Appendix 2B

OAR ADDENDUM

Norfolk County Council

NORWICH WESTERN LINK

Option Assessment Report (OAR) – Addendum

70041922-WSP-OAR-ADD
MAY 2021

PUBLIC

Norfolk County Council

NORWICH WESTERN LINK

Option Assessment Report (OAR) – Addendum

TECHNICAL REPORT (VERSION P04) PUBLIC

PROJECT NO. 70041922

OUR REF. NO. 70041922-WSP-OAR-ADD

DATE: MAY 2021

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QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	P01	P02 – Motts comments	P03 – Team comments	P04 – Team comments
Date	05 / 05 / 2021	18 / 05 / 2021	21 / 05 / 2021	24/05/2021
Prepared by	UKACP002 UKHEG001	UKACP002 UKHEG001	UKACP002 UKHEG001	UKACP002 UKHEG001
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Checked by	UKPJC007	UKPJC007	UKPJC007	UKPJC007
Signature				
Authorised by	UKPJC007	UKPJC007	UKPJC007	UKPJC007
Signature				
Project number	70041922	70041922	70041922	70041922
Report number	OAR-ADD-P01	OAR-ADD-P02	OAR-ADD-P03	OAR-ADD-P04
File reference	\\uk.wspgroup.com\central data\Projects\700419xx\70041922 - Norwich Western Link\02 WIP\TP Transport planning\03 Document\OAR\OAR_Addendum_2021			

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

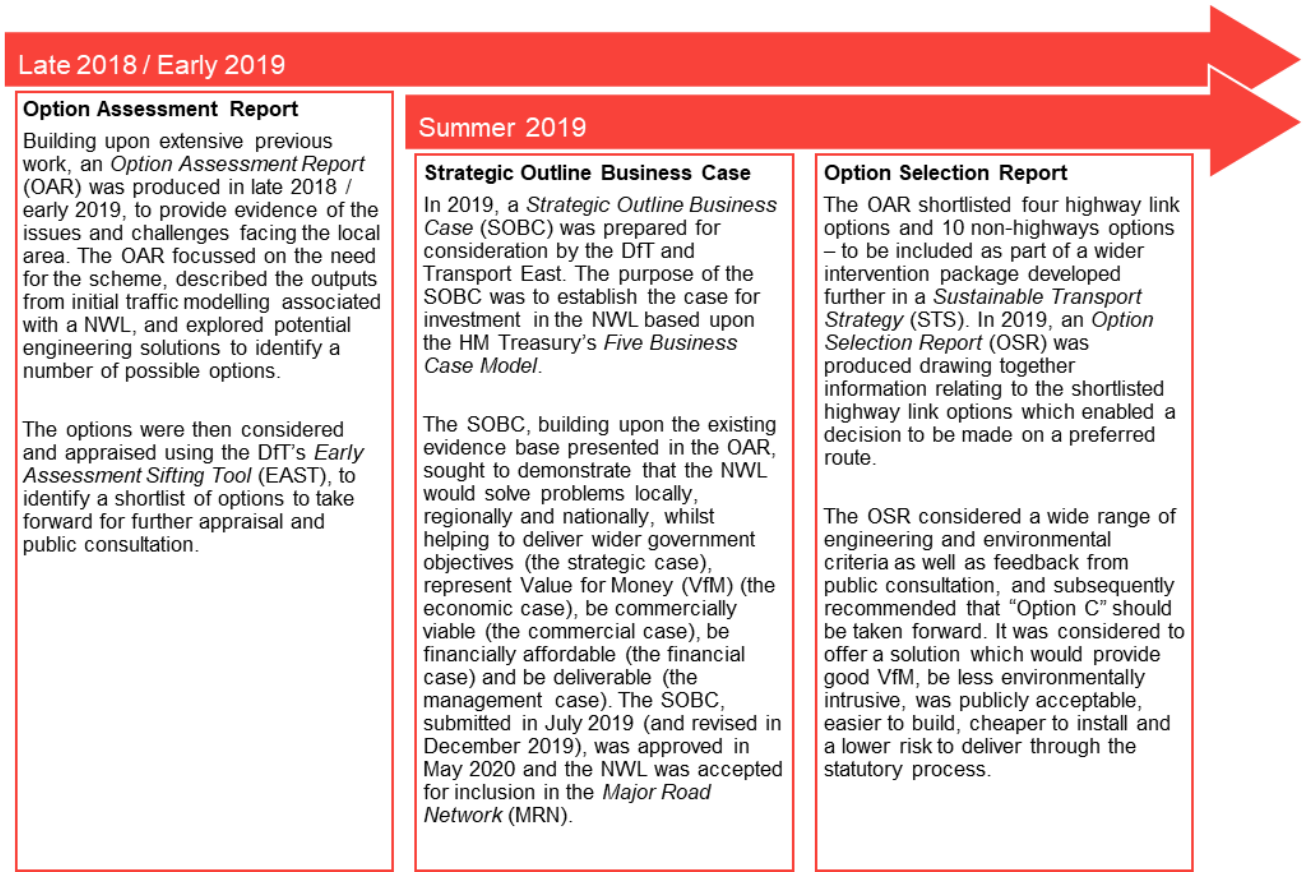
OVERVIEW

1.1.1. The development of a Norwich Western Link (NWL) to connect the A1270 Broadland Northway – formerly the Northern Distributor Road (NDR) – to the A47 is one of Norfolk County Council's (NCC) top three infrastructure priorities. Since construction began on the A1270 Broadland Northway, there have been sustained calls to fill in the 'missing link'.

HISTORY

1.1.2. In 2015, NCC committed to revisiting the feasibility and need for an NWL, whilst also considering wider public transport and Non-Motorised User (NMU) impacts, and the role of complementary measures to reduce traffic on existing routes. **Figure 1-1** summarises the key documentation that has been prepared to date – in accordance with the Department for Transport's (DfT) *Transport Analysis Guidance* (WebTAG) methodology – and how the scheme has subsequently evolved.

Figure 1-1 Evolution of the NWL Project



1.1.3. Following the announcement of the NWL preferred route alignment (Option C) in July 2019, the project team has been carrying out work to refine and inform the design of the road and associated measures. In parallel, the *Outline Business Case* (OBC) has been developed for submission to the DfT. The OBC builds upon the SOBC to demonstrate that the proposed scheme is based upon:

- analysis of the current situation;
- a clear vision of how things should be in the future;
- a careful consideration of options;
- a robust appraisal of costs and benefits; and,
- a clear plan for delivering the scheme.

1.1.4. The OBC work completed to date has included a major update of the *Norwich Area Transport Strategy* (NATS) *Model* to a 2019 base year and revalidation with a substantially enhanced evidence base.

1.2 REPORT PURPOSE & STRUCTURE

1.2.1. As the project has developed, in accordance with government *Green Book* and WebTAG guidance, new and more detailed information has been presented in support of the scheme. In addition, the scheme objectives have been consolidated and refined to make them Specific, Measurable, Achievable, Realistic and Timebound (SMART).

1.2.2. To address the differences between the OAR (work undertaken in 2018) and the draft OBC (currently in production), this *OAR Addendum* considers the impact of the new information that has become available since the original OAR was prepared (including changes to the objectives). This is considered a proportionate approach that will retain the original report but enable consistency to be achieved between the OAR stage and OBC documents.

1.2.3. The remainder of this *OAR Addendum* is structured as follows:

- **Chapter 2** Understanding the Current Situation
- **Chapter 3** Understanding the Future Situation
- **Chapter 4** Establishing the Need for Intervention
- **Chapter 5** Identifying Objectives
- **Chapter 6** Define Geographic Area of Impact

2 UNDERSTANDING THE CURRENT SITUATION

2.1 OVERVIEW

2.1.1. Chapter 2 of the OAR (Understanding the Current Situation) – forming Step 1 of the Transport Appraisal Process – sought to provide an understanding of the current situation within the study area, based upon data that was readily available at the time of preparing the original report – 2018.

2.1.2. It set out the relevant transportation, economic, planning and environmental policy applicable to the study area, before describing the demographic profile, transport context and current travel demands and levels of service. Since the production of the OAR, additional analysis has been undertaken, which is summarised in the following sections.

2.2 LEGISLATION & POLICY CONTEXT

2.2.1. The OAR considered the relevant legislation and policy at a national and local level, to identify the key themes and priorities that needed to be considered in the development of the NWL. In developing the scheme, and in response to evolving government guidance and a shifting landscape, NCC's strategic aims and responsibilities have led to additional policies being reviewed (as they have been developed) to ensure that the scheme is aligned with national, regional and local policies. **Table 2-1** indicates all of the legislation and policy (at all levels) that have been reviewed to date, and outlines those that are additional to those presented within the original OAR.

2.2.2. Table 2-1 also indicates the extent to which the scheme objectives are enshrined in the policies listed. A review has been carried out of the key policy themes for each of the High Level Objectives that have been developed for the NWL scheme, using the following classification:

✓✓ denotes the objective is a main focus of the policy

✓ indicates where the objective is mentioned within the policy

Table 2-1 Legislation & Policies Reviewed

Level	Document	Additional to OAR?	High Level Objective H1 Support sustainable economic growth	High Level Objective H2 Improve the quality of life for local communities	High Level Objective H3 Promote an improved environment	High Level Objective H4 Improve strategic connectivity with the national road network
Legislation	Town and Country Planning Act 1990	×	✓	✓	✓	✓
	Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (England)	×	✓	✓	✓	✓
	The Conservation of Habitats and Species Regulations 2017	×	×	✓	✓✓	×
National Policy	National Planning Policy Framework	×	✓✓	✓✓	✓✓	✓✓
	National Infrastructure Delivery Plan 2016-2021	×	✓✓	✓	✓✓	✓✓

Level	Document	Additional to OAR?	High Level Objective H1 Support sustainable economic growth	High Level Objective H2 Improve the quality of life for local communities	High Level Objective H3 Promote an improved environment	High Level Objective H4 Improve strategic connectivity with the national road network
	Highways England Strategic Business Plan 2015-2020	×	✓✓	✓	✓✓	✓✓
	Highways England Delivery Plan 2015-2020	×	✓✓	✓	✓✓	✓✓
	National Infrastructure Strategy (2020)	✓	✓✓	✓✓	✓✓	✓✓
	Ten Point Plan for a Green Industrial Revolution	✓	✓✓	✓✓	✓✓	×
	Gear Change: A bold vision for cycling and walking (2020)	✓	✓	✓✓	✓✓	×
	Cycling and Walking Investment Strategy / Local Transport Note (LTN) 1/20	✓	✓	✓✓	✓✓	×
	Roads Investment Strategy (RIS1 / RIS2), 2020-2025 (2020)	✓	✓✓	✓	✓✓	✓✓
	Industrial Strategy (2017)	✓	✓✓	✓	✓	✓
	Transport Investment Strategy (2017)	✓	✓✓	✓✓	✓✓	✓✓
Regional Policy	Norfolk and Suffolk Covid-19 Economic Recovery Restart Plan (2020)	✓	✓✓	✓✓	✓	✓
	Draft Norfolk and Suffolk Local Industrial Strategy (2019)	✓	✓✓	✓✓	✓✓	✓
	Regional Evidence Base, Transport East (2019)	✓	✓✓	✓✓	✓✓	✓✓
	Integrated Transport Strategy (ITS) for Norfolk and Suffolk (2018)	✓	✓✓	✓✓	✓✓	✓
	Norfolk and Suffolk Economic Strategy (NSES) (2017)	✓	✓✓	✓✓	✓✓	✓✓
Local Policy	Breckland District Council Local Plan	×	✓✓	✓✓	✓✓	✓
	Greater Norwich Joint Core Strategy	✓	✓✓	✓✓	✓✓	✓✓
	Greater Norwich Development Partnership	×	✓✓	✓✓	✓✓	✓
	Broadland District Council Local Plan	×	✓✓	✓✓	✓✓	✓✓
	Norwich City Council Local Plan	×	✓✓	✓✓	✓✓	✓✓

Level	Document	Additional to OAR?	High Level Objective H1 Support sustainable economic growth	High Level Objective H2 Improve the quality of life for local communities	High Level Objective H3 Promote an improved environment	High Level Objective H4 Improve strategic connectivity with the national road network
	South Norfolk District Local Plan	✓	✓✓	✓✓	✓✓	✓✓
	Norwich Area Transport Strategy	✓	✓✓	✓✓	✓✓	✓✓
	Norfolk County Council Local Transport Plan	×	✓✓	✓✓	✓✓	✓
	Norfolk Infrastructure Delivery Plan (2020)	✓	✓✓	✓✓	✓✓	✓✓
	Norfolk Environmental Policy (2019)	✓	✓	✓✓	✓✓	×
	Together for Norfolk (2019)	✓	✓✓	✓✓	✓	✓
	Norfolk Strategic Framework (2017)	✓	✓✓	✓✓	✓✓	✓
Emerging Policy	Proposals for the Creation of a Major Road Network	×	✓✓	✓	✓	✓✓
	Greater Norwich Local Plan	✓	✓✓	✓✓	✓✓	✓
	Local Transport Plan 4 Strategy, 2021 – 2036	✓	✓✓	✓✓	✓✓	✓
	Transport East Transport Strategy	✓	✓✓	✓✓	✓✓	✓✓

2.2.3. The table clearly demonstrates that the NWL scheme is closely aligned with national, regional, and local transport policies and plans, and the objectives for the scheme are derived from this overarching backdrop. The whole policy picture reinforces the need for the objectives that have been identified.

2.2.4. Regional and local strategies reflect the Government's view that high-quality infrastructure is needed to improve productivity and support jobs and growth. The case for the NWL is not only about relieving congestion in a small area. Unlocking orbital connectivity to the west of Norwich will strengthen the resilience of the network, improve the quality of life for locals and visitors, and prepare Norfolk for years of future growth.

SUPPORTING ECONOMIC RECOVERY

2.2.5. During the Coronavirus Pandemic in August 2020, Broadland and South Norfolk also published a recovery plan which sets out how they will support and drive the economic recovery and provide help for communities across the two districts in response to the coronavirus pandemic. It is based around three key themes as follows:

- Economy: Creating clean, safe and vibrant public spaces. Supporting every business to drive the growth of the economy and employment.
- Communities: Develop our Community Hub and partnership working model. Support our individuals and families through an effective Hardship offer.
- Organisation and Governance: Secure our finances through transformation and commercialisation. Reimagine our service delivery and ways of working.

