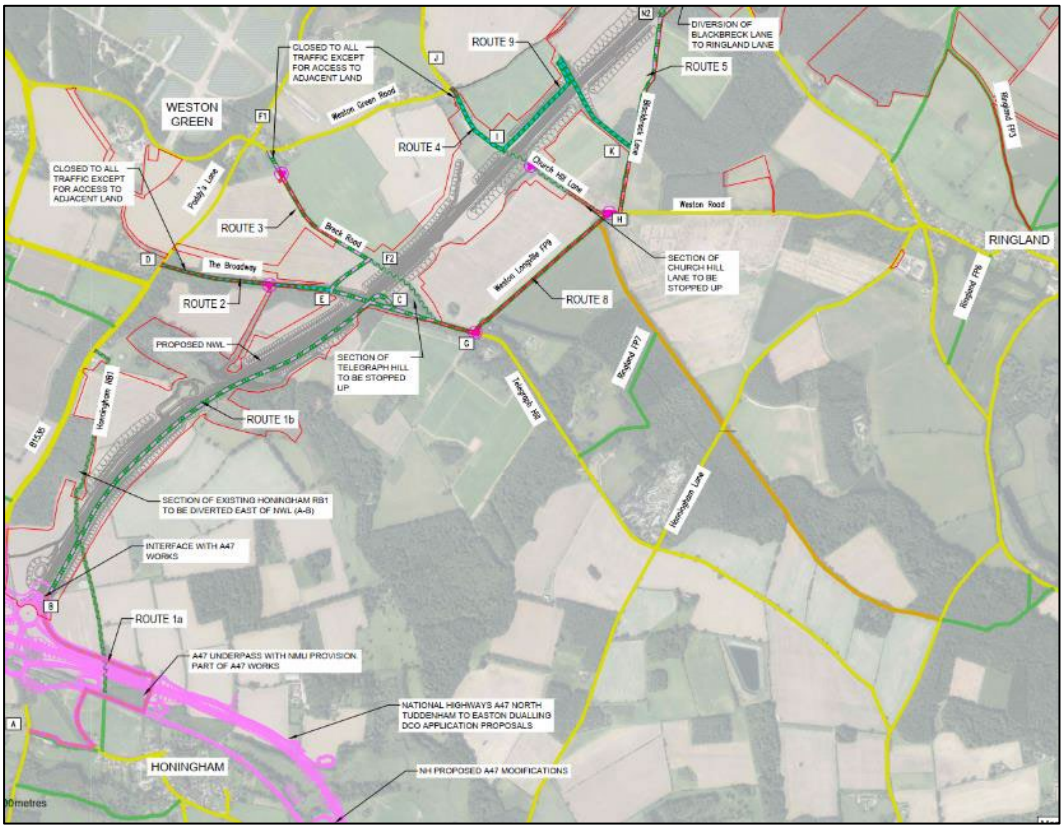
Route 7: Ringland FP1 (Public Footpath)

3.13.20 Retention of this public footpath is proposed to preserve access over this pedestrian route. This footpath will pass under the viaduct, and so access will be preserved, however this route will need to be closed during construction in the interests of public safety whilst the viaduct is constructed. The footpath will remain as unmade where it crosses through the floodplain of the Wensum Valley and wetland paddocks to minimise impact on flooding and existing habitats and protected species.

Route 8: Weston Longville Footpath 9

3.13.21 To improve connectivity with neighbouring PROWs, it is proposed to upgrade Weston Longville Footpath No.9, to the east of the Classified Road to a Restricted Byway with links to The Broadway and Honingham RB1 diversionary route. This will create a continuous link from Honingham to Ringland Lane via Blackbreck Lane.

Figure 3-3 Proposed Scheme NMU Provision Extract – South Section



Route 9: New Bridleway

3.13.22 Dedication of a new public bridleway from Church Hill Lane (Weston Road), parallel with the west side of the Classified Road, crossing at the Morton green bridge and connecting to Blackbreck Lane.

Route 10: New Public Footpath

3.13.23 Dedication of a new public footpath over the Proposed Scheme maintenance track from Ringland Lane, connecting to Route 10a and Route 10b.

Route 10a: New Public Footpath

3.13.24 Dedication of a new public footpath Trod constructed linking Route 10 and Route 10b with existing Ringland Footpath 1 and 2 to the east.

Route 10b: New Public Footpath

3.13.25 Dedication of a new public footpath over a proposed maintenance access track to be constructed to serve the Project with access from Ringland Lane to the south and extending to the tie-in with Ringland Footpath No.1 to the north. The existing Ringland Footpath 1 will remain and pass under the viaduct, for onward connections to Route 11.

Route 11: New Pedestrian / Cycle Link

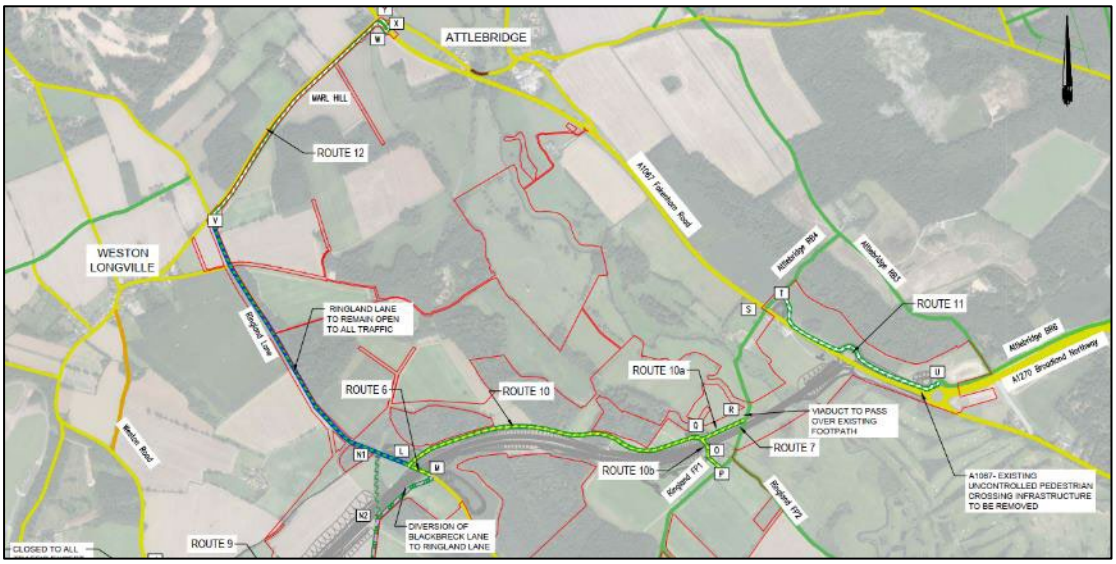
3.13.26 A new pedestrian / cycle link is proposed to the north of the A1067 Fakenham Road, linking the existing Attlebridge Restricted Byway 4 (RB4) and Bridleway 6 (BR6) The route will create a link for users to access existing Public Rights of Way to the north of the Proposed Scheme and the NMU infrastructure provision along the Broadland Northway. The existing uncontrolled pedestrian crossing at Fakenham Road/NDR Roundabout will be removed.

Route 12: Marl Hill Road

3.13.27 A new segregated shared cycleway and footway is proposed within the western edge of the field boundary adjacent to Marl Hill Road, offering a new surfaced route to connect Weston Longville with A1067, Morton on the Hill and Attlebridge. A new crossing of A1067 is also proposed about 50m to the east of the Marl Hill Road junction. A central refuge will assist users crossing

A1067 and a reduced 40mph speed limit is proposed on this section of A1067 for about 800m passing through Morton on the Hill. This should enhance highway safety. Passive provision is made to enable traffic signals to be added to this crossing if required.

Figure 3-4 Proposed Scheme NMU Provision Extract – North Section



3.13.28 The STS also includes Cycle Friendly Routes and a Bus Strategy. Further details are explained in chapter 9 of this TA. The Cycle Friendly Routes and the Bus Strategy are collectively known as the Complementary Sustainable Transport Measures (CSTM). NCC as Local Highway Authority will bring forward these elements once the Proposed Scheme is in place and traffic is redistributed on the surrounding highway network. The opening of the Classified Road is expected to facilitate improved conditions for active travel and bus movement in preparation for the CSTM items to be implemented.

4 Justification for the Proposed Scheme

4.1 Strategic Connectivity Gap in Norfolk's Major Road Network

4.1.1 Following the completion in April 2018 of the A1270 Broadland Northway (Formerly known as the Norwich Northern Distributor Road or NDR), there is now an evident connectivity gap between the A47 and A1067 through the area to the west of Norwich as illustrated in **Figure 4-1**.

4.1.2 The Norfolk Strategic Infrastructure Delivery Plan identifies that the Proposed Scheme is one of the County Council's priority road infrastructure schemes.

Figure 4-1 Strategic Gap Between A47 and A1270

4.1.3 The River Wensum and, to a lesser extent, the River Tud present a significant physical barrier to north-south movement between the A47 and A1067 which are the two key radial routes into central Norwich from the west.

4.1.4 There are no existing Primary A Road Standard routes available close to Norwich to cater for longer distance north-south movement to the west of the Outer Ring Road (A140 Sweet Briar Road). The nearest A Road route available (A1065 from Swaffham to Fakenham) is located approximately 35km west of A140.

4.1.5 The existing signed HGV route via the B1535 is also remote from Norwich, some 10km west of the A140 outer ring road. Following B-road re-classification in 2015, the current B1535 has a complex alignment geometry with tight bends which deters some users. This leaves shorter distance routes on very narrow minor rural roads through the villages of Weston Longville and Ringland susceptible to rat running, especially at peak times of day as these less suitable routes offer more direct and quicker access to the north of the city from the A47 and to the southwest of the city from the A1067 currently.

4.1.6 Other than the A140 Outer Ring Road (Sweet Briar Road), there is a very limited number of existing bridges crossing the River Wensum. The majority of these are narrow and constrained by weight restrictions. The existing bridges located at Ringland and Costessey for example are both very narrow and unsuitable for heavy vehicle traffic and would be unable to accommodate widening at their current height above the River Wensum..

4.1.7 There is an existing bridge on A1067 at Attlebridge, although it is aligned on a radial route (broadly east-west) rather than a north-south orientation, so does not facilitate orbital movement efficiently. The bridge in this location can only accommodate a single carriageway width and would require height increases if it were to be widened in accordance with Natural England requirements in relation to the SAC to avoid issues arising from shadowing. Options which could make use of the existing A1067 bridge, were considered previously but discounted following public consultation and Option Selection in 2019. The routes using this bridge at Attlebridge were identified as being too far west, with a much longer alignment and would need to be of single carriageway standard if upgrading of the existing bridge was to be avoided, so would offer less capacity and journey time savings. Options utilising the existing bridge were found to offer comparatively less traffic relief to other routes and received much lower levels of support within the 2018-2019 public consultation on potential scheme options.

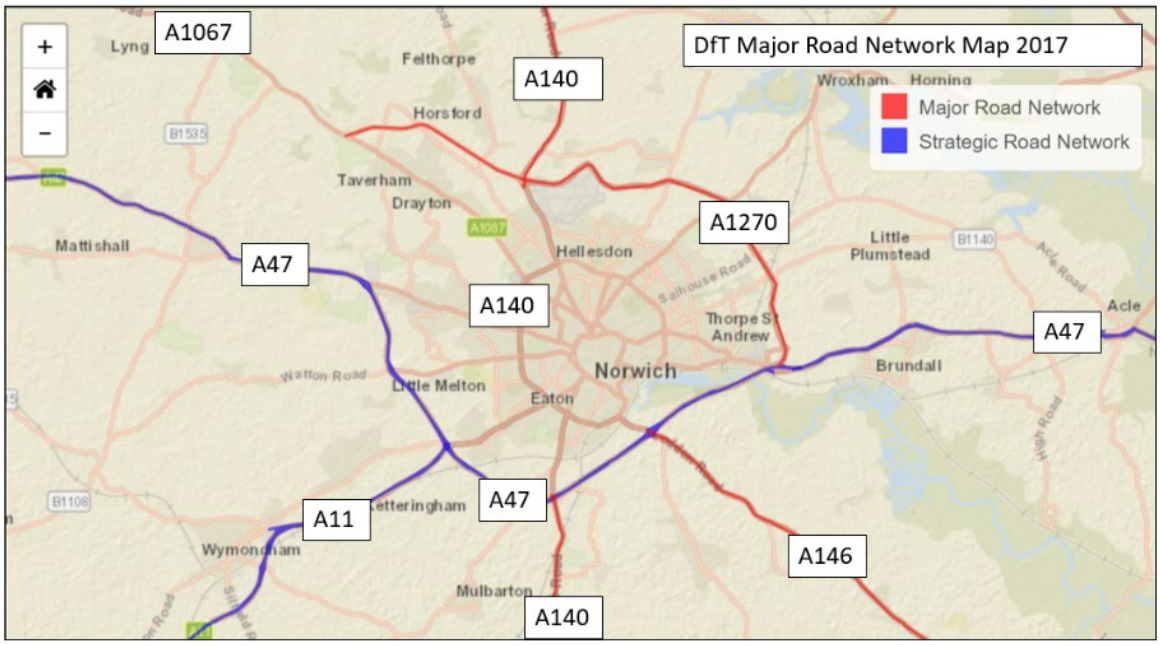
4.1.8 The Option Selection stage of the project took into account a range of engineering and environmental considerations based on the available

information at the time plus public consultation feedback on a range of options, which showed a preference for connecting to A1067 further to the east, as close as possible to the A1270 Broadland Northway in order to facilitate orbital traffic movement around Norwich.

4.1.9 All other alternative routes within the study area to the west of the city are predominantly rural minor single carriageway roads, with constrained alignment geometry, which are not designed to accommodate strategic traffic. Whilst traffic calming measures have been installed by NCC to avoid attracting additional traffic through these routes, many network users have local knowledge of the area and use the routes on a daily basis to avoid congestion and access shorter distance routes. Satellite navigation devices also direct users to these minor road routes as they offer the quickest routes between the A47 and A1067.

4.1.10 In 2017 the DfT Consulted on a Major Road Network (MRN)and published a map of the proposed MRN routes alongside the Strategic Road Network (SRN). The area around Norwich is shown below in **Figure 4-2** which emphasises the connectivity gap on the western edge of Norwich. The Proposed Scheme would offer enhanced connectivity between the SRN and MRN networks, facilitating orbital movement around Norwich.

Figure 4-2 DfT Major Road Network Map (extract)



Source: [Major Road Network Map]

4.2 Existing Highway Geometrical Constraints

4.2.1 A key problem identified within the area to the west of Norwich is the minor and constrained character of the existing rural road links which were not designed to be used by strategic traffic. The roads are generally narrow with tight bends and mature trees alongside the roads and limited verge space on various sections of road outside of the villages. The existing roads also take traffic through villages with residential frontages. Commercial vehicles are often seen to use these roads which impacts on residential amenity and creates conflicts as these types of vehicle occupy a wider space and often need to cross the centre of the carriageway due to highway width constraints.