2.2.6. It is clear that there is a drive to regain momentum in the local economy and recover rapidly from the pandemic. A transport scheme such as the NWL would help to improve access for local small businesses and the delivery of a major scheme such as this would create new local jobs in construction whilst supporting and stimulating economic growth.

2.3 EXISTING CONDITIONS

2.3.1. The OAR summarised the current situation in the study area by reviewing available data sources to provide an understanding of the local population, levels of deprivation, economic activity, land use, transport networks and associated problems in order to highlight key challenges facing the study area. The following sections summarise additional demographic data and transport analysis that has since been undertaken, which underscores the need for intervention.

DEMOGRAPHIC PROFILE

Productivity Gap

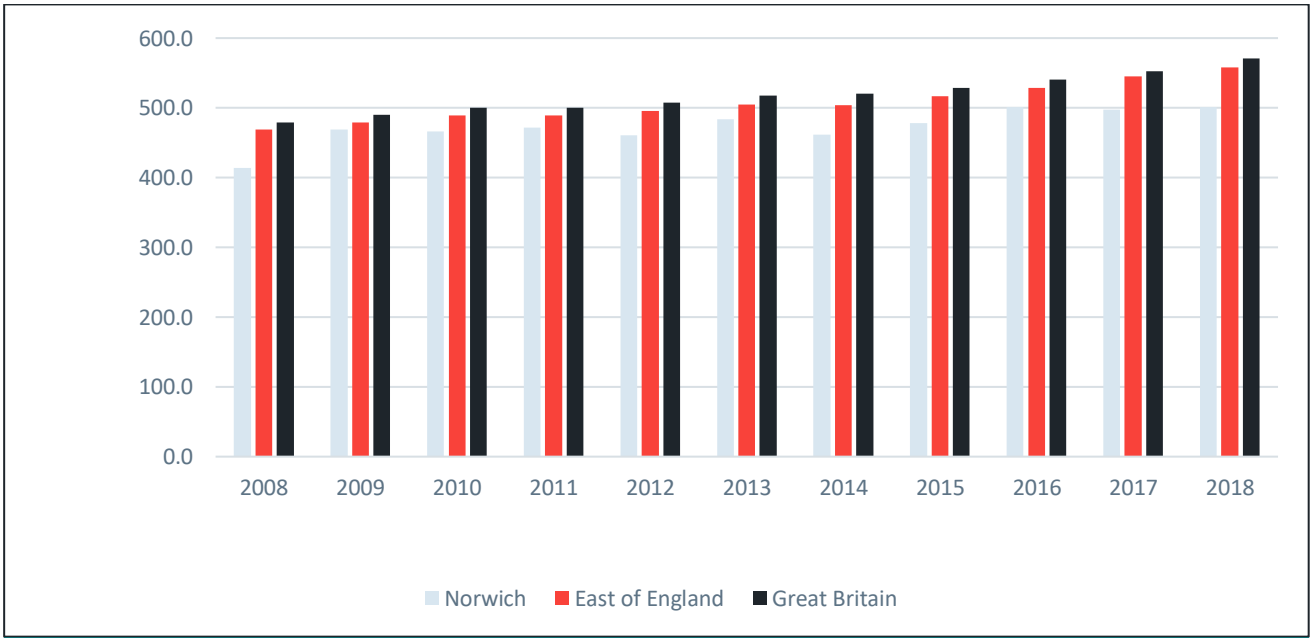
2.3.2. Prior to the pandemic, the East of England's economy had been performing strongly since the 2010 recession, with three of the ten fastest growing cities in the UK (Norwich, Ipswich and Peterborough) located in the region.

2.3.3. Norwich is a key driver of the East of England's economy, as well as a major regional centre for new homes and jobs, leisure, cultural, and educational development. Norwich was ranked eighth nationally for annual Gross Value Added (GVA) growth in Quarter 1 of 2019, with a growth rate of 2.4%. Despite this steady growth trajectory, Norwich still lags behind some other areas in the UK, including London, with respect to economic indicators.

2.3.4. Office for National Statistics (ONS) data, collated in December 2018, shows that GVA per head in Norwich and East Norfolk lags behind the national average, which the *Norfolk Strategic Planning Framework* attributes to the area's dependence on lower-wage, lower-skill sectors.

2.3.5. **Figure 2-1** shows that, in 2018, the average wage in Norwich was £501.40 per week, lower than the £558.10 and £570.90 average for the East of England and Great Britain respectively. This gap has widened over the last decade, increasing from £54.80 to £56.70 in the East of England, and from £64.80 to £69.50 across Great Britain.

Figure 2-1 Gross Weekly Earnings (2008-2018)



2.3.6. As shown in **Figure 2-2** and **Table 2-2**, not only has the GVA per head in Norwich historically lagged behind that of the UK, but the productivity gap has been widening over time. A significant gap in GVA has opened up between Norwich and the rest of the UK since 2010, with the difference being at its largest for the latest available year, 2017.

Figure 2-2 Gross Value Added per Head (1997-2017)

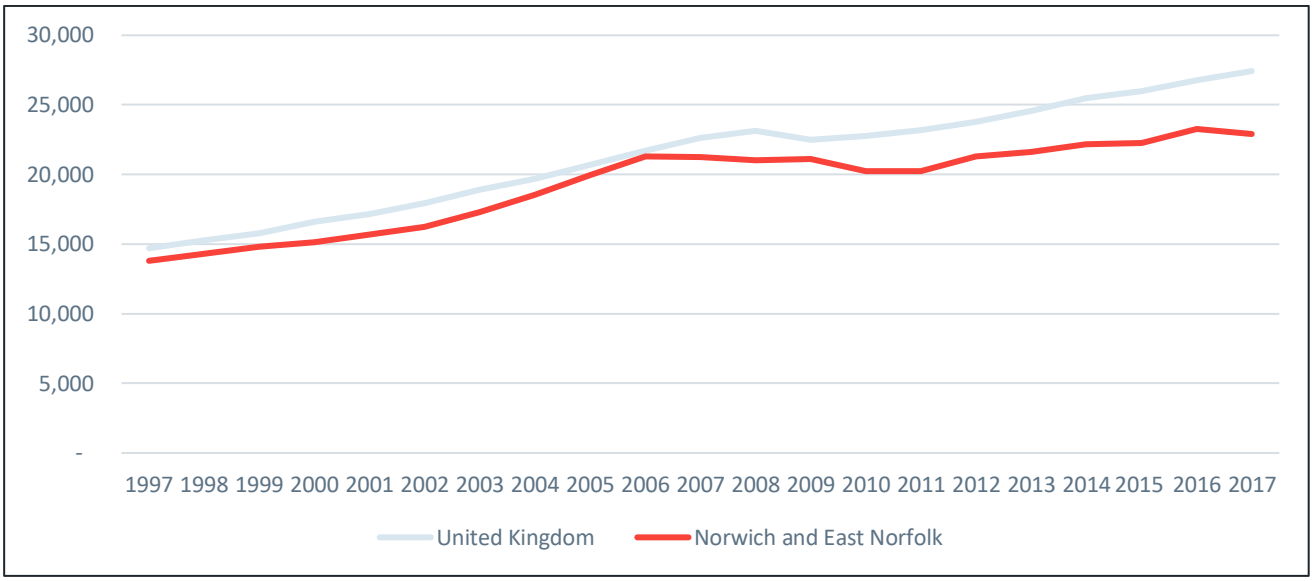


Table 2-2 Gross Value Added – Selected Areas (2010-2017)

Area	2010 GVA*	2017 GVA*	Growth (%)
East of England	21,034	25,217	19.9%
East Anglia	20,810	24,850	19.4%
Norwich and East Norfolk	20,228	22,926	13.3%
England	22,998	27,949	21.5%

* GVA (Income Approach) per head of population at current basic prices

2.3.7. Whilst the NWL scheme is not proposed to be development dependent, the links between transport investment and productivity are widely accepted, with transport infrastructure changing both the effective density of people in an affected area, and the jobs that are available to skilled workers.

2.3.8. Continued economic development is dependent upon attracting new businesses and increasing the productivity of existing firms. Enhancing regional labour mobility will be essential to unlocking further economic growth if the area is to remain competitive. This will be especially important in the next decade, whilst the economy is recovering from COVID-19 effects.

TRANSPORT CONTEXT

Traffic Model

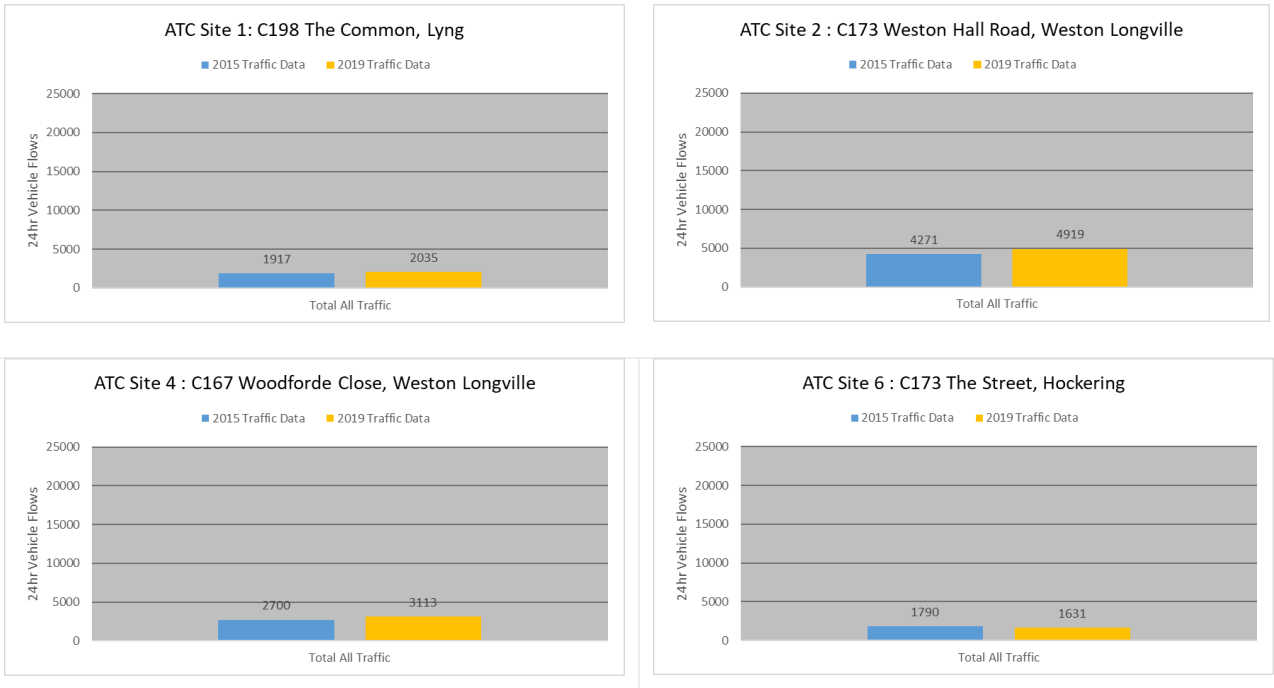
2.3.9. As outlined in the OAR, Highways England updated the 2012 NATS Model – developed to assess the impact of the A1270 Broadland Northway – to a 2015 base year using more detailed mobile phone data for the purpose of assessing their A47 schemes. Following a review of the 2015 base model, it was refined further by WSP – to improve the fit to observed data for minor road links within the North West Quadrant (NWQ) – for use within the NWL project. As the scheme has progressed, the age and detail of the model necessitated the need to collect new and extensive survey data (representative of 2019 traffic conditions) across the study area to update the model in order to support further appraisal of the NWL.

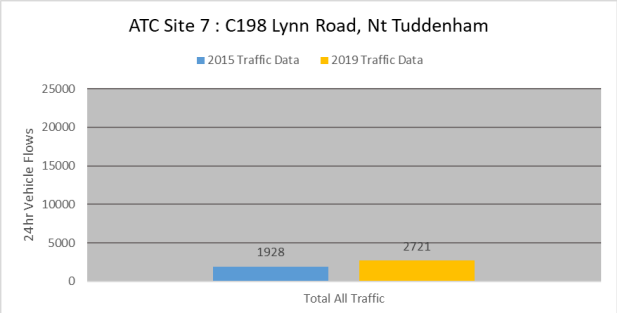
Traffic Flows

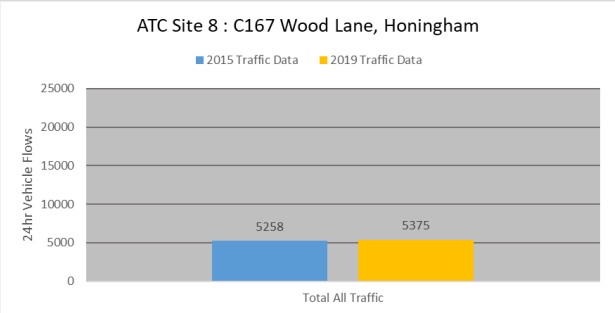
2.3.10. The OAR presented the survey results from Automatic Traffic Counts (ATC) carried out in 2015 and 2018 (after the final section of the A1270 Broadland Northway fully opened to the public). The data demonstrated that traffic volumes on key links within the study area generally increased following the opening of the A1270 Broadland Northway, which indicated increased pressure on the local road network. The data also indicated that the A1270 Broadland Northway was successful in providing a suitable alternative route, particularly for journeys to and from the north of Norwich, and relieved traffic on the A1067 Drayton High Road, in Hellesdon.

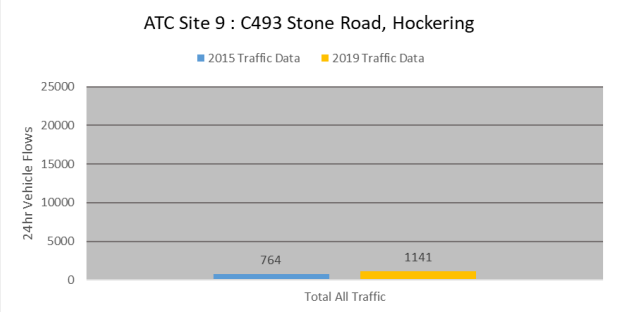
2.3.11. More extensive surveys in a greater number of locations were carried out in 2019, which provided a broader and more stable picture of traffic flows on the road network. **Figure 2-3** compares the results from the 2019 traffic surveys against those gathered in 2015 at various locations across the study area. It should be noted that some data sets are not present on the charts, this is due to no traffic data being available for the equivalent link in 2015.

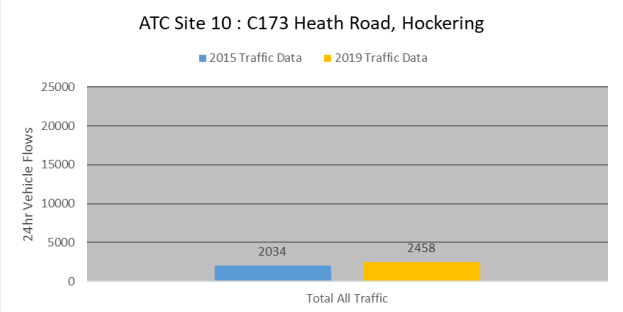
Figure 2-3 Comparison of Traffic Survey Data

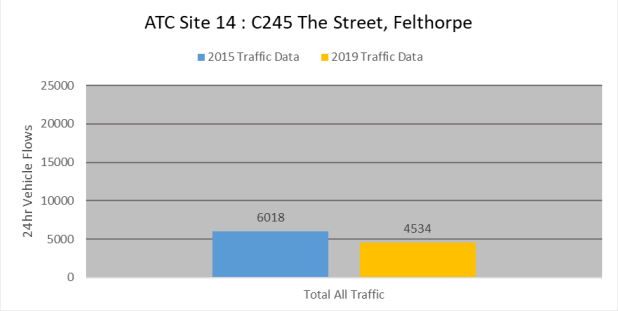


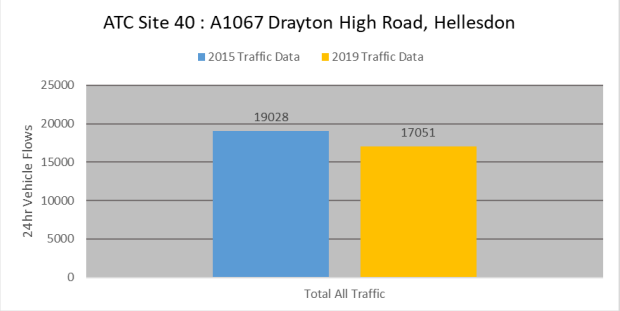

ATC Site 7 : C198 Lynn Road, Nt Tuddenham
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
1928
2721
Total All Traffic

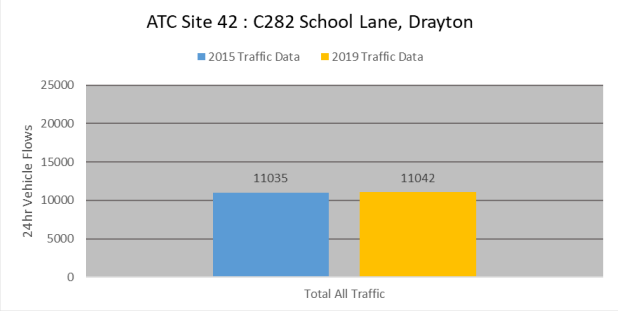

ATC Site 8 : C167 Wood Lane, Honingham
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
5258
5375
Total All Traffic

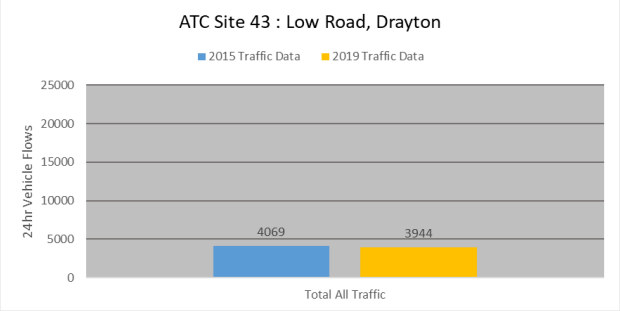

ATC Site 9 : C493 Stone Road, Hockering
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
764
1141
Total All Traffic

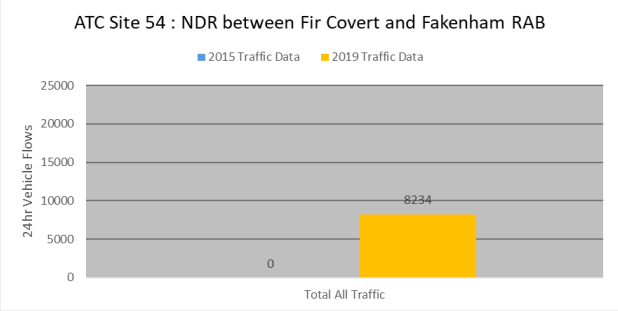

ATC Site 10 : C173 Heath Road, Hockering
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
2034
2458
Total All Traffic

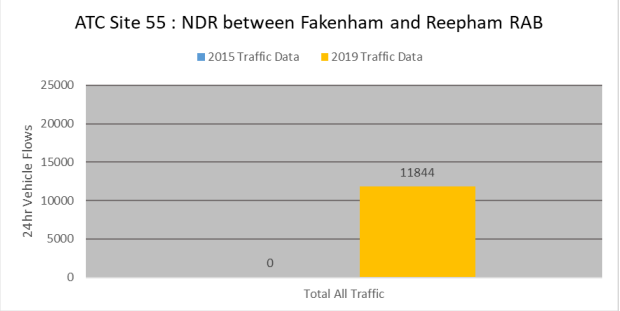

ATC Site 14 : C245 The Street, Felthorpe
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
6018
4534
Total All Traffic

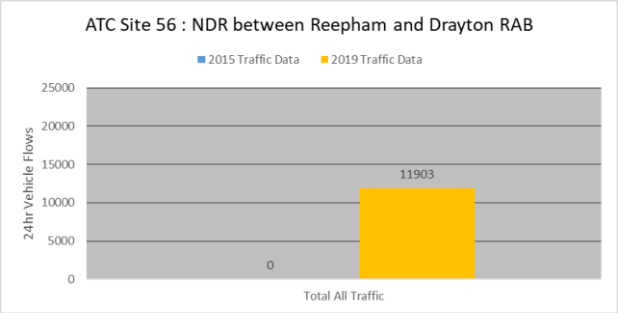

ATC Site 40 : A1067 Drayton High Road, Hellesdon
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
19028
17051
Total All Traffic

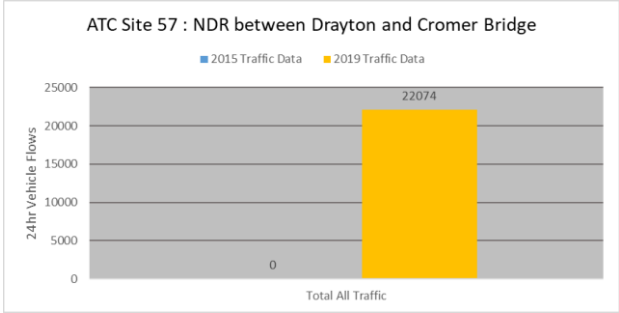

ATC Site 42 : C282 School Lane, Drayton
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
11035
11042
Total All Traffic

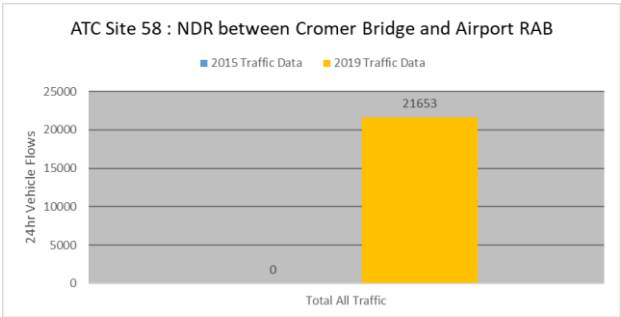

ATC Site 43 : Low Road, Drayton
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
4069
3944
Total All Traffic

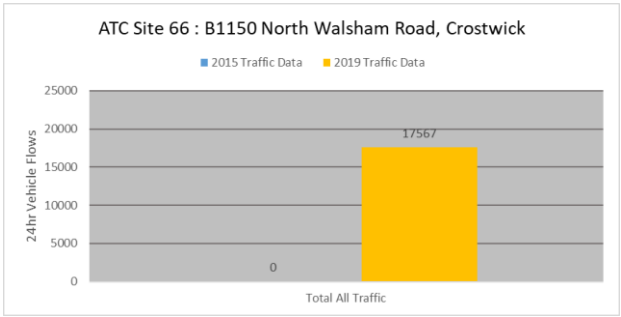

ATC Site 54 : NDR between Fir Covert and Fakenham RAB
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
0
8234
Total All Traffic

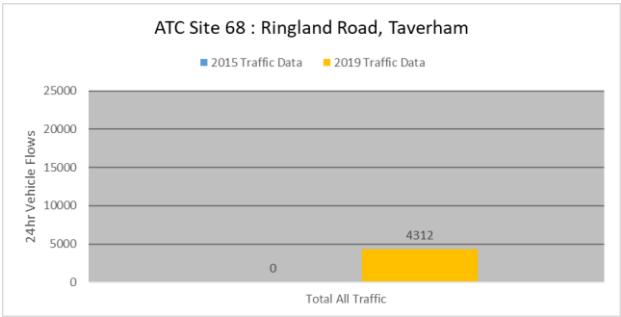

ATC Site 55 : NDR between Fakenham and Reepham RAB
2015 Traffic Data
2019 Traffic Data
24hr Vehicle Flows
25000
20000
15000
10000
5000
0
0
11844
Total All Traffic

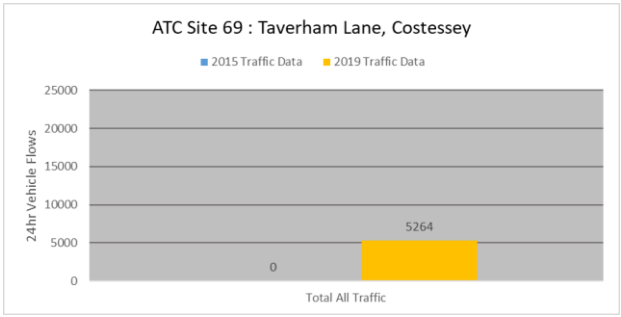


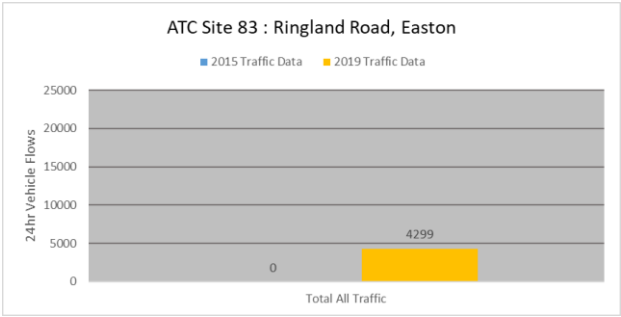


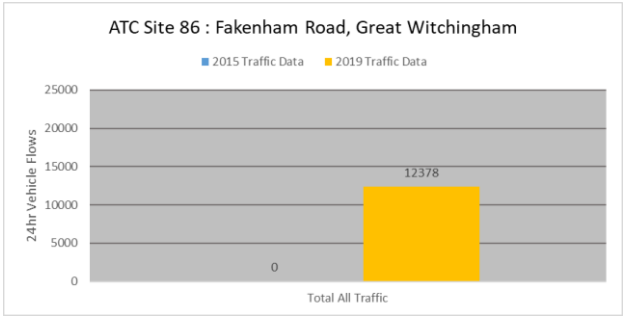












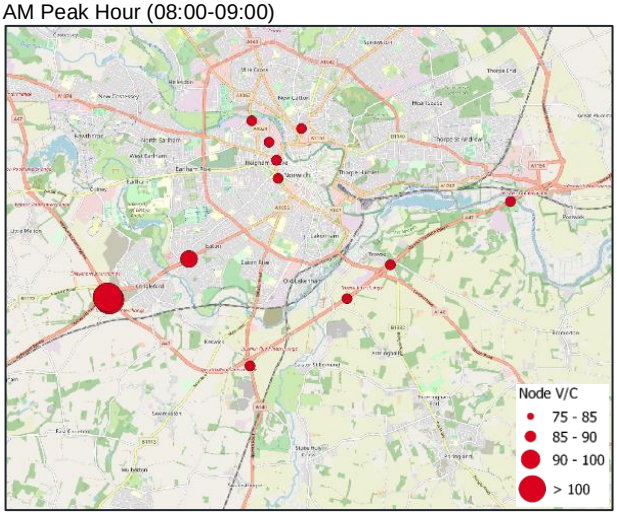
2.3.12. As expected, traffic volumes on key links within the study area have generally increased (between 2015 and 2019), which indicates increased pressure on the local road network. Across all sites, where data is available for both years, traffic is shown to have grown by 9%, on average, which is greater than that anticipated by the *Trip End Model Presentation Program* (TEMPro) for the NWQ (approximately 6%). The 2019 surveys substantiate the inferences made in the OAR, with the A1270 Broadland Northway experiencing high traffic volumes and more rural routes experiencing a slight reduction in traffic volumes. It is therefore envisaged that the introduction of a NWL could significantly reduce the traffic flow on competing parallel routes that are currently being used within the NWQ.

Congestion & Delay

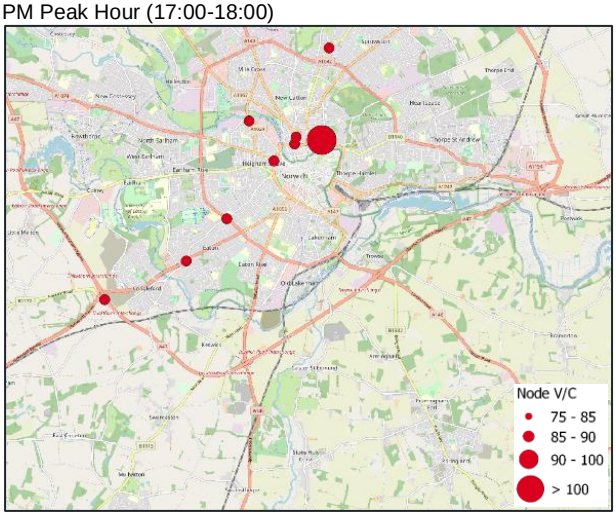
2.3.13. The radial routes and ring roads around Norwich suffer from congestion and delay during both the AM (08:00-09:00) peak and PM (17:00-18:00) peak hours. **Figure 2-4** identifies those junctions around Norwich that are operating at over 75% practical capacity – Volume / Capacity (V/C) – during the AM and PM peak hours. During the AM peak hour, five junctions around the A47 are above 75% in practical capacity. Whilst this number is lower during the PM peak hour, congestion shifts to the city of Norwich itself.