4.2.2 Manual for Streets guidance Figure 6.18 illustrates the typical dimensions of vehicles. An extract is shown below in **Figure 4-3**. This demonstrates that a minimum road width of about 6m is required for two commercial HGVs to pass each other safely without conflict. At slow speeds an HGV can pass a van or mini bus within a 5.5m width and a car can safely pass an HGV on roads with a width of about 5m. However, the majority of existing minor rural roads

through the west of Norwich are 5m in width or less and often with tight bends and narrow or protected verges.

4.2.3 Manual for Streets design standards are also applicable to slower speed roads less than 40mph, whereas the rural west of Norwich is generally subject to higher 60mph speed limits. Increased width is therefore typically required to enable vehicles to pass safely and efficiently at the designated speed limit. However, the DMRB (Design Manual for Roads and Bridges) applicable guidance does not generally consider minor road geometry for routes less than 6m wide.

Figure 4-3 Manual for Streets Extract – Typical Vehicle Dimensions

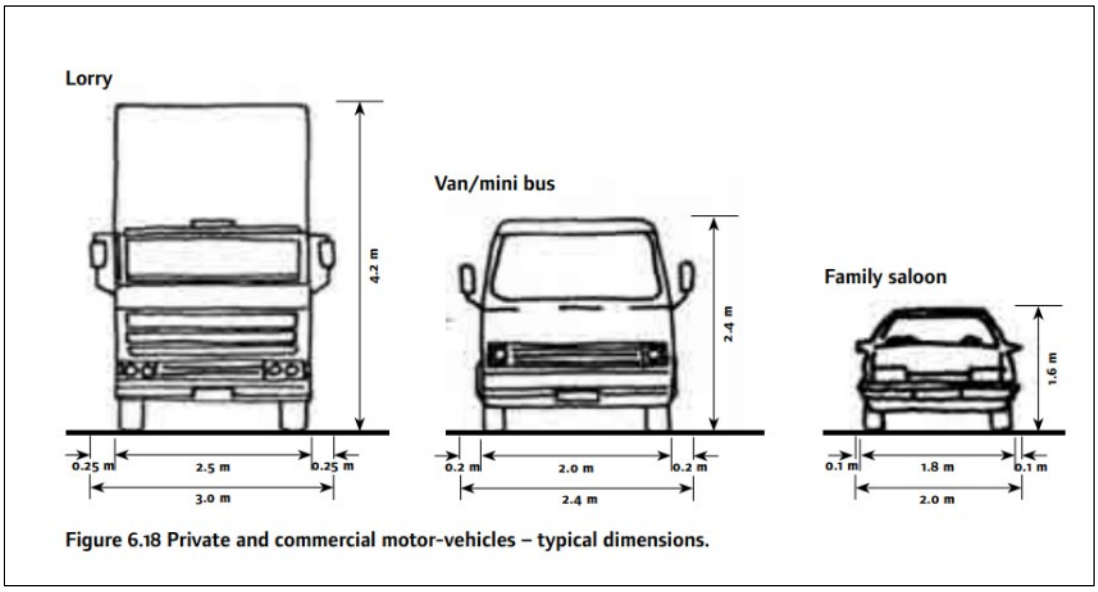


Figure 6.18 Private and commercial motor-vehicles – typical dimensions.

4.2.4 The existing roads through Weston Longville are generally 5m wide in the centre of the village at Honingham Road and Woodforde Close, with traffic calming features as shown below in **Figure 4-4**. Church Street is narrower and has tight bends and also several traffic calming features.

Figure 4-4 Honingham Road, Weston Longville – Traffic Calming

4.2.5 There are residential property frontages close to the edge of the highway along these roads for at least 600m. There is a Church in the centre of the village which creates a pedestrian desire line crossing the road and there is a village hall known as 'The Hall for All' at the northern end of the village within the narrowest section of route. This is a well-used shared facility for three parishes in the area.

4.2.6 At the northern edge of the village, Church Street has a single lane section which is 3m wide with high kerbs for a distance of about 200m with a passing bay at each end. Continuing north of Church Street, Marl Hill Road connects Weston Longville to the A1067 and has a typical carriageway width of about 5m.

4.2.7 The route through the village is not suitable for HGVs (and there are appropriate restrictions and signage in place) but larger vans, caravans and minibuses are often observed to use this route during site visits and traffic surveys as evidenced below in **Figure 4-5**.

4.2.8 In the opening year of 2029 the route through Weston Longville is forecast to carry about 4,400 vehicles per day (Annual Average Daily Traffic or AADT), increasing to about 5,300 AADT by 2044 in the DM scenario without the Proposed Scheme.

Figure 4-5 LGV Passing The Hall for All, Weston Longville

4.2.9 The onward route to the north at Marl Hill Road connecting Weston Longville to the A1067 also has a typical width of about 5m but is frequently used by LGVs and commercial vehicles for access through the villages avoiding the B1535 route which is significantly longer.

Figure 4-6 Marl Hill Road, Weston Longville

4.2.10 The existing B1535 route is the designated HGV route in the west of Norwich and is currently intended to be the main route for all through traffic avoiding

residential properties. It is generally about 6m wide but does not have a marked centreline along some of its length from A47 to A1067. This route is constrained horizontally by a series of tight bends (as shown below in **Figure 4-7)** and connects with A1067 about 2.5km west of Marl Hill Road.

Figure 4-7 B1535 Tight Bend at Rectory Road

4.2.11 For journeys towards Norwich from A47 Wood Lane at Honingham, the B1535 route offers a journey distance to the western edge of the A1270 of 13.2km. This is some 4.6km longer than the route via Weston Longville and Marl Hill Road, so offers a substantially less efficient traffic routing option than the more minor roads through Weston Longville. Despite the geometrical constraint on routes through the village and existing traffic calming features, the route via Weston Longville is predicted to carry at least 30% more traffic than the B1535 Weston Hall Road which runs parallel to the west.

4.2.12 The Proposed Scheme if implemented would further reduce the travel distance to 3.9km, so would alleviate the vast majority of through-traffic from both B1535 and minor roads through Weston Longville. Strategic model forecasting predicts that there would be a future opening year reduction in traffic through the village of 95% as compared to the Do Minimum forecast.

4.2.13 Existing routes through Ringland village are also constrained in width. The roads within the village are narrow, with a typical width of 4.8m and property frontages on both sides immediately adjacent to the edge of carriageway in places. The Street through the centre of Ringland also has tight bends.

4.2.14 The approved A47 TUD dualling scheme will result in the closure of Church Lane, Easton so traffic previously using this route would access Ringland via Taverham Road and either Honingham Lane or Costessey Lane via Church Hill Lane (Weston Road).

4.2.15 Further east, an existing parallel route through Taverham Lane, Costessey takes traffic through residential areas which is constrained by width at West End, Costessey with a typical width of 4.8m-5m, reducing to 3m where traffic calming features have been installed along the route with priority give way markings and speed management measures seeking to deter through traffic from this route which is lined with residential frontages.

4.2.16 Despite the presence of traffic calming measures, this route is predicted to be more heavily utilised than the B1535, with around 8,400 vehicles per day (AADT) forecast to use this route in the 2029 opening year without the Proposed Scheme.

Figure 4-8 Traffic Calming Features at West End, Costessey

4.2.17 An alternative route through the western urban fringe of Norwich via Costessey Lane which leads to A1067 Drayton High Road is also narrow and constrained with residential dwellings and informal footways and traffic calming features.

Figure 4-9 Narrow Street at Costessey Lane

4.2.18 Church Hill Lane (Weston Road), Breck Lane (Breck Road) and The Broadway - existing east-west routes that cross the Classified Road alignment also have a typical width of 3m or less with limited passing bays. These are currently in low usage.

4.2.19 Ringland Lane is slightly wider with a minimum width of 3m, although informal passing places have been eroded within the verge due to overrunning vehicles. However, with a typical width of 3m, this is narrower than the recommended dimension for fire and rescue vehicle access according to Manual for Streets guidance which advocates a suitable access width of 3.7m, (although the guidance acknowledges that 2.75m can be acceptable for a short distance).

Figure 4-10 Character of Ringland Lane

4.2.20 HGVs use the eastern part of Ringland Lane for access to farms between Weston Longville and Ringland as shown below in **Figure 4-11.**

Figure 4-11 HGV Access at Ringland Lane

4.2.21 A visual inspection of the highway boundaries suggests that overrunning of verges occurs frequently which indicates inappropriate use of minor roads by strategic traffic cutting through the villages. This is a direct result of the lack of suitable alternative strategic and primary routes available through the west of Norwich, especially at peak times when the outer and inner ring roads experience congestion. Natural England and the Environment Agency have also expressed concern regarding this overrunning of verges as it can

contribute towards increasing silt runoff which presents a risk to the integrity of the River Wensum SAC.

4.2.22 The existing minor rural road routes to the west of Norwich parallel with the Proposed Scheme alignment are predominantly unclassified roads expected to be unsuitable for individually carrying more than about 5,000 vehicles per day AADT (Annual Average Daily Traffic).

4.2.23 A local highway geometry review is provided in **Appendix 13** (Document Reference 4.01.13). This looks in more detail at north south route through Weston Longville which is a well used route for through traffic. The note concludes there are significant constraints and poor compliance with forward visibility requirements and narrow widths and junction geometry unsuitable for large vehicles and frequent opposing movements.

4.3 Constraints at Existing Highway Bridges

4.3.1 Taverham Mill bridge crosses the River Wensum at Taverham Lane between Taverham and Costessey. It is about 6m between parapets but the carriageway has been narrowed to about 5m. The road alignment has tight bends on approaches from the north and south within 50m of the bridge on both sides. Taverham Mill bridge is surrounded by lakes and the land surrounding the bridge has been known to flood in recent years.

4.3.2 The existing bridge over the River Wensum at Costessey Lane, Drayton is on a tight bend and positioned on a skewed angle. Due to the constrained highway alignment and aging structure it is subject to a 20mph speed limit and a 7.5T weight limit. The road approaching the bridge has several tight bends with poor forward visibility and a typical width of 5m.

Figure 4-12 Costessey Mill Bridge, Costessey Lane

4.3.3 Ringland Road bridge (shown in **Figure 4-13** below) is located at the eastern edge of Ringland village, it is narrow (with a carriageway width of about 4.8m) and is positioned on a bend with poor forward visibility on approach to the junction opposite a public house where Ringland Road meets The Street and Costessey Lane. The bridge is relatively low over the water and the greenspace around the bridge has also been observed to flood.

Figure 4-13 Ringland Road Bridge

4.3.4 Sweet Briar Road A140 (outer ring road) crosses the River Wensum about 150m north of its junction with A1074 Dereham Road. This bridge is wider and of higher standard but the bridge is a historic structure and has a relatively low clearance over the River Wensum.

4.3.5 Hellesdon bridge (shown in **Figure 4-14**) also crosses the River Wensum about 800m west of Sweet Briar Road. This is a very narrow bridge with a carriageway width of about 4m, it also has a 3T weight restriction. The route is popular with local cyclists as it is located about 100m north of the Marriott's Way (NCN1 route which is part of the Sustrans National Cycle Network).

Figure 4-14 Hellesdon Bridge

4.3.6 These more historic bridges do not have the physical capacity to support significant volumes of strategic traffic and several have weight restrictions in place, prohibiting heavy vehicles. Even if improvements could be made to the bridge structures, the onward routes also have constrained highway geometry and residential frontages (as set out above in section 4.2), so increasing pressure on these routes would impact on highway safety and potentially increase the risk of collisions. Enhancing these routes for strategic traffic would also impact on residential amenity and would reduce attractiveness for use by NMUs, so is not a desirable solution.

4.4 Impact of Not changing

4.4.1 As set out above, there are a number of existing transport problems that the Proposed Scheme has been developed to address. These include:

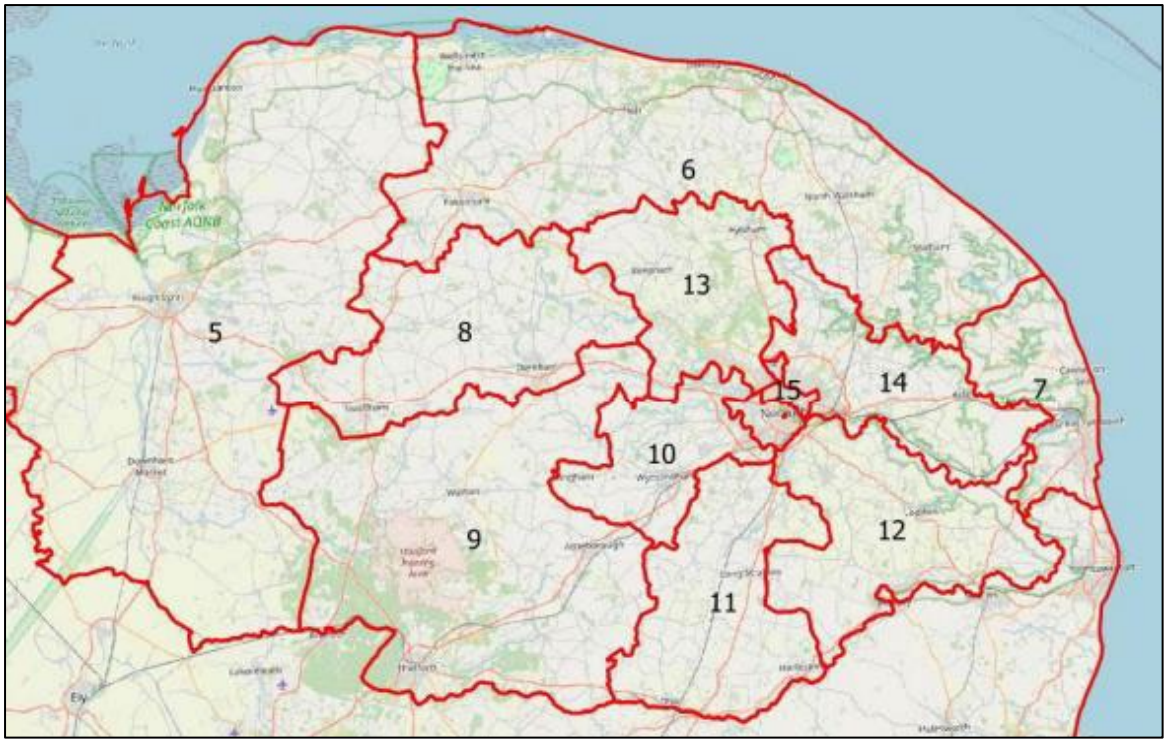
- There is no existing direct Major Road Network link between A47 and A1270 on the west side of Norwich that is suitable and efficient for the forecast levels of strategic traffic and HGV movement.
- There are a limited number of existing bridges crossing the River Wensum on the west side of Norwich and the majority of these are physically and geometrically constrained and unsuitable for HGVs or high volumes of traffic. Hence a more suitable crossing is required.
- Existing minor rural roads through communities such as Weston Longville and Ringland would continue to be used by longer distance through traffic and commercial vehicles seeking to move between the A47 and A1270 on the west side of Norwich. This makes them less attractive for non-motorised modes for local journeys.
- With the A47 North Tuddenham to Easton dualling scheme in place, impacts on local communities will be exacerbated as the number of available routes will be reduced, so impacts will be more focussed on the remaining routes. This effect is not expected to be able to be mitigated sustainably in the longer term, with a new strategic road such as the Proposed Scheme.
- Journeys between the A47 and A1270 would continue to use the less direct and inefficient via the B1535 route from A47 to A1270.
- Existing priority junctions on A1067 will reach capacity in the future.
- There will be increased pressure on the A47 southern bypass and it will become more difficult for traffic from central Norwich to access junctions on the Strategic Road Network along the southern bypass.

- Constrained routes with residential frontages and school accesses through the urban fringe of Norwich for example via Costessey, and Taverham will receive additional orbital traffic, which could be more appropriately accommodated on a purpose-built route.
- Collision risks are expected to increase as drivers are enticed to travel on routes through rural minor roads with constrained highway geometry in response to congestion on other longer routes. Conflicts with opposing flows on narrow routes will increase and gaps in traffic at key junctions will reduce without additional strategic highway capacity.

4.5 Desire Line Analysis

4.5.1 A review has been carried out of the latest aggregated origin-destination (OD) matrices used within the NATS updated 2019 base year traffic modelling which is derived from thousands of Telefonica mobile phone satnav data records collected across Norfolk during October 2019. To simplify the analysis, the zones within the model have been aggregated into sectors to reduce the number of OD pairs to consider. The sectors cover the entire UK, with only the Norfolk area shown in **Figure 4-15** below.

Figure 4-15 Sector Areas for O-D Analysis (Norfolk Sectors Only)



4.5.2 The sector-to-sector analysis of desire lines between origin and destination pairs is summarised below for the AM peak hour (8am-9am), PM peak hour (5pm-6pm) and a typical Interpeak hour (10am-4pm) as observed in the 2019 base year situation. From the above map it is evident that trips originating from zones 9,10 and 11 with destinations in zones 13, 14 or 6 or vice versa would potentially coincide with the Proposed Scheme alignment. To a lesser extent zone pairs 7 to 8 and 12 to 13 would also possibly use the new link for some trips but these have been excluded for a robust analysis.

4.5.3 These are all longer distance journeys which have less alternative mode options available, so the majority would need to travel by road. As a robust approach a reduction of 40% has been applied to the 2019 base year observed data as a robust approach.

4.5.4 Given that some trips may continue to use existing alternative routes including A140 Sweet Briar Road and A1270 via Postwick to the east of Norwich, a 66% reduction has been applied to the total trips in each of the modelled peak hours as a robust assumption. The results below indicate for each peak hour

how many trips would potentially shift to the Proposed Scheme if implemented.

Figure 4-16 Sector to Sector Origin-Destination Matrix AM Peak Total Vehicles

		Destination						
Sector Description	**Origin**	**6**	**9**	**10**	**11**	**13**	**14**	**Total**
North Norfolk District	**6**	-	15	25	3	126	-	**169**
Breckland South (south of A47)	**9**	18	-	-	-	21	35	**74**
South Norfolk West (west of A11)	**10**	22	-	-	-	84	140	**246**
South Norfolk Central (between A11 and A140)	**11**	7	-	-	-	16	-	**23**
Broadland West (west of A140)	**13**	153	23	119	14	261	199	**769**
Broadland East (east of A140)	**14**	-	44	166	-	224	-	**433**
	Total	**201**	**82**	**309**	**17**	**731**	**375**	**3,430**

Figure 4-17 Sector to Sector Origin-Destination Matrix PM Peak Total Vehicles

		Destination						
Sector Description	**Origin**	**6**	**9**	**10**	**11**	**13**	**14**	**Total**
North Norfolk District	**6**	-	28	25	6	121	-	**180**
Breckland South (south of A47)	**9**	19	-	-	-	23	44	**86**
South Norfolk West (west of A11)	**10**	30	-	-	-	102	155	**287**
South Norfolk Central (between A11 and A140)	**11**	5	-	-	-	15	-	**21**
Broadland West (west of A140)	**13**	113	38	100	12	272	212	**747**
Broadland East (east of A140)	**14**	-	33	119	-	193	-	**345**
	Total	**168**	**99**	**245**	**18**	**726**	**411**	**3,332**

Figure 4-18 Sector to Sector Origin-Destination Matrix Inter Peak Total Per Hour

		Destination						
Sector Description	**Origin**	**6**	**9**	**10**	**11**	**13**	**14**	**Total**
North Norfolk District	**6**	-	15	18	3	97	-	**133**
Breckland South (south of A47)	**9**	13	-	-	-	14	19	**46**
South Norfolk West (west of A11)	**10**	18	-	-	-	77	69	**164**
South Norfolk Central (between A11 and A140)	**11**	4	-	-	-	8	-	**13**
Broadland West (west of A140)	**13**	92	15	85	8	178	136	**514**
Broadland East (east of A140)	**14**	-	18	78	-	142	-	**239**
	Total	**128**	**49**	**181**	**12**	**517**	**224**	**2,220**

4.5.5 The above analysis indicates the Proposed Scheme would potentially offer a suitable route choice for at least 2,220 trips per hour throughout the day in off-peak conditions (based on the Interpeak typical hour matrix totals). In the AM and PM peak hours, this would increase to around 3,300-3,400 vehicle movements per hour. This is based on 2019 data, with substantial reductions applied, without considering forecast growth to the 2029 opening year and beyond.

4.5.6 The trip totals that would potentially benefit from using the Proposed Scheme by type of vehicle and time period are summarised below in **Figure 4-19**. Conversion factors have been applied to the AM, PM and Interpeak hour flows to arrive at an estimate of Annual Average Daily Traffic in the figure below. The predicted total AADT indicates that at over 30,000 trips would have a desire line that is catered for by the Proposed Scheme, even with conservative assumptions applied as a robust estimate.

Figure 4-19 Sector to Sector Origin-Destination Matrix Totals by Vehicle Type

Period	**Light veh**	**Heavy veh**	**All veh**
AM peak	3,304	127	3,430
Inter-peak	2,127	93	2,220
PM peak	3,288	44	3,332
AADT	31,303	1,046	32,349

4.5.7 **Figure 4-19** demonstrates that the Proposed Scheme has the potential to attract a significant volume of traffic from existing desire lines, from less suitable roads and move them onto a purpose-built dual carriageway.

4.6 Enhancing Access to Key Sites in the West of Norwich

4.6.1 The Norfolk and Norwich University Hospital (NNUH) is a key employment site and trip attractor from across Norfolk and the wider region. NNUH Foundation Trust employs around 10,000 staff, most of whom are based at the main campus at the western edge of Norwich urban area and is a key site that people from across the region need access to for outpatient services, maternity and emergency A&E facilities.

4.6.2 Many patients are unable to travel by non-car modes and often face travelling long distances as the hospital serves a catchment within an approximate 30-mile radius. The nearest alternative A&E hospital sites are much further away in Kings Lynn (approximately 54 miles), Bury St Edmunds (approximately 53 miles) and Lowestoft (approximately 35 miles). Emergency service vehicles also need good and uncongested access to the NNUH site to achieve suitable emergency response times. As congestion in the west of the city increases, emergency access becomes more challenging and constrained. Hence additional highway capacity on the western edge of Norwich would facilitate emergency access to the hospital.

4.6.3 Similarly, the University of East Anglia (UEA) is also at the western fringe of the city and plays an important role for employment and education, with about 17,000 students and 3,700 staff based at the campus. The site is co-located with NNUH and Norwich Research Park (NRP). In addition to UEA, NRP has over 115 companies based at the site, with around 30,000 jobs provided in this area at the west of the city, it is a major trip attractor which would substantially benefit from improved accessibility as a result of the Proposed Scheme.

4.6.4 Longwater Retail Park is also a key trip attractor in the west of Norwich at the junction of the A47 and A1074 – this site offers a wide variety of employment opportunities and caters for food retail with a major supermarket located here. Major retailers such as Next, Sainsburys, Argos, The Range, Pets at Home, McDonalds, Smyths and Sports Direct are located here. All of these have

HGV distribution requirements and are located adjacent to the A47 for ease of access to the Strategic Road Network but deliveries often form part of a longer journey with multiple drop off sites enroute, so orbital connectivity around Norwich, enhanced by the Proposed Scheme would be of benefit. For example, Sainsburys also has a large store in North Walsham, so HGVs could use the Classified Road for access between the two stores instead of using the Outer Ring Road or less suitable minor roads.

4.6.5 According to the route planner provided by the AA website (www.theaa.com), the recommended most direct route between Longwater retail area and Cromer/North Walsham is via Longwater Lane, West End Costessey, School Road and Hall Lane, Drayton for access to the A1270 and A140 or A1151 routes. This journey takes around 30-35 minutes in off-peak traffic conditions for a route which is about 18 miles, this is a predominantly residential route through the built-up area in the western fringe of Norwich. This route is currently subject to a weight restriction at Costessey Lane bridge over the River Wensum. The route also experiences occasional flooding as certain times of year.

4.6.6 Nearby, at Easton a Local Development Order was granted for a new Food Enterprise Zone (FEZ) where up to 50,000sqm development is permitted on a site totalling 19 Hectares adjacent to Blind Lane within 300m of the A47. This site will benefit from enhanced strategic access once the Proposed Scheme is in place. The Proposed Scheme will be accessible within a 2-minute drive from the FEZ. The Cycle Friendly Routes proposals associated with the Proposed Scheme also connect to Easton, passing the FEZ site, enabling enhanced sustainable access for future workers at the site who live locally.

4.6.7 Easton is also the location of Norwich Showground and Easton College which also requires strategic access from trip origins across the Wensum Valley.

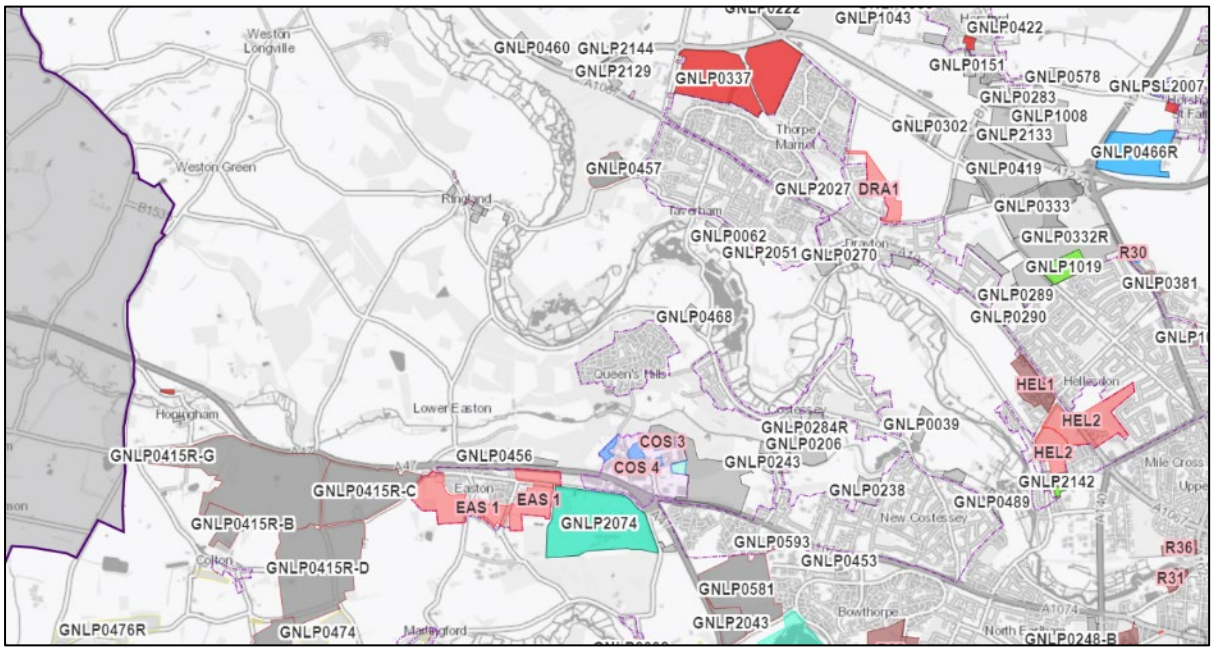
4.6.8 These employment sites are located at the southwest edge of the city, and due to the regional nature of their catchment, encompassing the North Norfolk coast and key settlements north of the city such as Aylsham, Fakenham, and

North Walsham it is a requirement to cross the River Wensum and there are very limited opportunities for doing this currently. At peak times, the existing routes become congested, so a new link crossing the River Wensum allowing traffic to avoid congestion would substantially enhance the accessibility of these vital employment sites.

4.7 Supporting Residential Development

4.7.1 There are several major residential developments identified on the western edge of Norwich which are currently going through the planning process or proposed for site allocation as part of the Greater Norwich Local Plan. These have been considered as committed developments within the traffic modelling for the Proposed Scheme within this Transport Assessment. An extract of the GNLP allocations interactive map is shown below in **Figure 4-20** which illustrates the location and geographic scale of these sites:

Figure 4-20 GNLP Local Plan Development Sites



Source: https://www.gnlp.org.uk/node/27/map

4.7.2 The major allocations specifically considered within the transport modelling for the Proposed Scheme include (amongst others), are set out in the Uncertainty Log included in **Appendix 8** (Document Reference 4.01.08):

- Site GNLP0337 Land between Fir Covert Road and Reepham Road, Taverham (78.36 ha) allocated for residential development. The site is likely to accommodate at least 1,400 homes, 33% of which will be affordable, associated public open space, new primary school and local medical centre. A planning application has also been approved for about 1530 homes on this site.
- Site EAS 1 Land south and east of Easton (approx. 52.6 ha) allocated for residential development and associated infrastructure. This will accommodate approximately 1,044 homes.
- DRA1 Land east of Cator Road and north of Hall Lane, Drayton (Approx. 12.5 ha) is allocated for residential development, allotments and open space. This will accommodate approximately 250 homes.
- HEL1 Land at Hospital Grounds, southwest of Drayton Road, Hellesdon (approx. 14.7 ha) is allocated for residential and employment uses. The site will accommodate approximately 300 homes, and B1 employment uses.
- HEL2 - Land at the Royal Norwich Golf Club, either side of Drayton High Road, Hellesdon (approx. 48.1 ha) is allocated for residential and open space uses. This will accommodate approximately 1,000 homes.

4.7.3 The above major allocations offer a total of approximately 4,000 dwellings in the west of Norwich with development to be commenced within 10 years of opening the Proposed Scheme (if permitted through the planning process). Whilst these sites are not considered to be dependent development, without the new link in place, there would be increased pressure on the highway network in Costessey, Taverham, Easton and Drayton.