Figure 2-4 Peak Hour Junction Capacity (2019 Base)

AM Peak Hour (08:00-09:00)



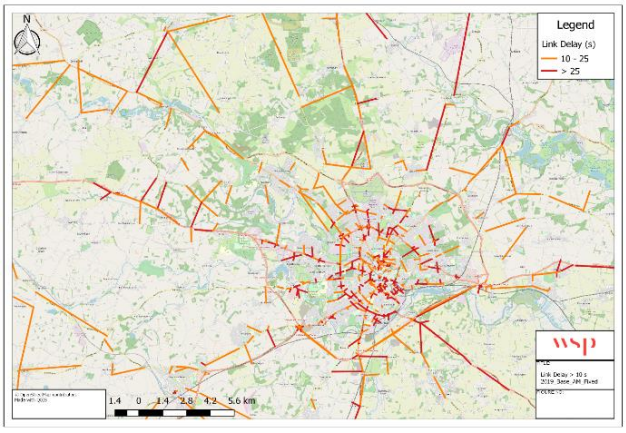
PM Peak Hour (17:00-18:00)



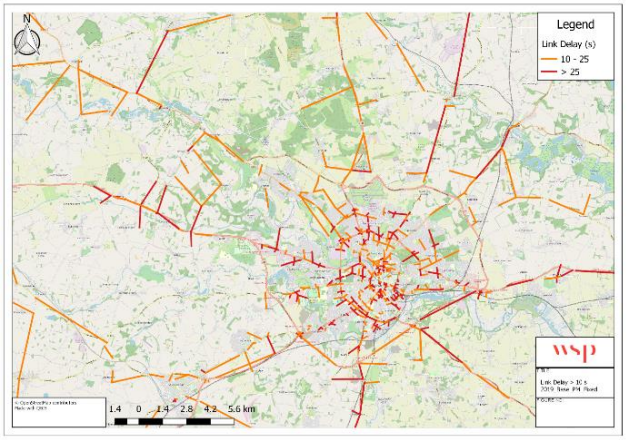
2.3.14. In addition to junctions that are operating at, or above, practical capacity, **Figure 2-4** demonstrates that delay exceeds 25 seconds in the 2019 AM peak and PM peak hours on links through the study area. This includes some sections of the A1074, including the junction of A1074 / Longwater Lane and the A1074 / Norwich Road junction. Sections of the A146 Lakenham Road and A140 (Colman Road) were found to have delays of over 1 minute.

Figure 2-5 Peak Hour Link Delay (2019 Base)

AM Peak Hour (08:00-09:00)



PM Peak Hour (17:00-18:00)



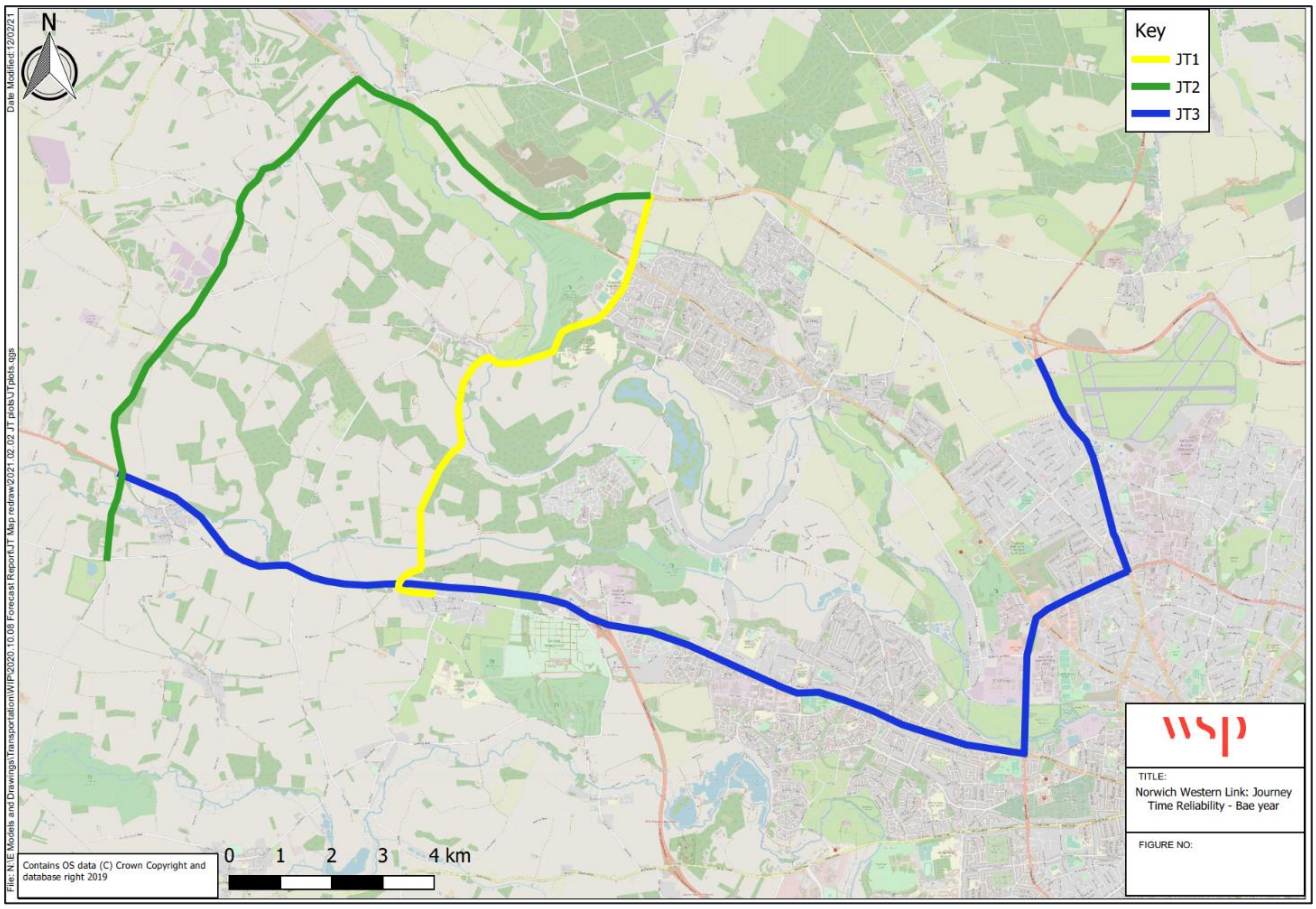
Journey Time Reliability

2.3.15. To assess the extent to which journey time variation impacts network users, open access mapping data has been used to compare journey times across the local road network at different times of the day. Journey times were found to be significantly longer during peak periods than in the off-peak (10:00-16:00).

2.3.16. Modelled journey time data has been extracted from the 2019 base year model for the morning peak and evening peak periods for the routes shown in **Figure 2-6**, where:

- JT1 = junction of Dereham Road and Marlingford Road (Easton) to the A1270 Broadland Northway (Fir Covert roundabout), via Ringland Hills and Taverham;
- JT2 = junction of Berrys Lane and Mattishall Road (Honingham) to the A1270 Broadland Northway (Fir Covert roundabout), via Weston Longville; and
- JT3 = junction of A47 / B1535 / Berrys Lane (north-west of Honingham) to the A1270 Broadland Northway (Cromer Road roundabout), via Dereham Road and the A140.

Figure 2-6 Journey Time Routes (2019)



2.3.17. In **Table 2-3**, the journey times during the AM and PM peak periods have been compared to the off-peak period to show the delay experienced by vehicles due to congestion. Where the difference between peak and off-peak exceeds 1 minute, it has been marked in **bold red text**.

Table 2-3 Journey Time Variability (2019 Base Year)

Route	Distance (m)	Journey Time (s)			Variation (s)	
		AM Peak	Inter-Peak (IP)	PM Peak	AM vs IP	PM vs IP
JT1 (northbound)	6,747	647	643	585	**62**	58
JT1 (southbound)	6.747	618	637	587	31	50
JT2 (northbound)	11,036	771	780	647	**124**	**133**
JT2 (southbound)	11,036	773	780	647	**126**	**133**
JT3 (eastbound)	17,341	1,771	1,463	1,200	**571**	**263**
JT3 (westbound)	17,341	1,653	1,525	1,279	**374**	**246**

2.3.18. As of 2019, the JT1 route in the northbound direction experienced approximately 1 minute of delay in the AM peak and PM peak when compared to the off-peak (free flow conditions). JT2 experienced over 2 minutes of delay in both the northbound and southbound directions in the AM peak and PM peak periods. JT3 experienced between 4 minutes of delay on the westbound direction in the PM peak to approximately 9.5 minutes of delay in the eastbound direction in the AM peak. This route terminates at Norwich Airport and Imperial Park, a key employment site for the region.

Road Use in Rural Communities

2.3.19. Those living in communities to the west of Norwich have raised concerns (through various rounds of consultation) about traffic problems they were experiencing on a daily basis, most notably during the peak hours when their villages, and the small, often single-track rural roads running through and between them, were congested with traffic. There were concerns raised relating to the volume and speed of traffic, the severance it causes and the loss of amenity within their communities. People reported not feeling safe to walk or cycle within and between their local communities due to the level of traffic on local roads.

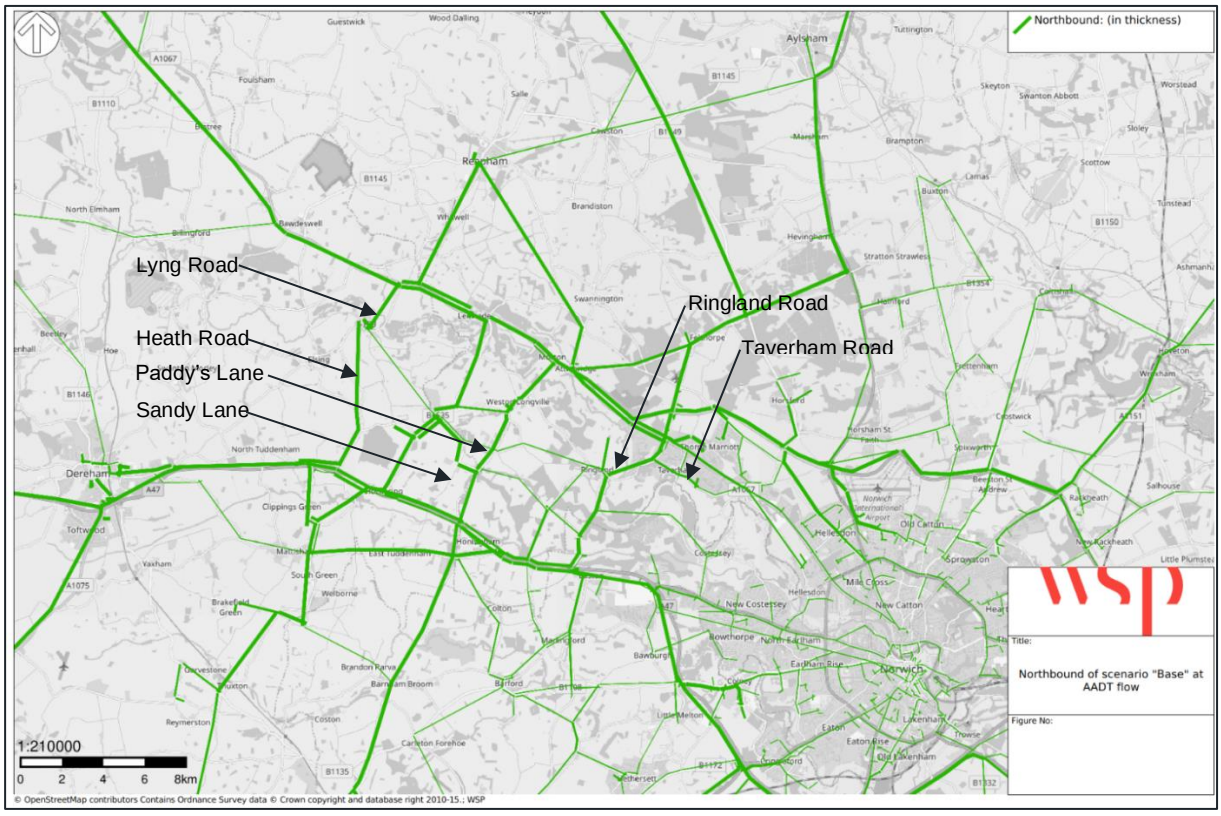
2.3.20. With drivers having access to satellite navigation that prioritises the fastest route via inbuilt navigation systems or their smart phone, commuters are using rural roads to bypass the increased journey times associated with trips into Norwich city centre, Norwich Airport and other identified employment areas.

2.3.21. The lack of a direct, high-capacity, high-standard routes between the A1067 and the A47 results in trips on existing local routes such as Lyng Road, Heath Road, Sandy Lane, Paddy's Lane, Taverham Road and Ringland Road. These routes within the NWQ are predominantly unclassified roads, unsuitable for carrying more than 5,000 vehicles per day. These rural roads are less than 6m in width, often with tight bends and narrow verges or protected verges. There are also pinch points on some of the routes where the road width is substantially less than 5.5m or where the radii of bends are less than 10m. These parameters are set out as desirable minimums within *Manual for Streets 2* (MfS2) guidance for through routes carrying two-way traffic to enable safe passing of two large vehicles.

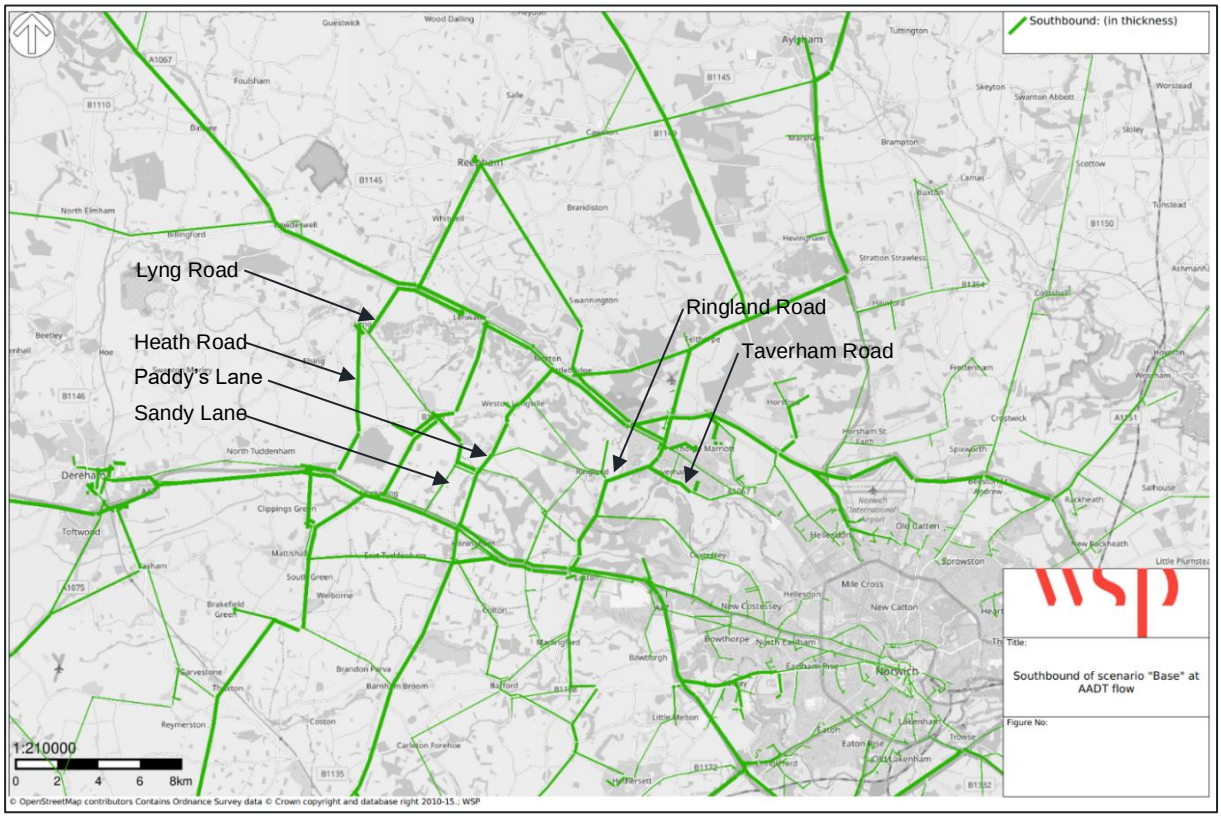
2.3.22. **Figure 2-7** shows the scale of trips using these six north-south routes in both the northbound and southbound directions. Each would benefit from the implementation of the NWL, with traffic rerouting from local routes onto a more suitable and direct link.

Figure 2-7 Select Link Analysis Across Six Routes (2019 Base Year)

Northbound



Southbound



2.3.23. **Table 2-4** indicates the count locations (where data was collected in 2019) on the north-south routes that pass close to residential areas such as Taverham, Costessey, Lyng and Weston Longville. The data summarises the total flow (across a 24-hour period), the number of Heavy Goods Vehicles (HGVs) and the associated HGV percentage.

Table 2-4 2019 Survey Data – Composition

ATC Site	Location	Traffic Flow	HGVs	HGV%
1	C198 The Common, Lyng	2,035	19	0.9%
2	B1535 Weston Hall Road, Weston Longville	4,019	380	7.7%
3	C167 Marl Hill Road, Morton on the Hill	3,327	18	0.5%
4	C167 Honingham Road, Weston Longville	3,113	13	0.4%
5	C167 Paddy's Lane, Weston Longville	2,788	23	0.8%
6	C173 Heath Road, Hockering	1,631	13	0.8%
7	C198 Lyng Road, North Tuddenham	2,721	94	3.5%
8	B1535 Wood Lane, Honingham	5,375	326	6.1%
68	C172 Ringland Road, Taverham	4,312	6	0.1%
69	C461 Taverham Lane, Costessey	5,264	16	0.3%
76	C171 West End, Costessey	7,389	58	0.8%
77	C171 Townhouse Road, Costessey	4,781	18	0.4%
78	C162 Longwater Lane, Costessey	10,808	57	0.5%

2.3.24. While there are relatively low numbers of HGVs using the north-south routes between the A47 and A1067, the areas of Weston Longville and Honingham are experiencing 7.7% and 6.1% HGVs respectively. As the majority of these rural routes are under 6m wide, they are not ideally suited to this type of traffic, particularly when coming into conflict with vehicles from the opposite direction.

Speeding

2.3.25. Traffic survey data, collected in 2019, has also been used to assess the speed of vehicles using these routes. **Table 2-5** shows the speed limit at the point of survey and the proportion of vehicles exceeding this limit.

2.3.26. The Royal Society for the Prevention of Accidents (RoSPA) notes that two-thirds of all crashes, in which people are killed or injured, happen on roads with a speed limit of 30mph or less. As shown below, those roads with lower speed limits (20mph and 30mph) have the highest incidence of vehicles exceeding the stated speed limit. Two of the sites measured (C167 Honingham Road, Weston Longville and C173 Heath Road, Hockering) had over 70% of vehicles exceeding the stated speed limits at the time of the surveys.

Table 2-5 2019 Survey Data – Speed

ATC Site	Location	Speed Limit (mph)	85th Percentile (mph)	% > Speed Limit
1	C198 The Common, Lyng	30	29	11.9%
2	B1535 Weston Hall Road, Weston Longville	60	43	0.0%
3	C167 Marl Hill Road, Morton on the Hill	60	49	1.9%
4	C167 Honingham Road, Weston Longville	20	35	**93.8%**
5	C167 Paddy's Lane, Weston Longville	60	45	3.0%
6	C173 Heath Road, Hockering	30	39	**72.3%**
7	C198 Lyng Road, North Tuddenham	60	47	0.3%
8	B1535 Wood Lane, Honingham	50	49	13.0%
68	C172 Ringland Road, Taverham	60	40	0.1%
69	C461 Taverham Lane, Costessey	60	50	1.7%
75	Taverham Road, east of Penn Road, Taverham	30	36	**53.9%**
76	C171 West End, Costessey	30	28	7.5%
77	C171 Townhouse Road, Costessey	40	37	7.1%
78	C162 Longwater Lane, Costessey	30	33	**34.3%**

Severance

2.3.27. North-south movement for freight between the A47 and A1067 is constrained by the River Wensum, and to a lesser extent the River Tud. Four bridges within the study area that cross the River Wensum are suitable for use by vehicular traffic (Costessey Lane; Taverham Lane / Costessey Road; Ringland Road; and the A1067).

2.3.28. The Costessey Lane and Ringland Road bridges have weight limit restrictions of 7.5 tonnes, constraining HGV movement. Only the A1067 bridge has a carriageway of over 6m width, with the other three bridges unsuitable for heavy, two-way vehicle traffic. These bridges cannot be appropriately widened or strengthened in their current position due to the Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) ecological designations that apply to the River Wensum.

Personal Injury Accidents

2.3.29. The OAR presented a summary of traffic accidents resulting in personal injury (the data excludes "damage-only" accidents) between 2011 and 2015. Additional accident data has now been obtained from NCC to cover the period of 2016 to 2020, providing an update to data presented in the OAR.

2.3.30. During the five-year period from 2016 to 2020, there were 550 recorded collisions within the study area (see **Figure 2-8**), involving 699 casualties. Of these, 8% (54) were pedestrians, 13% (94) were cyclists, and 12% (83) were motorcyclists or motorcycle passengers. Collisions are primarily located along the main arterial routes to, or from, Norwich city centre. **Table 2-6** lists the frequency and number of casualties, as well as their severity.

Figure 2-8 Study Area PIAs (2016-2020)

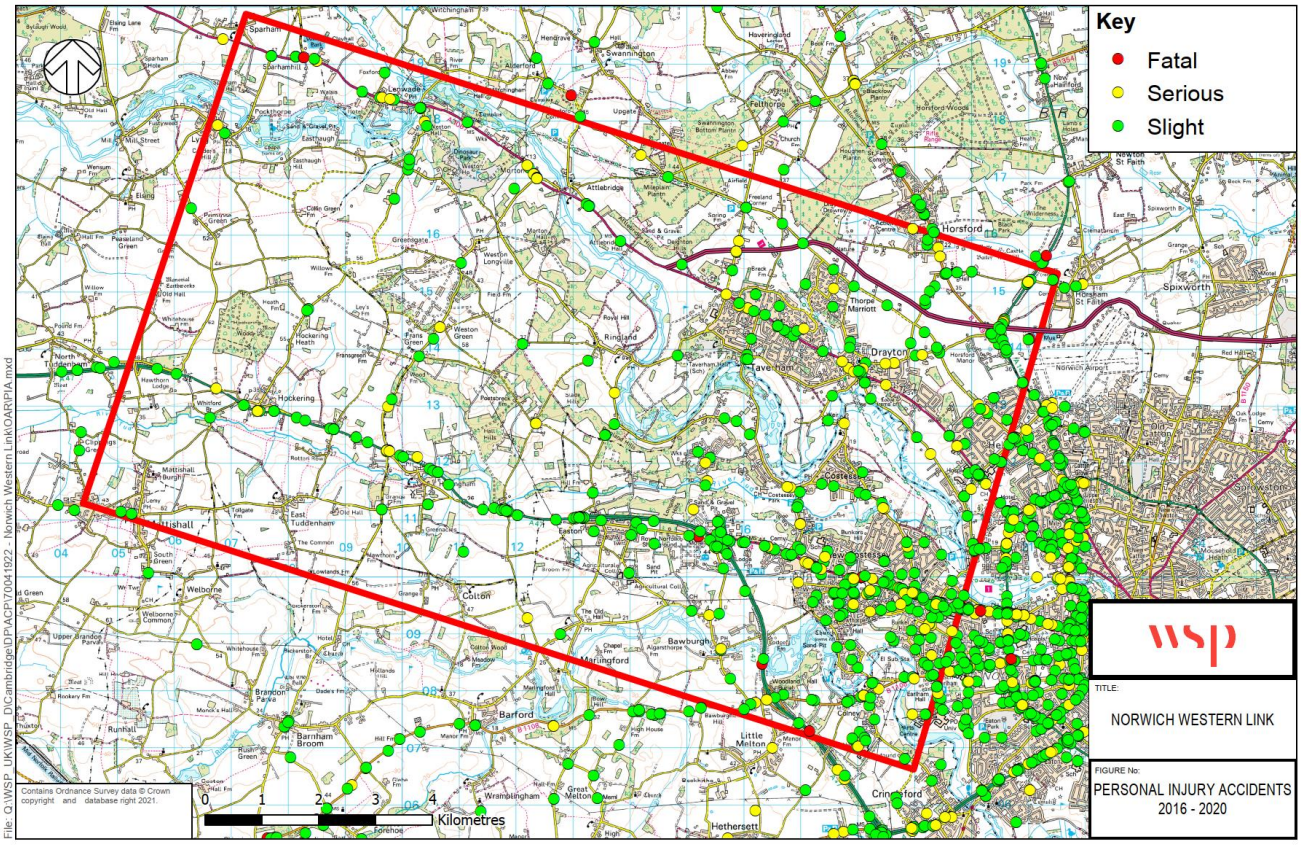


Table 2-6 Severity & Casualties of Accidents in Study Area (2016-2020)

Severity	Collisions	Casualties
Fatal	8	12
Serious	113	156
Slight	429	531
Total	**550**	**699**

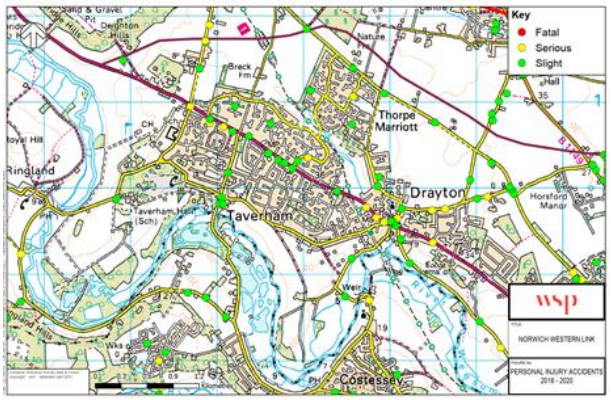
A1067

2.3.31. **Figure 2-9** shows the accident record between 2016 and 2020 along the A1067 from Drayton to Morton. The A1067 between the A1270 and Morton demonstrates a low collision rate, with a small cluster of accidents (7) located at the Marl Hill Road / A1067 junction. Through Taverham there are significantly more accidents, with clusters located at most junctions along the A1067. Three accidents are located at the Sandy Lane / The Street / Taverham Road / Costessey Road roundabout and four accidents at the School Road / A1067 signalised junction.

Figure 2-9 PIAs – A1067 (Attlebridge & Drayton)

Attlebridge

Drayton



A47

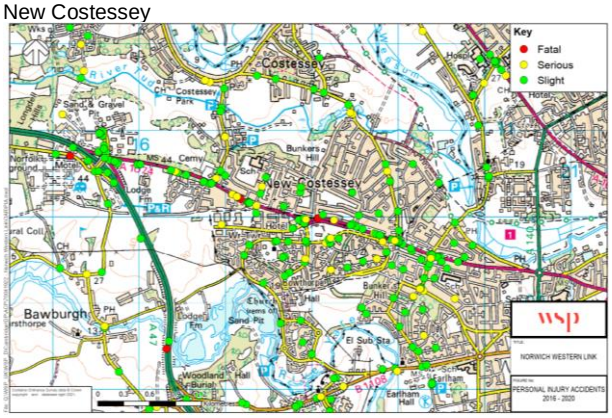
2.3.32. **Figure 2-10** shows the accident record between 2016 and 2020 along the A47 from Easton to the A1074 through New Costessey. The Longwater interchange and the Taverham Road junction shows 14 accidents, all of which were slight; 8 accidents at the A47 / Taverham Road / Blind Lane junction; and 12 accidents at the A47 / Church Lane / Dereham Road roundabout. The introduction of an NWL, in addition to the Highways England A47 scheme, which includes a key objective to improve road safety for all users, is likely to support improved highway safety.

2.3.33. The A1074 through New Costessey shows a number of accidents, including two fatal accidents that occurred in 2019. Particular clusters are located at Longwater Lane / Dereham Road junction (5); Dereham Road / Barnard Road / Wendene / Breckland Road roundabout (9); and Dereham Road / Norwich Road junction (9).