4.7.4 In accordance with the NPPF, the Local Planning Authority can only require mitigation that is necessary to make a development acceptable in planning terms and can only refuse a development on highway grounds where the residual impacts are severe (see paragraph 115 of the NPPF). This enables

new development to soak up available capacity on the network which can degrade the performance of links and junctions without developers needing to fully mitigate impacts that are not considered to be severe. With multiple developments growing over time, the network suffers gradual deterioration in performance.

4.7.5 New residential development helps meet local housing need and stimulates the economy, with new jobs and commercial development becoming more viable with increased population. However, the need to tolerate additional development trip generation without mitigation can be detrimental and hinders progress towards attracting economic investment. To counteract this effect investment in new infrastructure such as the Proposed Scheme is therefore anticipated to unlock capacity and make Norwich more attractive for growth.

4.8 Supporting the Coastal Visitor Economy

4.8.1 According to 'Written evidence submitted by North Norfolk District Council to the DCMS Select Committee – Call for Evidence Impact of COVID-19 on Tourism Sector' North Norfolk is heavily dependent on the visitor economy, which in 2018 comprised 29% of the district's employment, generating £511m from 9.6m trips. The visitor economy is critical to the sustainability of retail and hospitality businesses in and around the district's seven market and resort towns.

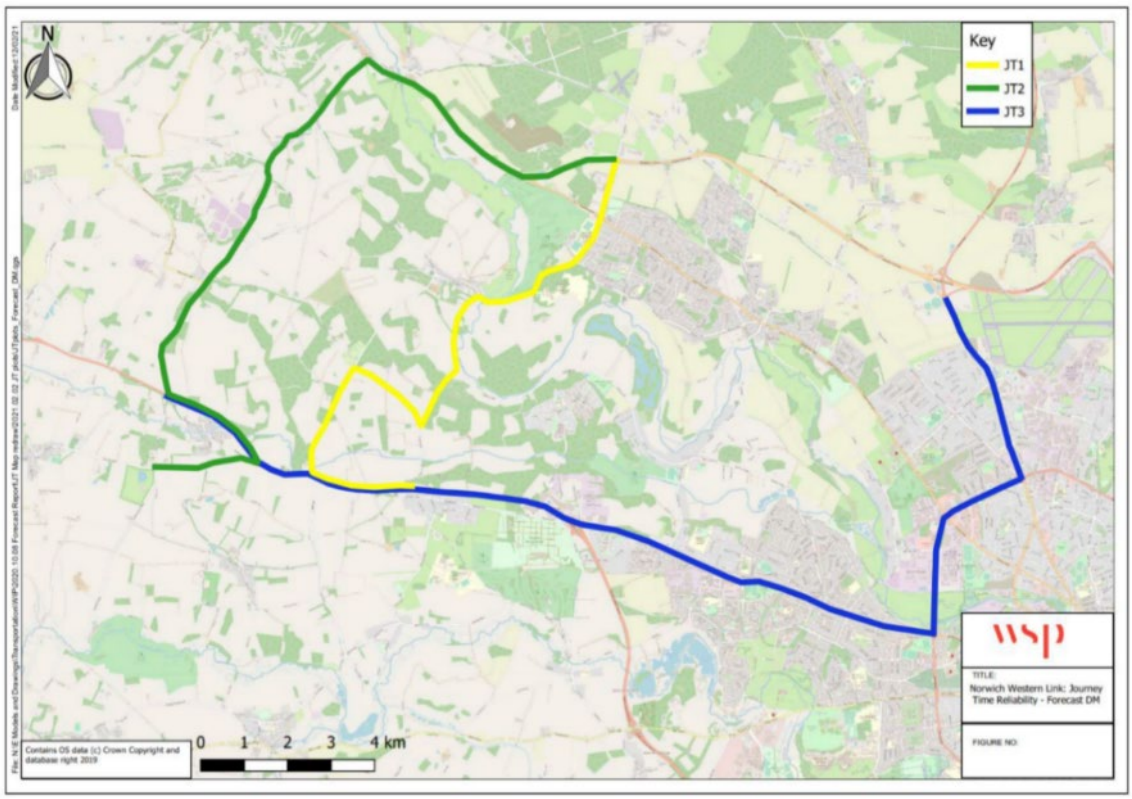
4.8.2 The North Norfolk coast is a popular UK tourist destination, attracting trips from the East of England, the wider southeast, the Midlands and London. Many of these trips have trip origins to the south and west of Norwich and destinations north of Norwich which would be well served by a Norwich Western Link connecting the A47 and A1270 Broadland Northway to more efficiently connect to the A140 which takes traffic north of the city to the coast.

4.9 Reducing Travel Distances and Improving Journey Times

4.9.1 A comparison of journey times and distances has been carried out using the strategic traffic model for three routes shown below in the Do Minimum

Network (**Figure 4-21**) versus equivalent routes using the Proposed Scheme in the DS scenario, as shown in **Figure 4-22**.

Figure 4-21 Do Minimum Network North-South routes (2029 and 2044)



4.9.2 The journey times for each route and direction in each of the modelled periods are summarised below in **Table 4-1** for the DM scenario without the Proposed Scheme using existing roads in 2029 and 2044 forecast years.

Table 4-1 Journey Times Forecast on Existing Routes - Do Minimum Scenario

Journey Time Route	2029 AM Peak DM	2029 Interpeak DM	2029 PM Peak DM	2044 AM Peak DM	2044 Interpeak DM	2044 PM Peak DM
JT1: Northbound	957	945	991	1,034	946	1,053
JT1: Southbound	986	945	968	1,044	946	1,007
JT2: Northbound	942	874	932	1,030	896	983
JT2: Southbound	902	865	902	938	894	929
JT3: Eastbound and Northbound	1,776	1,516	1,744	1,902	1,547	1,870
JT3: Southbound and Westbound	1,766	1,456	1,685	1,693	1,509	1,859

4.9.3 The Journey Time routes for the DS scenario with the Proposed Scheme in place (excluding mitigation) are shown below in **Figure 4-22**.

Figure 4-22 Do Something Network North-South routes (2029 and 2044)

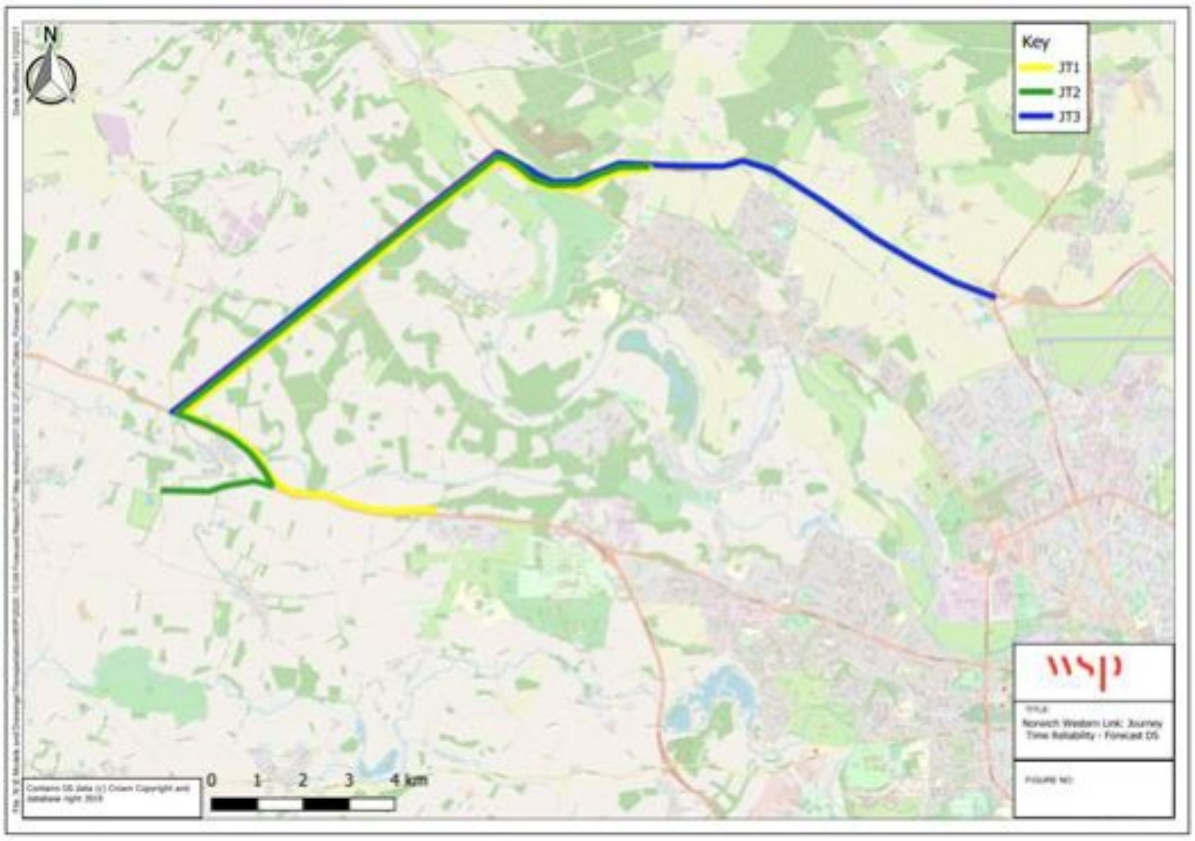


Table 4-2 Forecast Journey Times - DS with the Proposed Scheme

Journey Time Route	2029 AM Peak DS	2029 Interpeak DS	2029 PM Peak DS	2044 AM Peak DS	2044 Inter Peak DS	2044 PM Peak DS
JT1: Northbound	557	547	572	627	552	667
JT1: Southbound	519	506	510	533	510	520
JT2: Northbound	498	489	505	564	493	598
JT2: Southbound	488	482	484	499	485	491
JT3: Eastbound and Northbound	516	501	517	639	505	609
JT3: Southbound and Westbound	516	502	508	530	507	532

Table 4-3 Journey time improvements: DS versus DM (2029 and 2044)

Journey Time Route	2029 AM peak DSvDM	2029 Interpeak DSvDM	2029 PM peak DSvDM	2044 AM peak DSvDM	2044 Interpeak DSvDM	2044 PM peak DSvDM
JT1: Northbound	-400	-398	-419	-407	-394	-386
JT1: Southbound	-467	-439	-458	-511	-436	-487
JT2: Northbound	-444	-385	-427	-466	-403	-385
JT2: Southbound	-414	-383	-418	-439	-409	-438
JT3: Eastbound and Northbound	-1260	-1015	-1227	-1263	-1042	-1261

Journey Time Route	2029 AM peak DSvDM	2029 Interpeak DSvDM	2029 PM peak DSvDM	2044 AM peak DSvDM	2044 Interpeak DSvDM	2044 PM peak DSvDM
JT3: Southbound and Westbound	-1250	-954	-1177	-1163	-1002	-1327

4.9.4 It is evident that significant journey time savings are possible with the Proposed Scheme in place. **Table 4-3** shows significant reductions because travel distances reduce with the Proposed Scheme in place and vehicles are able to travel at higher speeds on the new link (60-70mph) and no longer need to slow down to negotiate tight bends on existing alignments that are constrained, so vehicles can travel more smoothly and safely through the network.

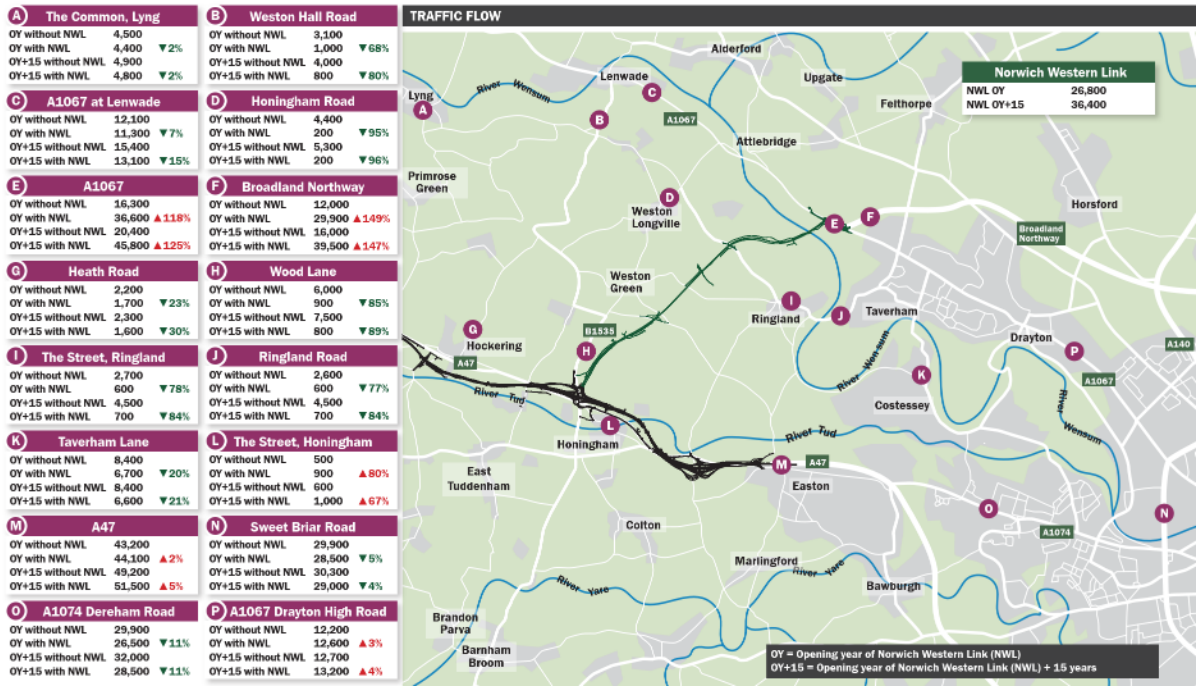
4.9.5 The journey distance saved depends on the specific journey being undertaken within the model. However, for journeys from the A47 Wood Lane Junction to the A1270 which currently use the B1535 and travel east towards Norwich on A1067, there is a substantial reduction in journey distance because the new alignment enables these vehicles to 'cut the corner' and take a more streamlined route towards A1270 Broadland Northway.

4.9.6 The existing B1535 route is the only available designated HGV route and is currently intended to be the main route for all through traffic avoiding residential properties. It is generally about 6m wide and has a marked centreline along its length from the A47 to A1067, so is of B Road standard. However, this route is constrained horizontally by a series of tight bends and connects with A1067 about 2.5km west of Marl Hill Road. For journeys towards Norwich from A47 Wood Lane at Honingham, the B1535 route offers a journey distance to the western edge of the A1270 of 13.2km. There is a shorter route (approximately 8.6km) available via Weston Longville and Marl Hill Road which is constrained in width and flanked with residential properties so is unsuitable for HGVs.

4.9.7 The Proposed Scheme would further reduce this distance to 3.9km, so would halve the travel distance from the A47 Wood Lane to A1270. This substantial trip distance saving would alleviate the vast majority of through-traffic from both the B1535 and Weston Longville. Strategic model forecasting predicts

that there would be a future opening year reduction in traffic through the village of 95% with the Proposed Scheme (excluding mitigation) as compared to the Do Minimum forecast. Link flow changes are shown **Figure 4-23** below.

Figure 4-23 Link Flow Changes – DM v DS (Excluding Mitigation)



4.10 Supporting Orbital Movement Around Norwich

4.10.1 Following the completion and full opening of the A1270 Broadland Northway in April 2018, traffic flows and demands for north-south movement within the western periphery of Norwich have increased on average by 10%.

4.10.2 Conversely, the Requirement 30 report (which relates to a requirement of the development consent order under which the NDR was authorised), also demonstrated that existing routes elsewhere across Norwich which are parallel with the NDR (now known as A1270 Broadland Northway), have already benefitted from noticeable traffic reductions since opening. It is therefore expected that the Proposed Scheme would similarly be capable of offering traffic relief to the minor rural existing roads.

4.10.3 Based on the extensive set of monitoring locations across the wider area, the results indicate that A1270 Broadland Northway is achieving the following objectives:

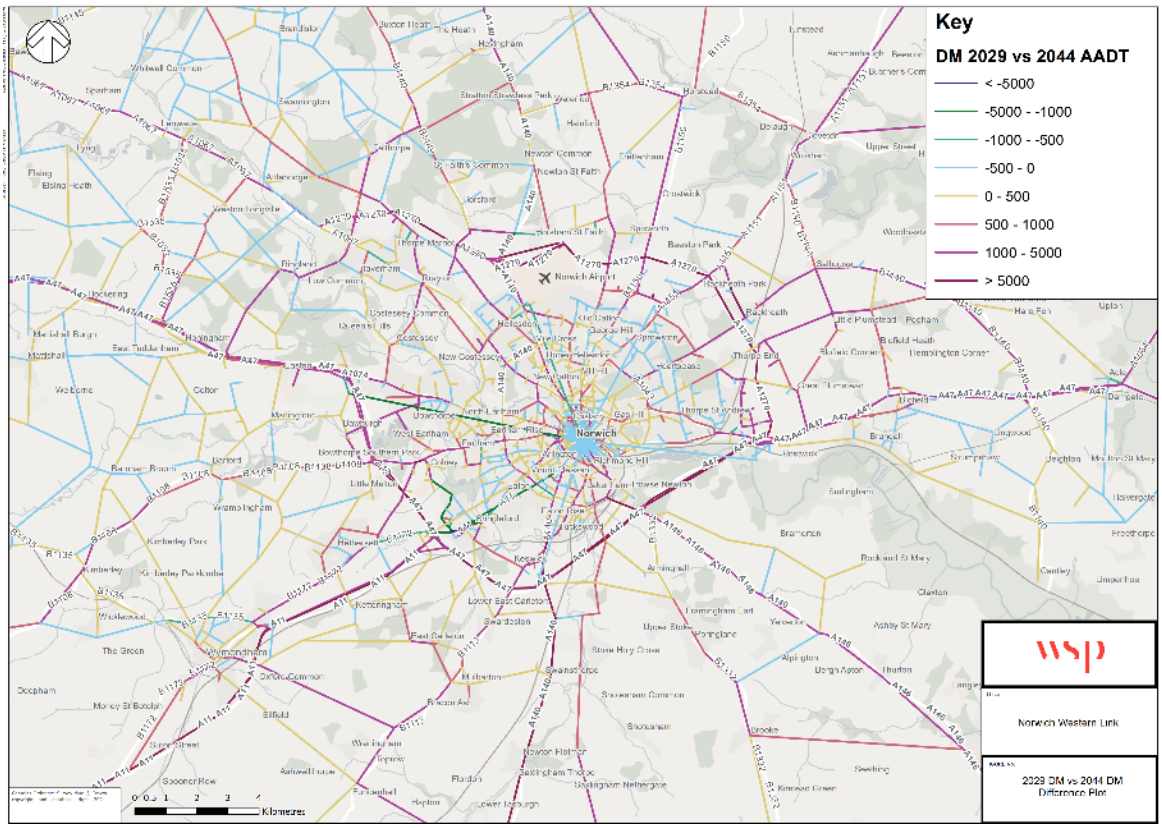
- Reducing orbital rat running in the northern suburbs;
- Reducing orbital rat running on rural roads outside the built-up area of Norwich;
- Reducing traffic flows on the roads just outside the Norwich Outer Ring Road; and
- Reducing traffic flows on the Norwich Outer Ring Road.

4.10.4 In particular, it is envisaged that with the Proposed Scheme in place, HGV and LGV movements would be redirected to a purpose-built and efficient route which has good connectivity and competitive journey times for commercial traffic, avoiding sensitive residential properties and improving quality of life for village residents in communities such as Ringland, Weston Longville, Weston on the Green, Lenwade, Attlebridge, Taverham, Honingham, Easton, Drayton and Costessey.

4.11 Providing Traffic Reduction on Key Routes to central Norwich

4.11.1 A review of the strategic highway modelling in terms of forecast AADT traffic flow changes across the network has been undertaken with the results shown below. The Do Minimum (DM) forecast situation is shown highlighting differences between 2044 and 2029 results. **Figure 4-24** shows the impact of not changing the network (i.e. without the Proposed Scheme). Traffic is shown to transfer to the outer routes around Norwich including A47 and A1270 Broadland Northway.

Figure 4-24 Do Minimum AADT Modelled Flows 2044 versus 2029



4.11.2 Without the Proposed Scheme in place, **Figure 4-24** shows that there is increased pressure on the majority of radial routes into central Norwich and the junctions around the southern A47 bypass, as well as significant increases on the A47 North Tuddenham to Easton section and A1067 through Morton on the Hill and Attlebridge in the range 2,000-4,000 vehicles per day.

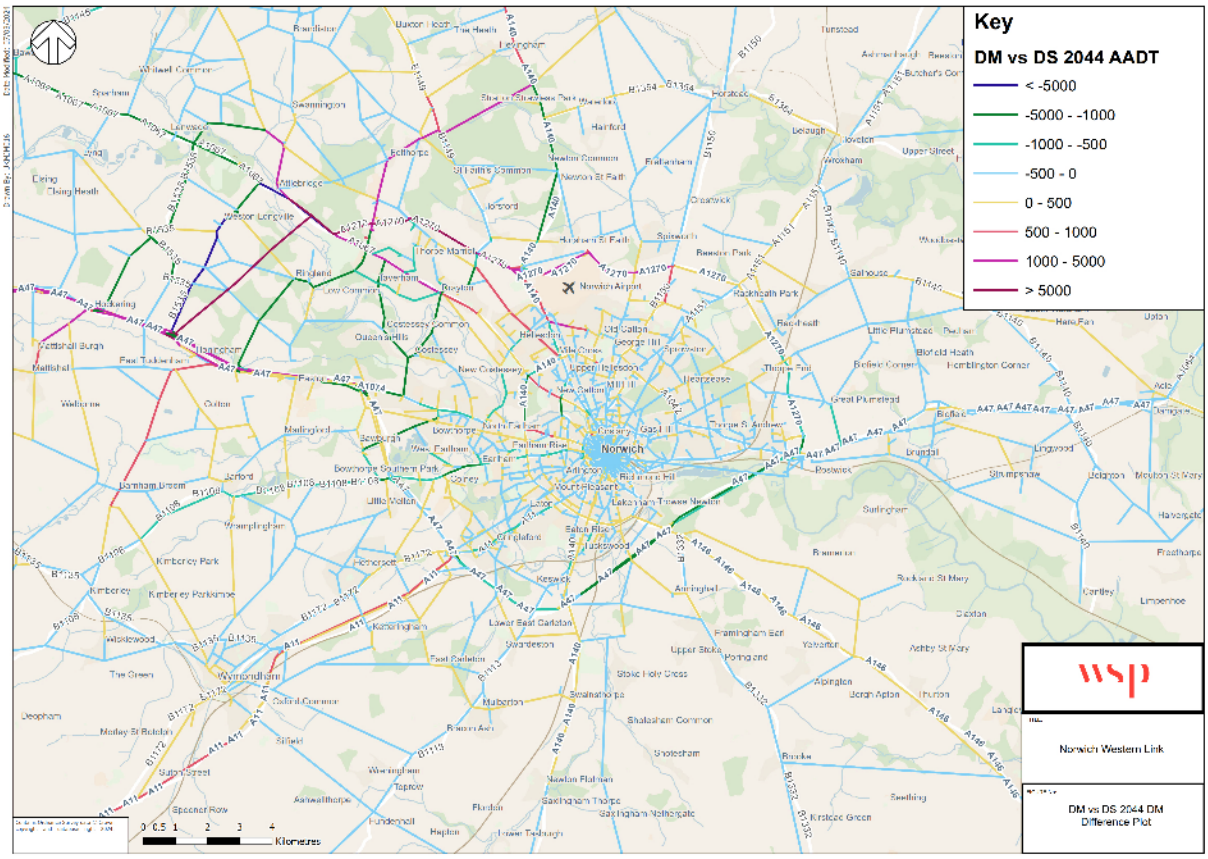
4.11.3 On the western side of Norwich, the routes parallel with the Proposed Scheme are also predicted to experience an increase in traffic including routes through Ringland and Weston Longville as well as Costessey Lane through Drayton.

4.11.4 To the east of Norwich there are notable increases on routes parallel with A1270 around Horstead, Rackheath, Salhouse, Hoveton, Wroxham and on A47 east of Norwich through the Burlingham to Blofield section which is also being improved by National Highways.

4.11.5 The Do Minimum forecast is compared with the Do Something scenario (with the Proposed Scheme in place) and also the Do Something plus Mitigation

scenario (with additional traffic mitigation measures added). The results are shown in **Figure 4-25** and **Figure 4-26** below.

Figure 4-25 AADT Modelled Flows 2044 Do Something versus Do Minimum

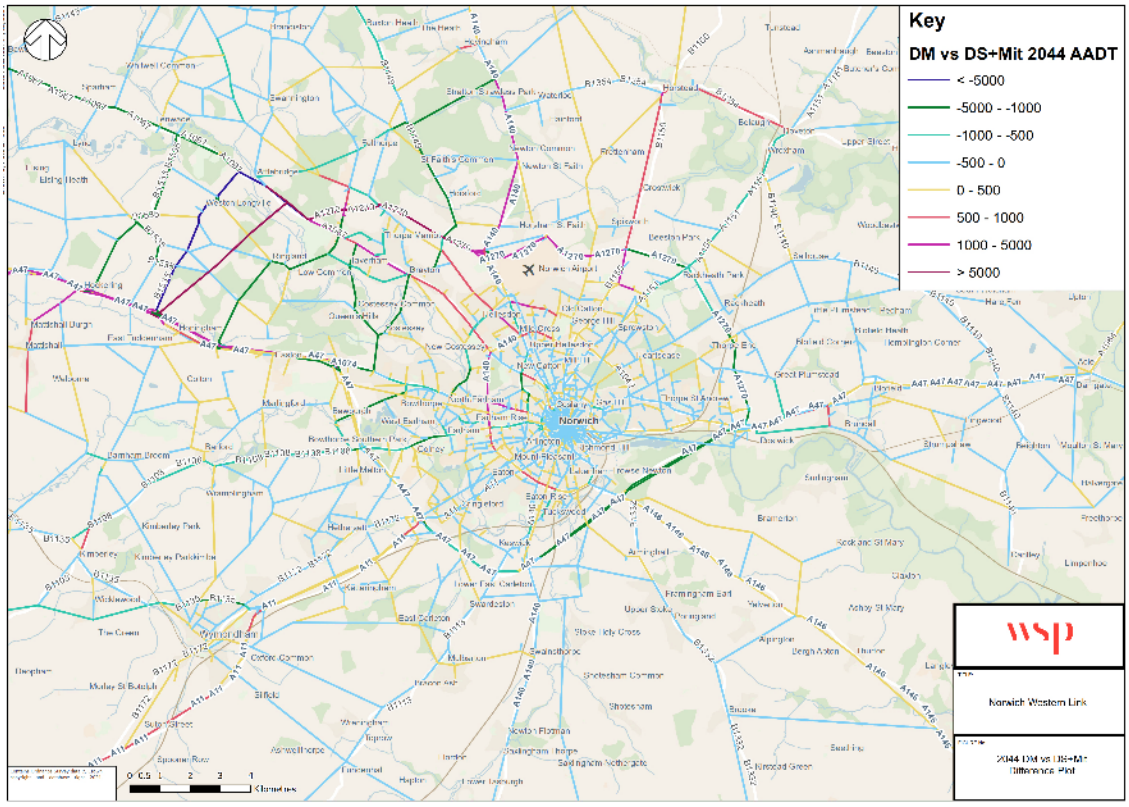


4.11.6 With the Proposed Scheme in place, there is predicted to be significant traffic reductions on routes parallel with the new road shown blue, including B1535, Paddy's Lane, Marl Hill Road and Ringland Road. There is a significant reduction in the range of 2,000-4,000 vehicles per day on the A47 southern bypass from A11 to Postwick Hub and on the NDR east of Norwich around Rackheath. Parallel routes on the east side of Norwich also experience traffic reduction and along A140 and routes via Horsted and Horsford in the north. There are also reductions on the A1074 Dereham Road east of Longwater and B1108 Watton Road on approach to the NNUH, UEA and NRP site, alongside modest reductions on many links across the urban area of Norwich.

4.11.7 There are also increases due to traffic re-routing at Attlebridge, Felthorpe, and Stratton Strawless in this scenario and to a lesser extent Barnham Broom,

Kimberley and Carleton Forehoe. Hence these are the locations of traffic mitigation measures which form part of the Proposed Scheme. The results with additional speed management measures and turning restrictions in these locations are shown in **Figure 4-26** below.

Figure 4-26 AADT Modelled Flows 2044 Do Something + Mitigation Versus DM



4.11.8 With the additional mitigation measures in place alongside the Proposed Scheme, there are similar reductions through the west of Norwich study area on routes parallel with the new road. The A47 southern bypass and A1270 east of Norwich and A1067 west of the new road also receive reductions. However, there are additional reductions through Attlebridge, Felthorpe, Stratton Strawless and Horsford in this scenario and to a lesser extent south of A47 due to the extra mitigation measures proposed.

4.11.9 To the south of A47 there is a slight reduction but most noticeable on B1108 route across the north of Wymondham between Norwich and Watton, including through Hackford, Hingham and Wicklewood.

4.11.10 As a result of traffic re-routing to avoid the mitigation measures to the north of A1067, there is a corresponding increase on A140 to the north of Broadland Northway and on the A1270 east of A140.

4.12 Improving Access to Public Transport

4.12.1 It is anticipated that the Proposed Scheme will facilitate access to the Park and Ride (P&R) sites on the western edge of Norwich at Costessey and the Airport by linking the two radial corridors into Norwich; the A1067 and A47 on the western side of the city and allowing Park and Ride traffic to avoid the outer ring road.