Figure 2-10 PIAs – A47 / A1074

Easton

New Costessey

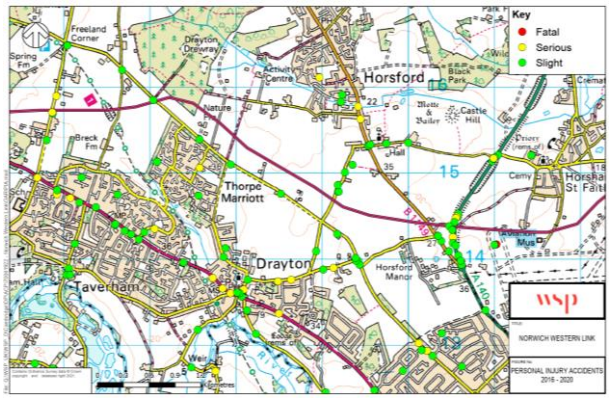


A1270

2.3.34. There have been low number of accidents recorded along the A1270 Broadland Northway, with the only cluster site located at the A1270 / A140 roundabout (8). **Figure 2-11** shows the location of accidents along the A1270 between Drayton and Horsford.

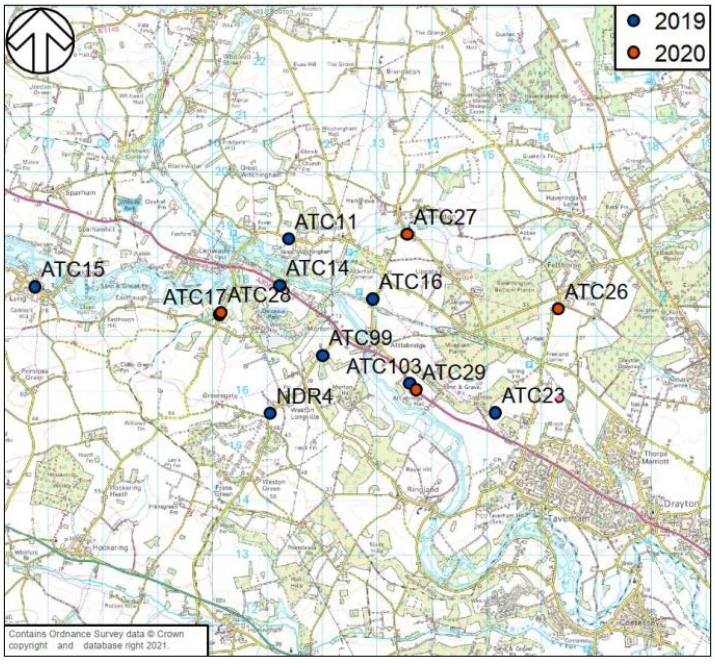
Figure 2-11 PIAs – A1270

Drayton & Horsford



2.3.35. Whilst there has been a reduction in overall travel demand during the pandemic across the study area, people have felt safer travelling by car than on public transport. A comparison of observed ATC data in the study area collected in October 2019 and October 2020 showed a 7.6% reduction in Annual Average Daily Traffic volumes on A1067 and a reduction of 2.1% in Weston Longville, as shown in **Figure 2-12**. This magnitude of reduction falls within typical daily variation of traffic.

Figure 2-12 – A1067 Comparison of Traffic Flows October 2019 versus October 2020



October 2019		October 2020		% Diff
Site ID	Two-way Vehicles	Site ID	Two-way Vehicles	
ATC11	971			
ATC14	11,441			
ATC15	1,826			
ATC16	730			
ATC17	4,401	ATC28	4,380	-2.1%
ATC23	7,338			
ATC99	2,971			
ATC103	13,223	ATC29	12,257	-7.6%
NDR4	2,857			
		ATC26	4,037	
		ATC27	254	

2.3.36. A review of traffic changes on the A47 between 2019 and 2020 based on monthly AADT data taken from the WebTris database also illustrates that in the months when government restrictions were fully in place (March-June 2020), there was a significant reduction in strategic traffic using the A47. However, in September and October, when restrictions were relaxed, traffic flows were much closer to the 2019 observed levels, with about a 10% reduction on average. This falls within the range of typical daily variation of traffic for a strategic road such as A47.

Walking & Cycling

2.3.37. Walking and cycling infrastructure in the study area is variable. A breakdown of the accessible areas via walking and cycling from each settlement is provided in the *Walking, Cycling and Horse-Riding Assessment* report.

2.3.38. Within more built up areas, the provision is generally adequate, with footways in place adjacent to the roads. However, away from residential areas, there is limited provision, especially between villages where there is very limited or no facility (for example villages such as Horsford and Taverham are unable to reach many other settlements within a 30-minute walk). In other cases, including Attlebridge, Hockering and Lenwade, access is constrained in some directions by busy roads, or by a lack of safe pedestrian infrastructure.

2.3.39. The A47 corridor and Longwater interchange are major barriers to pedestrian access, with limited infrastructure available for users wishing to access local community facilities, such as Saint Peter's Church (Easton) or Saint Andrew's Church (Honingham), or access shops and services on William Frost Way. Easton College and the Food Enterprise Zone (FEZ) are both located south of the A47. Both sites are poorly connected for north-south trips, with the A47 currently presenting a physical barrier with no crossing facilities. The A1067 also creates a barrier to pedestrian access, with limited opportunities to cross safely to shops and services along the corridor.

2.3.40. Cycling facilities are limited within the study area, with only local (on-road) routes to the south-east and the National Cycle Network Route 1 (NCN1) through the northern extents. There is no existing north-south cycle route within the NWQ. The lack of cycling infrastructure linking residential areas and employment areas is likely to limit the number of commuting journeys made.

2.3.41. The *Gear Change* policy guidance published in July 2020 describes the vision to make England a great walking and cycling nation. A NWL scheme will seek to improve the existing walking and cycling facilities in the surrounding area by reducing traffic on rural minor roads, enabling them to be made more suitable for all users, whilst also enhancing off-road connections. *Gear Change* responds to the Climate Change agenda emphasising the environmental benefits of encouraging and supporting sustainable travel, with a target to double cycling use and increase the numbers walking. This ambition has been partly derived from direct experience during the Covid-19 pandemic in 2020, which saw a 100% increase in cycling, with some areas in England close to 300%.

2.3.42. *Local Transport Note LTN 1/20* provides guidance and good practice for the design of walking and cycling infrastructure. The majority of routes close within the NWQ are rural lanes through small hamlets and villages, many of which carry more traffic than is suitable for the scale of the existing highway network. Interventions within the NWQ will seek to relieve traffic-related issues enabling existing infrastructure to be re-purposed to prioritise cycling and walking.

CONSTRAINTS

Environmental Constraints

2.3.43. The original 2018 OAR report was informed by a constraints plan showing statutory designated environmental constraints and strategic utilities. This was produced to inform the public consultation carried out in late 2018. Since this was produced additional County Wildlife Sites (CWS) sites have been designated as follows and have been taken into account within the Option Selection Report and subsequent project deliverables:

- River Wensum Pastures - Ringland Estate;
- Primrose Grove;
- Gravelpit Plantation and Church Hill;
- Dryhill Plantation; and
- Ave's Gap.

2.3.44. Other designated environmental constraints including SAC designation of the River Wensum remain unchanged. The Annex II species barbastelle bats also remain present within the study area.

2.3.45. Additional environmental surveys including various types of bat surveys, have been carried out since the date of the original OAR to inform the scheme development and option selection process to date and were reported upon in the Option Selection Report. Further seasonal ecology surveys are also being carried out on an ongoing basis throughout 2021 to inform the Environmental Statement for submission alongside the planning application.

3 UNDERSTANDING THE FUTURE SITUATION

3.1 OVERVIEW

3.1.1. Chapter 3 of the OAR (Understanding the Future Situation) – forming Step 2 of the Transport Appraisal Process – sought to outline the external factors that would shape the NWQ and network operation into the future.

3.1.2. It set out the future growth in terms of housing and employment, before presenting information on future investment within the transport system. It also set out modelling and forecasting that had been undertaken to inform the NWL study. Since the production of the OAR, additional analysis has been undertaken, using an updated and refined transport model, which is summarised in the following sections.

3.2 FUTURE CONDITIONS

DEMOGRAPHIC PROFILE

3.2.1. Broadland District Council, Norwich City Council and South Norfolk Council are working together with NCC to prepare the *Greater Norwich Local Plan* (GNLP) – expected in 2022 – which will include strategic policies to address the area's productivity gap and allocate individual sites for development.

Housing

3.2.2. The Strategic Housing Market Assessment, carried out in 2017, indicated that there is an Objectively Assessed Need (OAN) for an estimated 39,586 dwellings across the Broadland, South Norfolk and Norwich areas between 2015 and 2036. In Broadland, parishes forming part of the *Norwich Policy Area* have a combined allocation of between 1,462 and 1,662 new houses. The Easton / Costessey area plans to accommodate 1,500 new homes, as well as enhanced local services. The NWL is expected not only to provide connectivity to those housing sites, but also link housing and employment areas around Norwich.

Employment

3.2.3. In addition to the *City Deal*, which seeks to deliver 13,000 jobs by 2031, the *Joint Core Strategy* plans for 27,000 new jobs by 2036. The OAR references the FEZ located to the west of Easton which is expected to provide 2,000 agri-food jobs by 2050 (the first phase is already under construction). In addition to this, other significant employment growth is also expected, including the following in the west of Norwich:

- **Norwich International Airport**: there is a draft masterplan, targeting an increase in passenger numbers from 530,000 to 1.4 million which would generate an estimated additional £170 million in the local area. Given the economic importance of the airport, the scope for an NWL to support this planned expansion and provide a more reliable and resilient transport network is considerable. This masterplan has not changed in response to the COVID-19 pandemic.
- **Imperial Park**: planning consent has recently been granted for a 115-acre business park for industrial and office occupiers located on the north side of Norwich International Airport. Again, an NWL would provide a more reliable and accessible transport route to support this development.

3.2.4. The absence of an NWL is likely to affect business investment and growth, both locally and regionally. Key employers are located in or adjacent to the study area (including the FEZ, the Norfolk and Norwich University Hospital, the Norwich Research Park and Norwich International Airport). The increased journey times along the signposted freight routes for north to south movements between the A1067 and the A47 lead to increased vehicle operating costs and productivity inefficiencies.

TRANSPORT CONTEXT

Traffic Model

3.2.5. As previously mentioned, the age and detail of the traffic model used within the OAR (2015) necessitated the need to collect new and extensive survey data to update the model (2019) in order to support further appraisal of the NWL. As a part of this process, the model network and zone connectors have been updated to better reflect the local road network and a full audit process was undertaken to calibrate and validate the 2019 base year model, in line with the DfT's WebTAG guidance, ensuring the model represented on-site observed conditions.

3.2.6. The updated model still forecast to a 2025 opening year and a 2040 design year, taking into account background traffic growth and local development and infrastructure which is classified as 'Near Certain' or 'More than Likely'. This includes developments and schemes which have planning permission or are going through the planning process.

Highways England DCO Application

3.2.7. Highways England submitted a Development Consent Order (DCO) Application to the Planning Inspectorate in March 2021 for their A47 North Tuddenham to Easton dualling scheme. This was accepted in April 2021 and now progressing to examination in public. Members of the public are currently able to register to participate in the examination and provide a response to the application during the Relevant Representation period which closes on Thursday 17 June 2021. In the meantime, Highways England are continuing to carry out ground investigations and other survey works to inform the detailed design stage. Construction of the scheme is due to commence in early 2023 and the new section of dual carriageway is anticipated to open to the public in 2025.

3.2.8. An additional DCO Application was also submitted for improvements to A11 Thickthorn Junction in March 2021. Both of these Highways England enhancement schemes have been included into the baseline Do Minimum scenario forecasting within the updated 2019 NATS model.

Traffic Flows

3.2.9. The lack of an appropriate western link restricts access to businesses both locally and in areas to the west of Norfolk and the Midlands. The transport modelling undertaken predicts that traffic volumes are expected to grow by approximately 20% between 2019 and 2040 in the NATS Model area. **Table 3-1** shows forecast traffic growth figures to 2040, split by AM peak, interpeak, and PM peak periods.

Table 3-1 Forecast Traffic Growth (Base Year to Forecast Years)

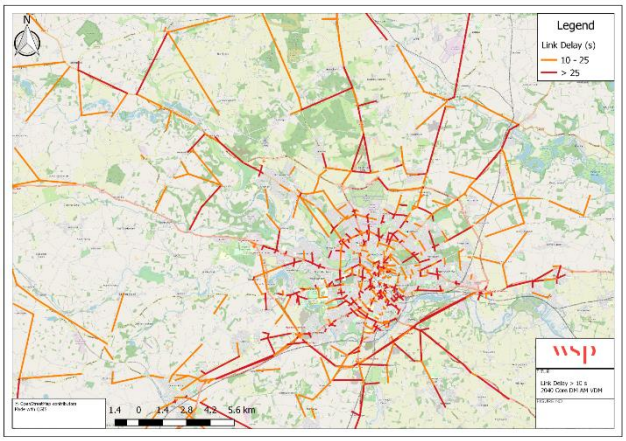
Time Period	Vehicle Class	2019-2025	2019-2040
AM Peak	Car	6.23%	19.60%
	Light Goods Vehicles	6.66%	27.85%
	Heavy Goods Vehicles	1.89%	10.36%
	All vehicles	**6.01%**	**19.66%**
Inter-Peak	Car	7.38%	22.86%
	Light Goods Vehicles	6.66%	27.84%
	Heavy Goods Vehicles	1.90%	10.37%
	All vehicles	**6.92%**	**22.30%**
PM Peak	Car	5.99%	18.91%
	Light Goods Vehicles	6.65%	27.83%
	Heavy Goods Vehicles	1.88%	10.36%
	All vehicles	**5.88%**	**19.05%**

Congestion & Delay

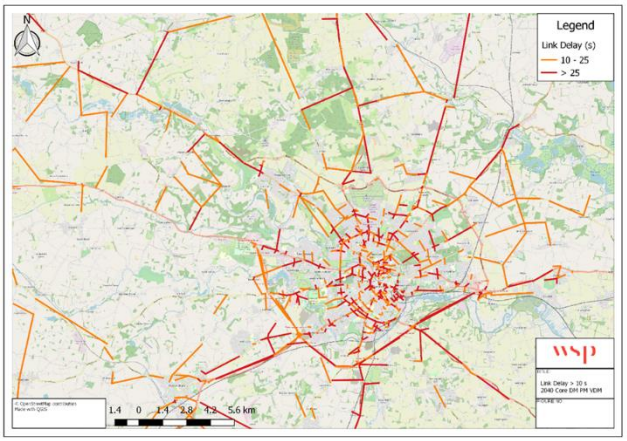
3.2.10. The increase in traffic growth shown in **Table 3-1** is expected to impact the local road network. **Figure 3-1** shows the modelled link delay information for the 2040 forecast year during the AM peak and PM peak periods, without an NWL. Delay is expected to worsen on key links through the study areas, including some sections of the A1074, including the junction of A1074 / Longwater Lane and the A1074 / Norwich Road junction. Delay on sections of the A146 Lakenham Road and A140 (Colman Road) are also exacerbated.