4.12.2 Both P&R sites serve different destinations. The Costessey P&R site serves the NNUH, UEA and NRP site whereas the Airport P&R operates to the city centre. The Proposed Scheme will enable some of the traffic accessing Park and Ride sites to avoid the Outer Ring Road on the western side of Norwich (also known as Sweet Briar Road A140). For example, those living north of the city wishing to access the NNUH, UEA and NRP could in future drive to Costessey Park and Ride site via the Proposed Scheme. These major employment sites already have significant pressures on car parking, so offering more efficient access to Costessey Park and Ride would help to intercept more vehicle trips at the edge of the city.

4.12.3 Sweet Briar Road currently carries about 31,450 vehicles per day, according to DfT Annual Average Daily Traffic Flow data for site 6498 just north of its junction with Dereham Road in 2022. In previous years, prior to the COVID-19 pandemic typical traffic on this route included about 150 buses per day, so in the future, this route could be considered for increased bus priority measures with the Proposed Scheme in place offering an alternative parallel route for other vehicles.

4.13 Highway Network Resilience

4.13.1 The existing bridges over the River Wensum in the west of Norwich located at Ringland, Costessey Lane, Taverham Lane (Taverham Mill Bridge) and

Hellesdon Bridge are relatively low lying. With all of the bridges crossing the same river, it is possible that more than one of the existing routes would become unavailable at the same time during extreme flood events. The Proposed Scheme would offer a much more elevated route above the river channel. The viaduct would be more resilient and unlikely to be closed when the River Wensum is in flood because it is designed to span over the entire floodplain.

4.13.2 As a dual carriageway standard route, it would have sufficient capacity to take the traffic diverted from other bridges in the event of flood. With increasing emphasis on climate change going forward, the Proposed Scheme will assist with offering enhanced network resilience.

4.13.3 It should also be noted that part of the outer ring road - Sweet Briar Road (A140) was closed for a period of 99 days in April 2022 due to a burst water main requiring complex repairs by Anglian Water. This resulted in re-routing of the approximately 30,000 vehicles per day that use the route and considerable disruption, delays and congestion across Norwich for over three months.

4.13.4 With the Proposed Scheme in place there would be a more resilient and future proofed highway network available, with contingency in the event of similar future emergency works. For example, if bridge repairs are needed to the A140 crossing of the River Wensum in future, there would be a suitable alternative route available.

4.14 Facilitating Active Travel and Mode Shift

4.14.1 LTN1/20 Guidance provides indicative AADT thresholds for suitability of cycling in mixed traffic. This has been assessed with and without the Proposed Scheme in place to understand where there would be traffic reduction to change the suitability of routes for cycling and active travel. AADT flow plots have been derived from the strategic modelling for the three scenarios considered within the Environmental Statement in the 2029 opening year:

- Do Minimum (without Proposed Scheme),
- Do Something (with the Proposed Scheme); and
- Do Something + Mitigation (with the Proposed Scheme and additional traffic mitigation measures)

4.14.2 The LTN1/20 thresholds used are as follows (based on footnotes 58-60 on p181 of the guidance).

- 0-2,500 (most suitable for cycling)
- 2,501-5,000 (suitable for some cyclists)
- >5,000 (unlikely to be suitable for cycling on carriageway)

4.14.3 The LTN 1/20 threshold analysis indicates that in the opening year there will be changes in AADT flows which are sufficient to change the category for several routes in the west of Norwich. Several routes are predicted to change to become more attractive for cycling category in the DS or DS + Mitigation scenario for 2029. These include routes through Taverham and Costessey, Ringland and Wood Lane. When the proposed mitigation is added, there are further reductions in Felthorpe and the north of Wymondham (amongst other routes).

4.14.4 Based on a comparison of the Do Minimum forecast against the Do Something with Mitigation (DS+M) scenario the following road links benefit from traffic reduction to the extent that they have very low flows less than 1,000 vehicles per day with the Proposed Scheme in place. These links have flows greater than 1,000 vehicles AADT in the Do Minimum scenario. **Table 4-4** excludes those links that are already below 1,000 in the Do Minimum situation.

4.14.5 Figures 4-27 and 4-28 below show the changes in traffic flows on key links within the Proposed Scheme in comparison with the Do Minimum Scenario in the future assessment year. Figure 4-27 shows the impact of the Proposed Scheme without the additional package of mitigation and Figure 4-28 shows the forecast comparison with the proposed package of mitigation measures in place as well as the Proposed Scheme. The links shown comprise the

affected road network for Air Quality assessment as a result of the scheme. Blue and Green links are predicted to experience reductions in traffic whereas red and yellow links would experience an increase. The reductions are shown to occur on the minor rural roads and through residential and urban areas in the west of Norwich whereas the increases are shown to occur on the Primary Roads and Proposed Scheme link which are less sensitive and designed to be more suitable for strategic traffic.

Figure 4-27 AADT Flows Changes Do Minimum versus Do Something

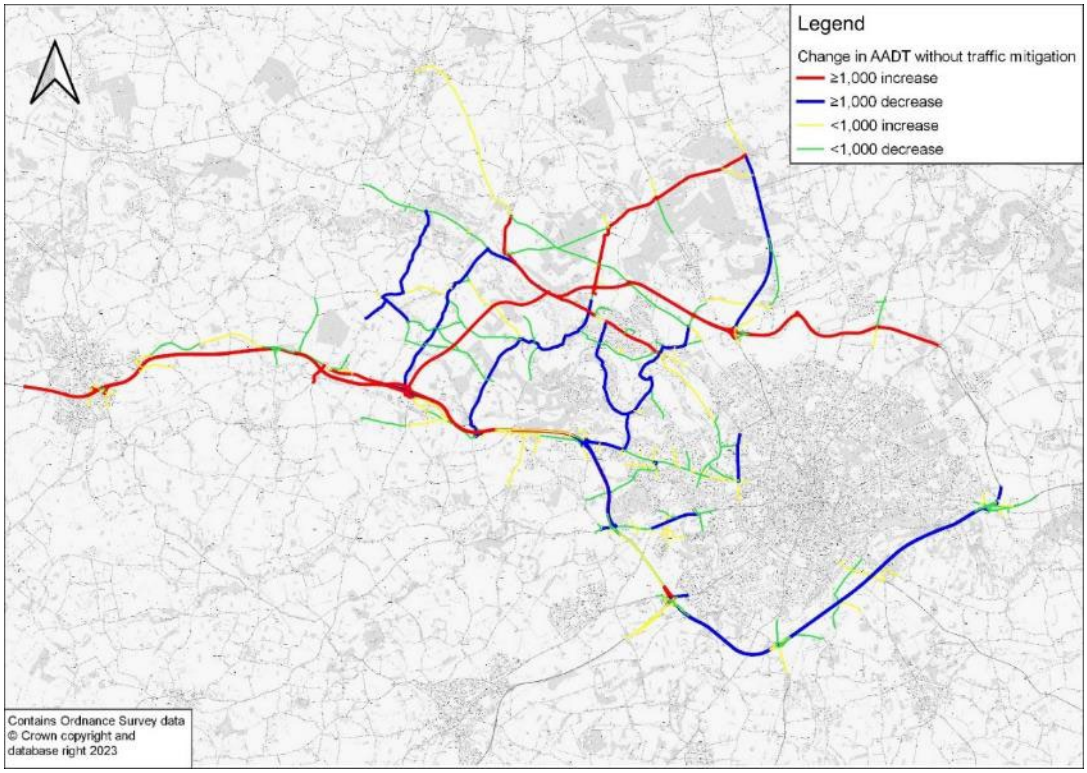


Figure 4-28 AADT Flow Changes Do Minimum versus Do Something + Mitigation

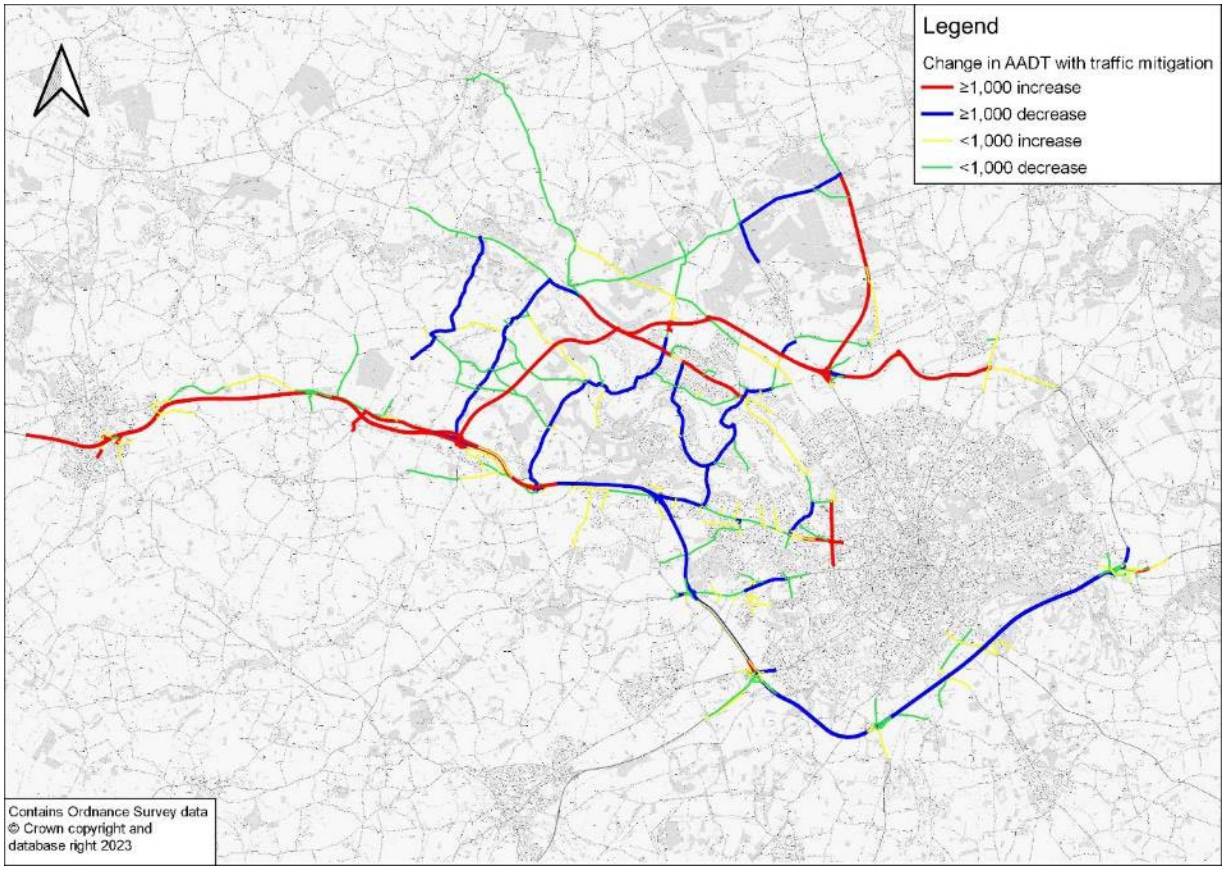


Table 4-4 Links which reduce below 1000 vehicles in the DS+M scenario

Street Name	<1000vpd DM 2029	<1000vpd DSM 2029
Church Road	No	Yes
Heath Road	No	Yes
Taverham Road	No	Yes
Paddy's Lane	No	Yes
Honingham Road	No	Yes
Honingham Lane	No	Yes
Church Street	No	Yes
The Street	No	Yes
Marl Hill Road	No	Yes
Ringland Road	No	Yes
Hall Road	No	Yes

4.14.6 It should be noted that the changes in total link flows in the plans above do not show that there are also reductions in HGVs on several minor rural lanes as a result of the Proposed Scheme, which will also assist with making the routes more attractive for walking and cycling. The following rural minor roads presented in **Table 4-5** are expected to receive a reduction in HGV movement of greater than 10% in the Do-Something with Mitigation (DS+M) scenario as compared with the Do Minimum (DM):

Table 4-5 HGV Reduction in the DS+M Scenario

Road Name	Location/Between	HGV Reduction DS+M - DM%
Church Road	Mill Road & Runhall Road	-100%
Bell Road	Mill Road & Norwich Road	-100%
Honingham Road	Near Mill Road	-100%
Bow Hill	Near Watton Road	-100%
Norwich Road	Dereham Road & Station Road	-10-20%%
Fakenham Road	Heath Lane & Porter's Lane	-10-20%%
Mattishall Road	Norwich Road & Barnham Broom Road	-10-20%%
Norwich Road	Colton Road & Mattishall Road	-50-60%%
Norwich Road	Bell Road & Spur Road	-100%
Weston Green Road	Breck Lane (Breck Road) & Weston Road	-100%
Barnham Broom Road	B1135 & B1108	-100%
Lyng Road	The Common & A1067	-10-20%%
The Street	Field Road & Costessey Lane	-100%
Weston Road	The Street & Weston Green Road	-100%

4.14.7 The Proposed Scheme would therefore offer benefits by encouraging active travel on routes which are shown to become green with the new road in place

or where they reduce from purple to yellow it would add suitability for some cyclists.

4.14.8 In addition to pure traffic relief, there are further measures available to complement the Proposed Scheme and offer enhanced support to active travel via the STS. These include an extensive network of NMU routes in the immediate vicinity of the Proposed Scheme which will join up and enhance the PROW network and add grade separated crossings and links with the National Highways schemes.

4.14.9 A wider package of Cycle Friendly Routes will also be implemented once the Proposed Scheme is fully open to traffic. This would enable low traffic routes to be utilised more readily by cyclists with speed management measures and improved signage, lining and a branding strategy in place, as well as hedgerow planting to influence driver behaviour to be more cautious and raise awareness of cyclists on the network as they are expected to become more prevalent with the Proposed Scheme in place.

4.15 Summary of Key Transport Benefits

4.15.1 As set out above, the Proposed Scheme is needed to solve many of the transport issues faced by local communities in the west of Norwich and for strategic longer distance trips passing through the western fringe of the city. The key benefits can be summarised as follows:

- The Proposed Scheme offers a direct link between A47 and A1270 on the west side of Norwich which is suitable for strategic traffic and HGVs.
- Through-traffic in rural communities such as Weston Longville and Ringland is forecast to reduce by 88-95% with the Proposed Scheme in place.
- Traffic in the urban fringe on the west side of Norwich is predicted to reduce, for example through Costessey and Taverham traffic is forecast to reduce by about 20%.

- Journey distances can be reduced by about 4.6km per journey for those using B1535 route from A47 to A1270 with the Proposed Scheme in place.
- Journey times are quicker and more reliable for those using B1535 route from A47 to A1270 (a saving of about 6 minutes per vehicle).
- The Proposed Scheme alleviates future junction capacity and safety issues on A1067 at junctions with Marl Hill Road and B1535.
- With through-traffic removed from local villages in the west of Norwich, there are less barriers to walking and cycling and the local network is more conducive to active travel.
- Personal injury collisions are expected to reduce with the Proposed Scheme in place.
- There is forecast traffic reduction on A47 southern bypass east of A11 and south western radial routes into central Norwich (A1174 and B1108) as traffic switches to use available capacity on the A1270 with the Proposed Scheme in place.
- Traffic flows at A47 junctions on the southern bypass east of A11 are predicted to reduce.
- The Proposed Scheme is expected to be in the medium Value for Mony Category with an indicative Benefit Cost Ratio (BCR) of 1.5 to 2 so every £1 spent would return approximately £1.50-£2 of economic benefit to the area.

5 Policy Review

5.1 Introduction

5.1.1 This section considers the relevant transport policy at a national and local level, to identify key themes and priorities that provide context and need to be considered in relation to the Proposed Scheme.

5.2 National Policy

National Planning Policy Framework (NPPF, 2023)

5.2.1 The National Planning Policy Framework (NPPF) was last updated in December 2023 and sets out the Government's planning policies for England and how these are expected to be applied. This revised document replaces the previous NPPF document that was published in June 2019.

5.2.2 At the heart of the NPPF is a presumption in favour of sustainable development, meaning development that meets the needs of the present without compromising the ability of future generations to meet their needs.

5.2.3 When considering the development proposals, the NPPF (Paragraph 114) advises that the development should ensure:

- "Appropriate opportunities to promote sustainable transport modes can be, or have been taken up, given the type of development and location;
- Safe and suitable access to the site has been achieved for all users;
- The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and
- Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."

5.2.4 Paragraph 115 notes that development should only be prevented, or refused, on highway grounds, if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

5.2.5 The NPPF notes (Paragraph 116) that applications for developments should:

- Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second to facilitate access to high quality public transport;
- Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- Create places that are safe, secure and attractive, which minimise the scope of conflicts between pedestrians, cyclists and vehicles; and
- Allow for the efficient delivery of goods, and access by service and emergency vehicles.

5.2.6 The Proposed Scheme is in accordance with these NPPF objectives. Written alongside this TA is a **Sustainable Transport Strategy** (Document Reference 4.02.00), which includes Non-Motorised User Provision and a package of Complementary Sustainable Transport Measures (CSTM) for pedestrians, cyclists, horse riders and persons of reduced mobility.

National Planning Practice Guidance (NPPG, 2014)

5.2.7 Guidance on Travel Plans, Transport Assessments and Statements, published by MHCLG in March 2014, is provided within the National Planning Practice Guidance (NPPG). The guidance states:

"Transport Assessments and Statements are ways of assessing the potential transport impacts of developments… Transport Assessments are thorough assessments of the transport implications of a development, and Transport Statements are a 'lighter-touch' evaluation to be used where this would be more proportionate to the potential impact of the development".

5.2.8 Due to the scale of the Proposed Scheme, a comprehensive TA is considered necessary to assess the transport implications of the proposed development on the local and wider highway network. The guidance also recognises that TA's can positively contribute towards:

- Encouraging sustainable travel;

- Lessening traffic generation and its detrimental impacts;
- Reducing carbon emissions and climate impacts;
- Creating accessible, connected, inclusive communities;
- Improving health outcomes and quality of life;
- Improving road safety; and
- Reducing the need for new development to increase existing road capacity or provide new roads.

Department for Transport Circulars

5.2.9 The Department for Transport (DfT) Circulars are a series of policy papers and guidance that provide advice to transport professionals and local councils. The circular is relevant to this Study is the 'Strategic Road Network and the delivery of sustainable development' (December 2022).

Circular 01/2022 Strategic Road Network and Delivery of Sustainable Development

5.2.10 The new circular advocates a modal hierarchy with non-car travel to be prioritised and options considered for all modes and all users of the network.

5.2.11 Paragraph 19 relates to new connection with the SRN – it states 'the principle of creating new connections on the SRN should be identified at the plan-making stage in circumstances where an assessment of the potential impacts on the SRN can be considered alongside whether such new infrastructure is essential for the delivery of strategic growth'.

5.2.12 Paragraph 48 relates to Transport Assessments noting 'this should start with a vision of what the development is seeking to achieve and then test a set of scenarios to determine the optimum design and transport infrastructure to realise this vision…developers should demonstrate that the development would be located in an area of high accessibility by sustainable transport modes and would not create a significant constraint to the delivery of any planned improvements to the transport network or allocated sites'.

5.2.13 Paragraph 49 states ‘A transport assessment for consideration by the company must also consider existing and forecast levels of traffic on the SRN, alongside any additional trips from committed developments…Assumptions underpinning projected levels of traffic should be clearly stated to avoid the default factoring up of baseline traffic. The scenario(s) to be assessed, which depending on the development and local circumstances may include sensitivity testing, should be agreed with the company; where a scenario with particularly high or low growth is proposed, this should be supported by appropriate evidence.

5.2.14 Planned improvements to the SRN or local road network should also be considered in any assessment where there is a high degree of certainty that this will be delivered’.

5.2.15 For consistency with the DCO applications which have been approved by the Secretary of State for Transport in August 2022 for North Tuddenham to Easton dualling scheme, the National Highways modelling forecast and junction capacity results have been used in this TA for the proposed new grade separated junctions at Wood Lane/B1535 and Norwich Road (between Honingham and Easton). These results take into account the Proposed Norwich Western Link scheme and make passive provision for it to be appended to the proposed Wood Lane northern roundabout.

5.2.16 The Proposed Scheme proposes a new road link to the west of Norwich and will create increased road capacity following construction. A definitive full transport model has been validated for use in this project and earlier versions have been used to identify where additional mitigation is required to improve the wider transport network, following construction. This TA considers peak hour traffic and transport effects associated with the Proposed Scheme 10 years after opening. The AADT situation is considered for the opening year of 2029 and forecast horizon of 2044 in the Environmental Statement (ES) Chapter on Traffic and Transportation.

Cycle Infrastructure Design Local Transport Note LTN 1/20 (2020)

5.2.17 Published in July 2020, the updated national guidance aims to help cycling become a form of mass transit in more places across the UK. The guidance sets out that much higher design standards are now required and includes a condition that any future Government funding for new cycle infrastructure is designed in a way that is consistent with this national guidance.

5.2.18 Five core design principles are included which are essential requirements to achieve a greater increase in the number of people walking or cycling:

- Coherent - cycle networks should be planned and designed to allow people to reach destinations easily, along simple and high-quality routes;
- Direct - routes should be direct and preferably more direct than those available for private motor vehicles;
- Safe - it should also be perceived to be safe so that more people feel able to cycle;
- Comfortable - route with good quality well-maintained surfaces, adequate widths for the volume of users, minimal stopping/starting and avoiding steep gradients; and
- Attractive - help to deliver public spaces that are well designed and finished in attractive materials, so that they become places people want to spend time using.

5.2.19 Planning for cycling should be based around providing a network of on- and/or off-carriageway routes that are suitable for all abilities.

Gear Change: A Bold Vision for Walking & Cycling (2020)

5.2.20 The document produced by the Department for Transport, sets out a bold vision for the future of transport across England. The policy notes that cyclists must be considered as vehicles, with all new provision to include segregation between pedestrians and cyclists.

5.2.21 The key design principles to be considered going forward are:

- Cyclists must be separated from volume traffic, both along roads and at junctions;
- Cyclists must be treated as vehicles and be separated from pedestrians;
- Routes must join together;
- Routes must feel direct, logical and intrinsically understandable;
- Routes must take into account how users actually behave;
- Purely cosmetic alterations should be avoided;
- Routes must be designed for larger numbers of cyclists and for users of all abilities and disabilities;
- Barriers, such as chicane barriers and dismount signs, should be avoided; and
- Routes should only be designed by those who have experienced the road on a cycle.

Decarbonising Transport: A Better, Greener Britain (Department for Transport, 2021)

5.2.22 The report published in 2021, follows the 'Decarbonising Transport: Setting the Challenge' (March 2020), which set out the scale of reductions needed to meet the net zero target by 2050. The new report sets out the commitment the UK Government will make to decarbonise all forms of transport, this includes:

- Increasing walking and cycling;
- Zero emission buses and coaches; and
- A zero-emission fleet of cars, vans, motorcycles and scooters.

5.2.23 To enable these commitments to be met, there will be investment into sustainable travel, low carbon fuels, electric vehicles and providing the

funding and tools for local authorities to invest in local priorities. The strategic priorities along the path to net zero include:

- Accelerating modal shift to public and active transport;
- Decarbonising road transport;
- Decarbonising the freight system; and
- Place-based solutions to emissions reduction.

5.2.24 Whilst increasing the number of journeys undertaken by sustainable modes is a key focus, the report also notes that continued investment is still needed in the road network to improve resilience and to reduce congestion, so that traffic is able to flow more freely and the highway network is able to support essential longer journeys that are less able to switch modes.

5.3 Local Policy

Norfolk County Council Local Transport Plan (LTP4) 2020 – 2037 (2022)

5.3.1 The fourth Local Transport Plan was adopted in July 2022 which covers the period of 2020-2037 and replaces the previous version adopted in 2011. The document is accompanied by an Implementation Plan that sets out the proposals for implementation.

5.3.2 The LTP was updated to include new priorities, such as the Norwich Western Link, A140 Long Stratton Bypass, A10 West Winch Relief Road, Attleborough Link Road and full dualling of the A47 including Tilney to East Winch and Acle Straight.

5.3.3 The objectives of the new LTP are to:

- Embrace the future;
- Deliver a sustainable Norfolk;
- Enhance connectivity;
- Enhance Norfolk's quality of life;

- Increase accessibility;
- Improve transport safety; and
- Create a well managed and maintained transport network.

5.3.4 The LTP4 notes that the Norwich Western Link would provide a route that would significantly improve travel between the A47 and the Broadland Northway and notes that the completion of the Norwich Western Link will be complemented by sustainable transport measures.

The LTP4 Implementation Plan

5.3.5 The implementation plan recognises the Norwich Western Link Scheme. It notes that the proposals would provide a dual carriageway route between the A1270 Broadland Northway and the proposed A47 dualling scheme. It will support planned growth set out in the Local Plan and significantly improve travel between major roads. It states that 'Traffic congestion, rat-running and delays to journeys are all significant issues on minor roads to the west of Norwich'.

5.3.6 Proposed measures, to be delivered as part of the scheme, encourage mode shift away from the private car by providing the means to travel sustainably by bike, on foot or by bus, as well as linking up the existing Public Rights of Way network with new and improved public right of way links.

Norfolk County Council Environmental Policy, 2019

5.3.7 This policy takes as its starting point the Government's 25-year Plan published in 2018.

5.3.8 NCC set out their commitment to champion resource efficiency in conducting their own operations, setting stringent environmental targets, and working within the County at large to ensure it goes beyond the expectations of national government, as far as the national 'net zero' carbon target is concerned and alignment with partners in the region.

5.3.9 The policy sets out a requirement to continue exploring new ways to make our countryside and coast as accessible as possible, whilst respecting the sensitivities around certain natural landscapes and sites. By continuing to operate a proactive and evidence-based approach, a net improvement ('net gain') to biodiversity and habitat creation is expected to become the norm.

Norfolk Strategic Framework: Shared Spatial Objectives for a Growing County (2021)

5.3.10 Norfolk's Local Planning Authorities produced a shared framework, which has recently been updated in parts in May 2021, to agree shared objectives and priorities to improve outcomes for Norfolk and inform the preparation of future Local Plans. The proposed spatial vision for transport is to "be better connected by having good transport links to major cities in the UK and Europe and excellent digital connectivity. A good relationship between homes and jobs will minimise the need to travel and residents will have choice about how they meet their demand for local travel."

5.3.11 Under Agreement 3 of the Norfolk Strategic Framework's proposed shared objectives, it is stated that by 2036, Norfolk will seek to maximise the delivery of a number of objectives. Those in line with this study include:

- Facilitating the development and infrastructure needed to support the region's business sectors and clusters, driving economic growth through the enhancement of productivity, skills and education to provide widening opportunities in line with the New Anglia Local Enterprise Partnership Economic Strategy, Local Industrial Strategy and Covid 19 Economic Recovery Restart Plan;
- Providing for job growth broadly matching increases in housing provision and improving the alignment between the locations of workplaces and homes; and
- Strengthening Norfolk's competitiveness through the delivery of well-planned balanced new developments providing access to a range of business space.

5.3.12 The report notes areas of anticipated growth and key residential and employment locations to the west of Norwich which the Proposed Scheme will improve access to, such as Norwich Airport and the Food Enterprise Zone.

5.3.13 To reduce Norfolk's greenhouse gas emissions, there will be encouragement towards a modal shift in travel away from car use towards public transport, walking and cycling.

5.3.14 The A47 TUD scheme and Proposed Scheme are highlighted as key projects to improve transport in the study area. These projects will help contribute towards improving Norfolk's poor transport connectivity between main settlements and destinations outside of the County, the poor connectivity within the County particularly for east-west journeys, and difficulties in delivering major enhancements to transport networks within Norfolk's urban areas and market towns.

Norfolk County Council Climate Strategy (2023), updated March 2024

5.3.15 The purpose of Norfolk County Council's Climate Strategy is to provide a clear statement of NCC's strategic framework to help tackle climate change. The document outlines how Norfolk aims to meet its commitment to reach net zero by 2050.

5.3.16 The document states its aim to take a pragmatic approach to supporting carbon reduction county-wide by prioritising the areas that have the greatest opportunity to make positive change. One of these areas includes transport.

5.3.17 Three dimensions are stated within the Climate Strategy in its approach to decarbonising Norfolk's transport:

- supporting the switch to electric vehicles;
- improving the county's public transport; and
- encouraging more sustainable and active travel.

5.3.18 The Climate Strategy states that Norfolk needs investment in digital connectivity, utilities, and transport infrastructure to enable businesses and

communities to thrive. The Council will promote investments that support sustainable housing and economic growth plans, provide physical and digital access to education and employment, and reduce traffic and pollution in town centres.

Norfolk County Council's Climate Policy, 2024

5.3.19 As set out in the above Climate Strategy, Norfolk County Council set out commitments to produce climate change policy and this is now as adopted in March 2024. Norfolk County Council commits to using its powers, influence and partnerships towards supporting the county's low carbon development in line with the UK-wide target to reach net zero by 2050. This policy has two overarching commitments as set out below:

1) Norfolk County Council will lead by example through making its own estate net zero by 2030. Estate emissions include those generated from the council's buildings, streetlights and vehicle fleet.

2) In 2019, the UK became the first major economy to enshrine a commitment to reaching net zero by 2050 into law. Norfolk County Council commits to using its powers, influence and partnerships towards supporting the county's low carbon development in line with the UK-wide target to reach net zero by 2050. We will look to keep Norfolk in step with the ambitious trajectory set out in the national carbon budgets of a 78% reduction in emissions by 2035 compared to 1990 levels, whilst recognising Norfolk's agriculture sector's vital role in food security and the implications for its land use emissions in the national context.

5.3.20 In relation to transport, the Local Transport Plan represents its overarching strategy in relation to transport infrastructure until 2036. This Climate Policy aligns with its goals but more specifically focuses on decarbonisation of transport through the following priorities:

- Working with transport providers, to continue to positively influence behaviour change and increase the range and number of sustainable travel options available to residents, visitors and businesses across

Norfolk. This includes bus operators and building on the Enhanced Partnership relationship we already have in place with bus operators and implementing Norfolk's Bus Service Improvement Plan.