Figure 3-1 Peak Hour Link Delay (2040 Design Year – without NWL)

AM Peak Hour (08:00-09:00)



PM Peak Hour (17:00-18:00)



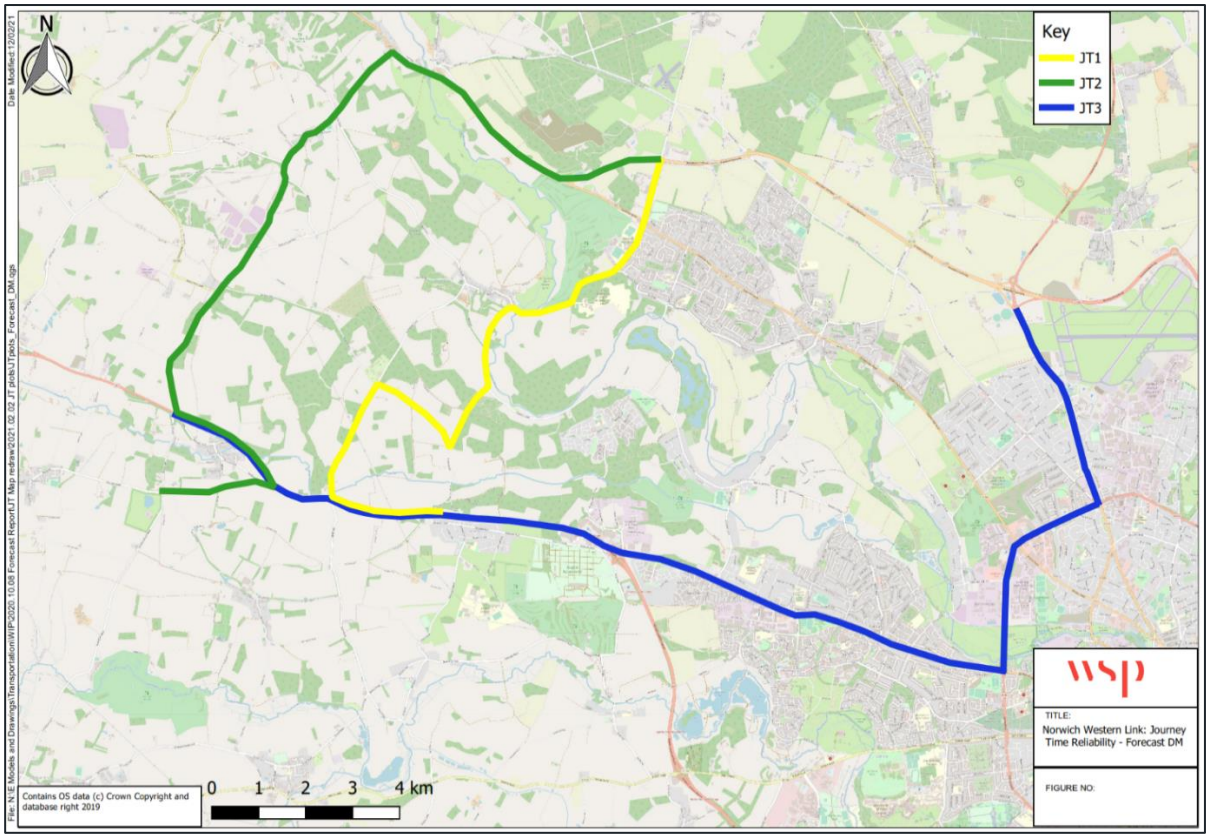
Journey Time Reliability

3.2.11. Modelled journey time data has been extracted from the 2040 base year model for the morning peak and evening peak periods for the routes shown in **Figure 3-2**, as outlined in **Table 3-2**. As with the 2019 data, journey times during the AM and PM peak periods have been compared to the off-peak period to show the delay experienced by vehicles due to congestion. Where the difference between peak and off-peak exceeds 1 minute, it has been marked in **bold red text**. Without an NWL scheme, journey time delays in 2040 will significantly worsen and congestion is expected to spread to rural roads, with all routes showing a variation of over 1 minute when compared to off-peak levels.

Table 3-2 Journey Time Variability (2040 Design Year – without NWL)

Route	Distance (m)	Journey Time (s)			Variation (s)	
		AM Peak	Inter-Peak (IP)	PM Peak	AM vs IP	PM vs IP
JT1 (northbound)	10,594	1,112	914	1,116	**+198**	**+202**
JT1 (southbound)	10,529	1,002	857	1,053	**+145**	**+196**
JT2 (northbound)	13,562	1,069	850	1,032	**+219**	**+182**
JT2 (southbound)	13,751	940	843	921	**+97**	**+78**
JT3 (eastbound)	18,089	1,932	1,218	1,779	**+714**	**+561**
JT3 (westbound)	17,365	1,750	1,239	1,654	**+511**	**+415**

Figure 3-2 Journey Time Routes (2040)



Road Use in Rural Communities

3.2.12. Average Annual Daily Traffic (AADT) flows have been produced for the 2025 opening year and 2040 design year. **Table 3-3** shows flow changes at locations on the highway network surrounding rural communities within the NWQ, rounded to the nearest 1,000 vehicles, between the 2019 base year and the forecast years of 2025 and 2040. The forecast year models (2025 and 2040) include the proposed Highways England A47 North Tuddenham to Easton dualling scheme.

Table 3-3 Average Annual Daily Traffic Growth – Rural Communities

Location	2019-2025	2019-2040
A47 west of Sandy Lane	+15,000	+23,000
A47 east of Wood Lane	+17,000	+26,000
B1535 Wood Lane	+1000	+3,000
Weston Longville	+1700	+2,600
Total on existing north-south routes (Taverham Road, Lyng Road, Heath Road)	-3,000	+5,000
A1067 Attlebridge to A1270	+1,000	+5,000

3.2.13. Traffic volumes on the existing routes between the A47 and A1067 (including Lyng Road, Ringland Road, Honingham Road and Taverham Road) are predicted to increase by an estimated 5,000 vehicles by 2040. This would nearly double the existing flow on these routes and put them well over-capacity.

Carbon Budgets and Greenhouse Gases

3.2.14. At the OAR stage, changes in emissions have been considered in high level terms and it is expected that without an NWL increases in CO2 and other greenhouse gas emissions will occur in the future 'do minimum' scenario e.g. vehicles travelling more slowly due to increased congestion which creates a risk of increased air pollution.

3.2.15. The presence of an NWL would increase transport network capacity, either by adding extra link capacity to the highway network or by enabling and supporting mode shift to less carbon intensive forms of transport.

3.2.16. A more detailed assessment will be carried out at the ES stage both in terms of the construction and operational phases with effects quantified in line with best practice and current guidance and emissions from the Proposed Scheme will be put into context of the UK carbon budgets.

4 ESTABLISHING THE NEED FOR INTERVENTION

4.1 OVERVIEW

4.1.1. Chapter 4 of the OAR (Establishing the Need for Intervention) – forming Step 3 of the Transport Appraisal Process – sought to outline the current transport-related problems, the problems likely to be encountered in the future and the underlying causes.

4.1.2. The problems and issues identified in **Chapter 2** and **Chapter 3** of this *OAR Addendum* (which build upon the evidence presented in the OAR), demonstrates a need for intervention within the NWQ. The demographic and transport challenges identified in the OAR are summarised in the following sections, with additional challenges identified through further analysis (since the production of the OAR) presented in red highlight.

4.2 EXISTING SITUATION CHALLENGES

DEMOGRAPHICS

- A significant increase in population, particularly of elderly residents, is likely to generate additional pressure on the transport and community infrastructure.
- The overall study area has varying levels of deprivation, which results in a complex mix of differing local needs and challenges.
- Levels of employment / economic activity vary across the study area, therefore implementing measures to support economic activity and growth, may vary between communities.
- Norwich has historically lagged behind the UK, in respect of economic indicators, and the gap continues to widen. Attracting new businesses and increasing the productivity of existing firms, as well as enhancing regional labour mobility, will be essential to unlocking further economic growth if the area is to remain competitive and attract and retain skilled workers.

TRANSPORT CONTEXT

- Limited connections exist between the A47 and A1067, reducing the orbital connectivity of the A1270, and creating pressure on the existing single carriageway roads.
- There are no railway connections within the study area, and significant infrastructure would be required to improve the rail network within the NWQ.
- There are limited direct bus connections within the study area. Limitations of the Costessey Park & Ride service is likely to generate trips through the study area.
- There are inadequate pedestrian facilities between villages and to services outside of built-up areas. The existing facilities are perceived as unsafe due to high volumes of traffic.
- Cycling facilities are located to the east of the study area, within the urban fringe of Norwich. To the west of the study area there are limited connections.
- Within the study area there is a limited number of existing structures that could support a potential NWL. Significant infrastructure will be required to provide for the standard needed.
- Rural communities within the NWQ experience rat-running and inappropriate traffic levels, directly impacting the quality of life of local residents from an environmental and safety perspective (severance).
- Strategic employment sites to the north and west of Norwich, including Norwich Airport and Imperial Park, have inadequate connectivity, resulting in increased congestion, increased journey times and reduced business productivity, thus limiting potential for targeted growth.

TRAVEL PATTERNS

- There is high car dependence and ownership, which puts pressure on local transport networks, despite a high number of journeys being short. There is potential to encourage modal shift.
- Increasing traffic volumes causes increased pressure on the highway network. An NWL could relieve congestion on the local road network and reduce rat-running.
- There is a high volume of traffic movement through the study area, with origin-destination data showing that an NWL could serve as a commuter link to key trip attractors.
- There were 550 accidents within the study area (2016 to 2020), eight of which were fatal, and one-fifth involved NMUs. An NWL scheme has the potential to help address safety issues at accident hotspots by routing vehicles via more appropriate and suitable routes, and by providing alternative, safer route options for NMUs as part of a wider package of interventions.

LOCAL ENVIRONMENT

- There is a mixture of land uses that will require a wide-ranging approach to ensure appropriate engagement is undertaken with local communities, stakeholders and landowners.
- The study area is environmentally sensitive, and designated sites will need to be considered when implementing any transport infrastructure within the study area.
- Car use is the key method of travel in the NWQ, leading to high levels of carbon emissions produced by road transport. An NWL scheme could reduce the annual vehicle kilometres travelled (by providing direct routing) and reduce CO_2 emissions resulting in monetised benefits (carbon saving and traded carbon from conventional vehicles to electric vehicles).

4.3 FUTURE SITUATION CHALLENGES

DEMOGRAPHICS

- Significant housing and employment growth is anticipated across the study area which will increase pressure on the local and strategic road network.
- Individual local and strategic improvements to the road network will assist with capacity issues; however, transport related problems within the NWQ will persist without intervention.
- Norfolk was hit hard by the Covid-19 pandemic. Between December 2019 and May 2020 forecasts, 2025 GVA forecasts for the East of England dropped by 2%, with the region's reliance on tourism jobs, manufacturing and the public sector underscoring the challenges brought on by the pandemic. This makes Norfolk's plans for both post-pandemic recovery and economic development ambitious, but all the more badly needed.

TRANSPORT CONTEXT

- HGV movements are forecast to grow to 10% of traffic flows between 2019 and 2050. This is likely to exacerbate issues (congestion, severance, safety etc.) on the local road network.
- West of Taverham Road, there is expected to be a large increase in modelled flow due to traffic generated from additional development within the A47 corridor.
- Traffic on existing routes between the A47 and A1067 is forecast to increase by up to 5,000 vehicles per day by 2040, which is nearly double the observed base flow.

- Delay is expected to worsen on key links through the study areas, including some sections of the A1074, including the junction of A1074 / Longwater Lane and the A1074 / Norwich Road junction. Journey time delays in 2040 will significantly worsen and congestion is expected to spread to rural roads. A NWL is expected to remove a large amount of traffic away from existing links and junctions at or near capacity, such as the Longwater Interchange.
- The dualling of the A47 between North Tuddenham and Easton will also increase traffic accessing Norwich through the NWQ, with the existing single carriageway section currently acting as a bottleneck and constraining traffic approaching from the west.

4.4 COVID-19 RECOVERY

4.4.1. The *Norfolk and Suffolk Covid-19 Economic Recovery Restart Plan*, produced in 2020, sets out the actions and interventions being taken by a wide range of partners, including New Anglia Local Enterprise Partnership (LEP), local authorities, businesses, industry councils and sector groups, Voluntary, Community and Social Enterprise (VCSE) organisations, colleges and universities. It demonstrates the strong local appetite and energy for getting the economy going again and helping those who have been hit hardest. One of the identified measures for economic recovery is investing in infrastructure. The plan states that "*we will support the construction sector through continued investment in key infrastructure and make a compelling case to Government to fund priority infrastructure schemes*."

4.4.2. The NWL has been identified as a key infrastructure scheme in the Norfolk and Suffolk region, as detailed in the *Integrated Transport Strategy for Norfolk and Suffolk*. An NWL will be vital to ensure that key facilities and services can be reached by all members of society.

- Norfolk's plan for both post-pandemic recovery and economic development is ambitious. Over the next decade, it aims to have 57,000 new jobs, many of which are expected to be located in its tier one employment sites. Tourism remains a focus for regeneration, with the promotion of the visitor economy part of the medium-term recovery efforts in Broadland and South Norfolk.

5 IDENTIFYING OBJECTIVES

5.1 OVERVIEW

5.1.1. The **Identifying Objectives** chapter of the OAR – forming Step 4a of the Transport Appraisal Process – considered the key themes from policy and strategy documents, challenges for the study area (baseline and future) and engagement with stakeholders and the public, to identify five high-level objectives and 13 specific objectives for the project. As the scheme has progressed towards the OBC stage and further evidence has been gathered, it was deemed prudent to review the original project objectives, in accordance with WebTAG, to reduce the overall number of objectives to a more presentable, manageable and SMART-orientated objectives group, in line with those typically required at the OBC stage.