- To prioritise transport investment into more sustainable modes, such as public transport and active travel including micromobility options, to help support the journey to net zero. This is especially important in areas where there is poor air quality, and these will be prioritised.
- To prioritise investment into net zero initiatives, including implementation of our Electric Vehicle Strategy, as part of proactive transport network management, to help residents, visitors and businesses across Norfolk become more sustainable.
- To improve connectivity between rural areas and services in urban centres, with a focus on active travel and public transport.
- To focus on identifying the key risks from climate change and directing efforts to tackling these where they are likely to be most disruptive to journeys, especially on the most critical parts of the network.

Transport for Norwich Strategy

5.3.21 The new Transport for Norwich Strategy, adopted in December 2021, sits alongside the countywide Local Transport Plan, which was approved by the county council's Cabinet in August 2021.

5.3.22 It consists of nine themes including a focus on Norwich and Norfolk noting that 'Norwich and the strategic growth area around it is the centre for a large part of the county and the wider eastern region. Good, strategic connections by clean transport modes including rail, low carbon vehicles and sustainable modes within and to places outside of the area are vital for continued prosperity'.

5.3.23 Making the transport system work as one is also a key theme: 'The transport system needs to ensure efficient movement of large numbers of people. We will identify roads where general traffic is prioritised; where public transport is

prioritised; and where active travel is prioritised. This reflects that streets cannot accommodate every demand at the same time, and we must prioritise. Elsewhere, streets will primarily support communities who live there, businesses or for leisure uses like meeting friends or entertainment'.

5.3.24 Other themes include supporting growth areas, a zero-carbon future, improving air quality, reducing dominance of traffic and changing attitudes and behaviours.

5.3.25 The Transport for Norwich Strategy includes a statement of policy in relation to strategic connections which confirms that "strategic connections and hinterland access will be promoted to enhance the role of Norwich as the regional capital". A 'Key Action' to that statement of policy includes ensuring that new strategic connections such as the Norwich Western Link are optimised to benefit the economy. 'Sustainable transport measures will be promoted to capture the benefits of these connections within the Norwich urban area and the strategic growth area around it. Individual schemes will need to mitigate their environmental impacts through the detailed work on these projects.'

5.3.26 One of the ''Supporting Actions' to the statement of policy confirms that Norfolk County Council will carry out strategic assessments of the consequence of completing the committed strategic schemes (including improvements to the A47, the committed Transforming Cities programme and the Norwich Western Link) to identify the opportunities to deliver enhanced sustainable transport measures to support public transport and active travel'. The STS has been produced to address opportunities identified to improve connectivity for sustainable transport and seeks to meet the goals of the policy.

Safe, Sustainable Development (SSD, Revised 2022)

5.3.27 The document presents Norfolk's aims for sustainable development across the county through a number of aims that are supported by the Proposed Scheme:

5.3.28 The NCC Safe Sustainable Development guidance July 2022 sets out the following principal Aims that the scheme should be measured against. below outlines how these aims can be addressed by the proposed scheme:

Table 5-1 Alignment with NCC Safe Sustainable Development Guidance

Number	Aim	Scheme Fit
1	**Climate change & Net Zero** - New development and its travel impacts need to contribute to the county council's commitment to decarbonisation.	The Proposed Scheme supports the decarbonisation agenda by including Non-Motorised User provision and additional Complementary Sustainable Transport Measures are identified within the Sustainable Transport Strategy (Document Reference **4.02.00**)
2	**Transport Sustainability** - Minimising travel to ensure people can access facilities they need by appropriate transport modes, encouraging walking, cycling and public transport use and reducing the use of private cars especially for shorter journeys	Methods to encourage walking, cycling and public transport use are outlined within the Sustainable Transport Strategy and wider mitigation strategy (Document Reference **4.02.00**).
3	**Transport Sustainability** - To encourage residents to explore active and healthier ways to travel.	The Proposed Scheme includes a comprehensive Non-Motorised User Provision which enhances opportunities for walking, cycling and active travel as shown in **Appendix 1** (Document Reference **4.01.01**).
4	**Rural Diversification** - To support agricultural enterprises and the rural economy, by encouraging other appropriate forms of development.	By providing a more suitable highway alignment for large vehicle movement, access to rural farms will be enhanced. The retention of Ringland Lane for all users enables rural access to be maintained. Green bridges provided within the Proposed Scheme also enable agricultural access.

Number	Aim	Scheme Fit
5	To support national targets relating to the percentage of electricity that should be provided by renewable energy	Not applicable
6	To keep commercial vehicles away from areas where their presence would result in danger/unacceptable disruption to the highway/or cause irreparable damage.	The Proposed Scheme provides a more suitable alternative for large commercial vehicles to access destinations across Norwich and better access to the north of Norwich from the west – enabling more efficient supply chain for businesses on the North Norfolk Coast. A more direct route between A47 and A1270 on the west side of the city will also reduce travel distances for HGVs and improve journey times, reducing traffic on the southern A47 bypass and making more use of A1270 whilst minimising travel through minor rural routes.
7	Development needs to be serviced in a safe manner which does not result in any detriment to the free flow of traffic or public safety. In accordance with the NPPF, it also needs to allow for the efficient delivery of goods.	The Proposed Scheme will improve the efficiency of commercial deliveries in Norfolk by providing enhanced capacity between the Major Road Network and Strategic Road Network.
8	To ensure development conforms to parking policies and standards which take into account strategic and local objectives.	Not applicable

Number	Aim	Scheme Fit
9	To ensure the Major Road Network and Principal Road Network (PRN) can safely cater for sustainable development, which, if not suitably addressed, would otherwise cause fundamental road safety and accessibility concerns.	The Proposed Scheme supports the Transport for Norwich Strategy, the GNLP and LTP which have been developed to sustainably accommodate growth across Norwich. Providing additional highway capacity on the west side of Norwich enhances emergency access, especially in close proximity to NNUH and Fire and Rescue headquarters. It also offers improved resilience of the network and alternative route options in the event of emergencies such as flooding and collisions.
10	New development within Norfolk of regional/national importance shall promote the use of rail and water.	The proposed scheme is remote from the railway but provides opportunities for improved and more direct access to the Norfolk Coast.

The Greater Norwich Local Plan 2018-2038

5.3.29 An independent report was undertaken into the soundness and legal compliance of the GNLP, this report concluded the GNLP is sound and can be adopted as part of the local plans for Broadland, Norwich, and South Norfolk, subject to the inclusion of the recommended main modifications. The adoption of the GNLP has been proposed to be considered by the relevant Local Authorities on the below dates:

- Norwich City Council: Cabinet 6 March 2024 and Council 12 March 2024
- South Norfolk Council: Cabinet 18 March 2024 and Council 25 March 2024
- Broadland District Council: Cabinet 19 March 2024 and Council 28 March 2024

5.3.30 The Applicant deems the conclusion of the independent report offers sufficient confidence that the GNLP will be adopted by the relevant Local Authorities on the dates outlined above. As such, the Planning Statement has captured the GNLP as 'Active Policy', and not 'Emerging Policy'".

5.3.31 The Greater Norwich Local Plan (GNLP) has been produced jointly by Broadland District Council, South Norfolk District Council, Norwich City Council and Norfolk County Council and is considered to be adopted the time of preparing this TA. The GNLP will enable housing growth and employment needs continue to be met to 2038.

5.3.32 Sites identified during the development of the GNLP to August 2023 were taken into account within the Proposed Scheme Uncertainty Log as set out in Appendix 8 (Document Reference 4.01.08) which informed the strategic transport modelling underpinning this TA.

5.3.33 In relation to economic growth, a total of 33,000 new jobs are sought and sufficient employment land is allocated to accommodate this. The Local Plan vision includes the following in paragraphs 128 and 129, which highlight key links between Norwich and Cambridge as an economic tech growth corridor:

5.3.34 "128. Our plan will stimulate economic recovery leading to the creation of a strong, enterprising, productive and broad-based economy, and the growth of a wide range of economic sectors, supported by an increasingly skilled workforce. We will see a focus on our local strengths in knowledge intensive sectors. This will include significant growth in digital creative industries in the city centre and in health, life sciences, agri- and bio- technology at the Norwich Research Park and the Food Enterprise Park at Honingham, along with advanced manufacturing and engineering at Hethel. This clean growth will place Greater Norwich at the forefront of tackling the global challenges and opportunities of energy, environment, life sciences, genetics and climate change. Together these will strengthen our leading role nationally and internationally in these sectors which will be critical to moving towards the post-carbon economy."

5.3.35 “129. Most of the jobs growth we expect to see will be delivered on key strategic sites in and around Norwich with good access to public transport, the major road network and a comprehensive cycling network. This will contribute to the growing national importance of the Cambridge Norwich Tech Corridor and strengthen Norwich’s role as the regional capital.”

5.3.36 In relation to housing growth a total of 40,541 new homes are identified to be need and sites to accommodate 45,041 homes are allocated to provide sufficient capacity including and 11% buffer. Paragraphs 135 and 136 of the local plan vision emphasise the importance of the ‘Cambridge-Norwich Tech Corridor’ as set out below. This emphasis on east-west connectivity between jobs and homes in Cambridge and Norwich suggests that a Norwich Western Link would be well placed to support the Local Plan Vision by enhancing connectivity on the west side of Norwich and reducing travel times to Cambridge.

5.3.37 “135. We plan to concentrate the building of new homes in and around Norwich and in the Cambridge Norwich Tech Corridor. In Norwich city centre and other highly accessible and sustainable locations, higher density homes including flats will be built, providing particularly for the needs of younger people and including purpose-built student accommodation, whilst also meeting the needs of other members of our community. This will have helped to create lively and vibrant city and district centres, enabling people to access services and jobs easily and to travel sustainably. 136. Our suburbs, market towns and villages will also be vibrant places to live with good access to services and facilities, supported by new housing and jobs and changing technologies. Homes here will be built at appropriate densities to respect and enhance local character and to meet the needs of all in mixed communities.”

5.3.38 In relation to infrastructure, the Norwich Western Link is specifically acknowledged in the Local Plan Vision in paragraph 138, replicated below:

5.3.39 “138. By 2038 our transport system will be enhanced by a combination of infrastructure improvements and new technologies. Connectivity will improve

both within Greater Norwich and to other parts of the country and beyond. This will include better rail services to London, Cambridge, Stansted, Milton Keynes, Oxford and the West, growth at Norwich International Airport and road improvements to the A11, A47, the Norwich Western Link and the A140".

Broadland District Council (BDC) Local Plan

5.3.40 The newly adopted GNLP will supersede the previous Joint Core Strategy DPD (Development Plan Document) 2011 and the Site Allocations DPD for the BDC area. The majority of the undeveloped sites in the Site Allocations DPD are re-allocated through the GNLP.

5.3.41 The GNLP does not replace existing adopted Area Action Plans (AAPs) for Long Stratton, Wymondham and the Growth Triangle, though in some cases additional allocations have been made through the GNLP in these areas. The GNLP will be used in conjunction with the adopted AAPs, Development Management Plans for the local planning authorities, to assess development proposals.

5.3.42 Therefore, the relevant Development Plan for this application is considered to consist of the following documents:

- The Greater Norwich Local Plan (2024);
- The Development Management DPD (2015); and
- The Norfolk Minerals and Waste Development Framework.

5.3.43 Policy TS1 of the Development Management DPD refers to protection of land for transport improvements, highlighting that land required for strategic transport infrastructure improvements, including active travel will be safeguarded.

5.3.44 Policy TS2 of the DPD refers to Travel Plans and Transport Assessments, advocating that major development proposals shall be accompanied by a Travel Plan or TA and would need to identify opportunities for access by walking, cycling and public transport.

5.3.45 Policy TS3 of the DPD relates to highway safety and sets out that proposals that would adversely impact on highway safety would not be acceptable.

Norwich City Council Local Plan

5.3.46 The adopted Local Plan for Norwich City is made up of the GNLP as outlined above, site allocation plans and development management plans.

South Norfolk District Local Plan

5.3.47 Similar to the Local Plans produced for Norwich City Council and Broadland District Council, the South Norfolk Local Plan consists of the GNLP, site-specific policies and development management policies.

Breckland District Council Local Plan (2019)

5.3.48 The Breckland Local Plan aims to set a vision and strategy for the district, that meets the needs and aspirations of Breckland's residents to 2037.

5.3.49 Policy TR 01 'Sustainable Transport Network' promotes Breckland's commitment to secure a safe, efficient and convenient sustainable transport system through;

- Supporting improvements to road and rail connections;
- Promoting improved access to, and interchange between, all modes of transport; and
- Promoting and improving safety, security and healthy lifestyles by encouraging walking and cycling, creating and improving links to existing routes.
- Policy TR 02 'Transport Requirements' shows that Breckland District Council will permit proposals where:
- Development protects, and where possible, enhances access to public rights of way; and
- Provides safe, suitable and convenient access for all users.

Local Cycling and Walking Infrastructure Plan (2022)

5.3.50 NCC, working in partnership with Norwich City Council, Broadland District Council and South Norfolk Council, are creating a Local Cycling and Walking Infrastructure Plan (LCWIP) for the Greater Norwich area. The LCWIP supports NCC's ambition to make Norfolk a walking and cycling county, where walking and cycling are the natural choice for all types of user, in rural and urban areas.

5.3.51 The purpose of the LCWIP is to identify and prioritise improvement schemes which will enhance current levels of active travel over the short, medium and long term. Public engagement was conducted between May and July 2021 to ensure that the proposed priority schemes are focused in the correct areas to deliver an accessible active travel network for Greater Norwich.

5.3.52 The active travel schemes which have been prioritised, within the vicinity of the Proposed Scheme are:

- Horsford to City Centre (Yellow Pedalway - Schemes 8, 31 and 32);
- Easton to City Centre (Green Pedalway - Schemes 29 and 58);
- Thorpe Marriott to City Centre via Marriott's Way (Red Pedalway - Schemes 5 and 10); and
- University of East Anglia & Norwich Research Park Walking Zone (Schemes 20 and 52).

Bus Service Improvement Plan (BSIP, 2021)

5.3.53 NCC supports the National Bus Strategy to improve bus services for passengers in Norfolk, following the decline in use following the COVID-19 pandemic. The BSIP seeks to increase patronage and revenue levels back to 2019 levels, which focuses on the following key themes:

- In the short term - get people back onto the bus;

- Over a three-year period - achieve a new minimum standard of service in Norfolk that allows people to base their lives around relying on the bus; and
- In the longer term - upgrading the bus fleet to ensure it is modern and achieves zero to minimal emissions from the tailpipe.

5.3.54 The BSIP represents a five-year plan, which includes the three years for which the initial tranche of DfT funding is available. The BSIP has been developed with bus operators, involved customer research and business engagement, which has enabled key priorities, ambitious schemes and practical measures to be identified.