5.1.2. The following sections indicate how the objectives have been consolidated in a manner that enabled the project to move forward in a way that retained consistency with previous work and minimised the potential impact on the OAR and OSR. It summarises the content of Technical Note 10: NWL – Review of Objectives for Stage 2 OBC (WSP, January 2020) provided as **Appendix A**.

5.2 CONSOLIDATING OBJECTIVES

HIGH LEVEL OBJECTIVES

5.2.1. After consideration of the individual high-level objectives, it was determined that *"Support sustainable growth"* and *"Support economic growth"* were closely related and could be condensed into a single high-level objective – *"Support sustainable economic growth"* – with emphasis placed on encouraging sustainable economic growth. **Table 5-1** provides a summary of how the high-level objectives have been consolidated.

Table 5-1 Consolidation of Objectives – High-Level Objectives

Previous High-Level Objectives	New High-Level Objectives
High-Level Objectives	
Support sustainable growth	Support sustainable economic growth
Support economic growth	
Improve the quality of life for local communities	Improve the quality of life for local communities
Promote an improved environment	Promote an improved environment
Improve strategic connectivity with the national road network	Improve strategic connectivity with the national road network

SPECIFIC OBJECTIVES

5.2.2. A review was undertaken of the scheme specific objectives, in order to identify whether they were SMART in nature or whether there were close relationships with other objectives that may allow for consolidation. The review identified a series of core themes represented by the original objectives including journey times together with speed, delay and congestion, resilience, vehicular flow related to vehicle type, accidents and wellbeing, environmental impacts and accessibility. The original specific objectives have been condensed into six new objectives, as shown in **Table 5-2**.

Table 5-2 Consolidation of Objectives Specific – Objectives

Previous Specific Objectives	New Specific (SMART) Objectives
Specific Objectives	
Reduce congestion and delay, and improve journey time reliability on routes through the study area	Improve connectivity and journey times on key routes within the Greater Norwich area
Improve network resilience and efficiency of the strategic and local transport network	
Improve emergency response times	
Reduce the number of Heavy Goods Vehicles using minor roads	Reduce the impacts of traffic on people and places within the Western area of Greater Norwich
Provide traffic relief (and reduce noise & emissions) within residential areas	
Contribute to the improved health and well-being of local residents	
Encourage modal shift to more sustainable modes of transport	Encourage and support walking, cycling and public transport use in Greater Norwich
Make the transport network safer for all users (including Non-Motorised Users)	Improve safety on and near the road network, especially for pedestrians and cyclists
Not affect the ecological integrity of the River Wensum Valley Special Area of Conservation	Protect the natural and built environment, including the integrity of the River Wensum SAC
Enable improved accessibility to existing and new housing and employment sites	Improve accessibility to key sites in Greater Norwich
Improve access to green space	
Improve connectivity and accessibility to Norwich International Airport, Norwich Research Park and NNUH	

5.3 IMPACT ON OPTION APPRAISAL

5.3.1. The process of consolidating the scheme objectives was carefully considered in terms of minimising the impact on the earlier OAR and OSR work. It is acknowledged that by consolidating the objectives, the performance scoring of the strategic case of the options may have been impacted; therefore, a sensitivity test has been undertaken to ascertain the magnitude of any change and whether this would have altered the outcome of the sifting process. The sensitivity test output is provided as **Appendix B**.

EAST

5.3.2. The 82 long-list options were again subjected to the DfT's EAST, as a mechanism for evaluating the options against a number of assessment areas relevant to the decision-making process. EAST is intended to quickly summarise and present evidence in a consistent format on how options perform and compare based upon the best practice five-case model approach (as shown in **Table 5-3**). Due to the highly sensitive nature of the proposed study in terms of environmental considerations, an additional environmental appraisal was undertaken to support the EAST assessment. As can be seen, the sensitivity test associated with the consolidation of the scheme objectives only altered the scoring of two strategic case elements.

Table 5-3 EAST Elements

Element	Assessment Area	Altered Score
Strategic Case	***Scale of impact against specific objectives*** ***Fit with high-level objectives*** Degree of consensus over outcomes	✓ ✓ ×
Economic Case	Economic Growth Socio-distributional impacts and the regions Local environment Well-being Expected VfM Environmental Criteria	× × × × × ×
Managerial Case	Implementation timetable (years) Public acceptability Practical feasibility Quality of supporting evidence Key uncertainties	× × × × ×
Financial Case	Affordability Capital Cost (£m) Overall cost risk	× × ×
Commercial Case	Flexibility of option Funding source Income generated	× × ×

STRATEGIC CASE

5.3.3. The strategic case determines if a project is needed, either now or in the future. This element of the sifting process allows the appraisal of scheme options against a set of identified problems. Objectives are used in order to measure the likely scale of success of the various options. Using **Table 5-1** and **Table 5-2**, which indicates how the initial objectives map onto the consolidated list of objectives, has allowed average scores to be calculated (for the consolidated objectives) and a new overall average score to be attributed to the strategic case scoring for "Scale of impact against specific objectives" and "Fit with high-level objectives". For the high-level objectives, scores were altered by +1 for a total of 17 options, whilst scores were altered by ±1 for 21 options.

SIFTING (ROUND 1)

5.3.4. As in the OAR, the first stage involved the removal of options which failed to perform at least as well as the "Do Nothing" option when compared against all assessment criteria. Performance scoring was derived from the EAST, where individual scores were given against each of the criteria within the assessment cases and environmental assessment for each option. These scores were combined and unweighted, giving equal regard to each of the cases, allowing an indication of option performance. A decimal score of between a minimum of 0 and a maximum of 1 was calculated for each of the assessment cases with a combined overall maximum score of six available. Those options that performed worse than the "Do Nothing" option were discounted.

5.3.5. After the Round 1 sift for the sensitivity test scoring, the same 34 options from the initial appraisal remained, including 22 new link highway options, five network improvement schemes, three active travel options, three public transport options and a freight option. The 34 options and their respective performance scores (from the original appraisal and the sensitivity test) against all the assessment cases are provided in **Table 5-4**. The "Do Nothing" option scored 3.61.

Table 5-4 Options (After Sift 1) with Respective Scoring

Type	Option	Previous Score	Sensitivity Test Score
Non-Highway Options	Option 39: Improvements to existing junctions	3.63	3.70
	Option 40: Signing and lining improvements	3.91	3.91
	Option 41: Signal improvements	3.69	3.76
	Option 44: New / improved crossing points	3.71	3.71
	Option 49: Improvements to existing bus services (28, 29 and X29)	3.66	3.72
	Option 50: Improvements to existing bus services (23, 23A and 24)	3.66	3.79
	Option 55: Promote cycling schemes	3.74	3.81
	Option 58: Mobility as a service scheme	3.62	3.69
	Option 68: Lorry management strategy	3.74	3.67
	Option 74: New bus route connecting Dereham, Hellesdon and Norwich Airport	3.85	3.92
New Highway Link Options	Option 2: A1067 Attlebridge to A47 west of Honingham, 2014 Purple (1A), dual	3.73	3.73
	Option 3: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (2A), single	3.66	3.66
	Option 4: A1067 Attlebridge to A47 west of Honingham, 2014 Purple (2A), dual	3.73	3.73
	Option 5: A1067 Attlebridge to A47 west of Easton; 2014 Brown, single	3.73	3.66
	Option 6: A1067 Attlebridge to A47 west of Easton, 2014 Brown, dual	3.78	3.78
	Option 7: A1067 (west of A1067 / A1270 junction) to A47 west of Easton; 2014 Red, single	3.73	3.73
	Option 8: A1067 (west of A1067 / A1270 junction) to A47 west of Easton, 2014 Red, dual	3.77	3.84
	Option 9: A1067 (east of A1067 / A1270 junction) to A47 west of Easton; 2014 Blue (1), single	3.67	3.67
	Option 10: A1067 (east of A1067 / A1270 junction) to A47 west of Easton, 2014 Blue (1), dual	3.67	3.67
	Option 11: A1067 / A1270 junction to A47 west of Easton; 2014 Blue (2), single	3.62	3.62
	Option 12: A1067 / A1270 junction to A47 west of Easton, Blue (2), dual	3.67	3.67
	Option 16: A1067 / A1270 junction to A47 / A1074 Longwater Interchange, 2014 Orange (2), dual	3.62	3.62
	Option 20: A1067 / A1270 junction to A47 / A1074 Longwater Interchange, 2014 Orange (4), dual	3.62	3.62
	Option 28: North Tuddenham via Attlebridge, 2018 Road Alignment (1), dual	3.68	3.68
	Option 30: A47 Honingham to Attlebridge (1), 2018 Road Alignment (2), dual	3.73	3.73
	Option 32: A47 Honingham to Attlebridge (2), 2018 Road Alignment (3), dual	3.67	3.67
	Option 69: Purple Line (2018 public consultation), single	3.78	3.71
	Option 70: Purple Line (2018 public consultation), dual	3.67	3.67
	Option 71: Blue Line (2018 public consultation), single	3.73	3.66
	Option 72: Blue Line (2018 public consultation), dual	3.73	3.73
	Option 79: Pink Line (2018), single	3.69	3.75
	Option 80: Pink Line (2018), dual	3.82	3.82
Existing Link Upgrade	Option 75: Black line (2018 public consultation), existing route, single	3.81	3.81
	Option 76: Black line (2018 public consultation), existing route, dual	3.92	3.86

5.3.6. The result of the sensitivity testing demonstrates that, despite the strategic case scoring altering slightly for a number of options as a result of consolidating the scheme objectives, the outcome of the sifting process remained the same. Therefore, it has been demonstrated that reducing the overall number of objectives to a more presentable, manageable and SMART-orientated objectives group did not have an impact upon the outcome of the OAR and the subsequent work presented within the OSR and SOBC.

6 DEFINE GEOGRAPHIC AREA OF IMPACT

6.1 OVERVIEW

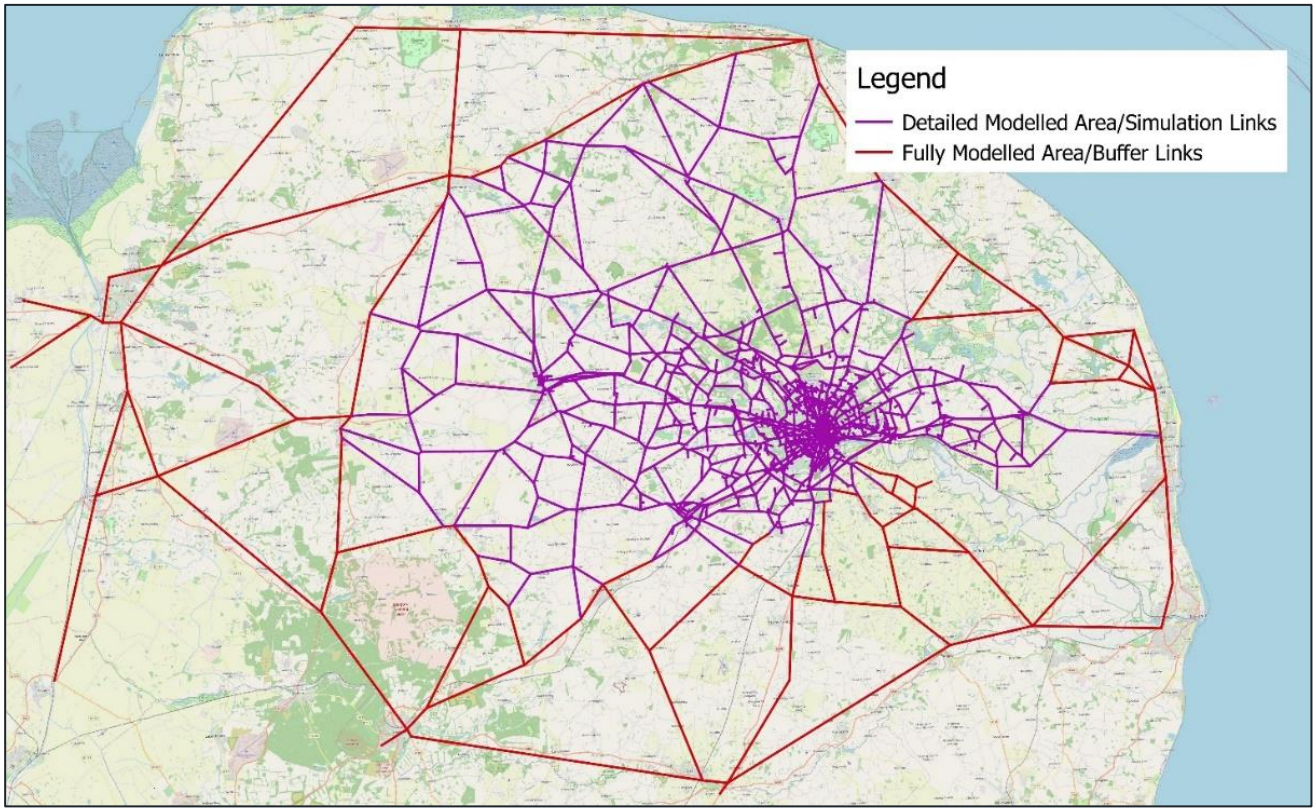
6.1.1. Chapter 5 of the OAR (Identifying Objectives & Geographic Scope) – forming Step 4b of the Transport Appraisal Process – identified the search area for potential options, which encompassed an area to the north-west of Norwich (the NWQ). The broad study area included the key radial routes of the A47, the A1074 (Dereham Road), and the A1067 (Drayton High Road / Fakenham Road) as well as the western fringe of Norwich and various settlements.

6.1.2. Since the production of the OAR, additional analysis has been undertaken to provide an understanding of the geographical scope of the current travel market and key origins and destinations in order to identify the potential geographic area of the interventions (following the sifting exercise).

6.2 AREA OF IMPACT

6.2.1. Following the sifting exercise, undertaken as a part of the OAR, a shortlist of three new highway link options, one existing link upgrade option and 10 non-highway options (to be included as part of a package within later stages of appraisal) were to be progressed for further appraisal. It was shown through this further assessment, that the selection of a highway option would better meet the project objectives, supporting both strategic and local movements. Due to the varying movements that would be accommodated by a new highway link (that will also form part of the MRN), it has been assumed that the area covered by the updated 2019 NATS Model – shown in **Figure 6-1** – represents the likely geographic area of impact of an NWL.

Figure 6-1 Modelled Area



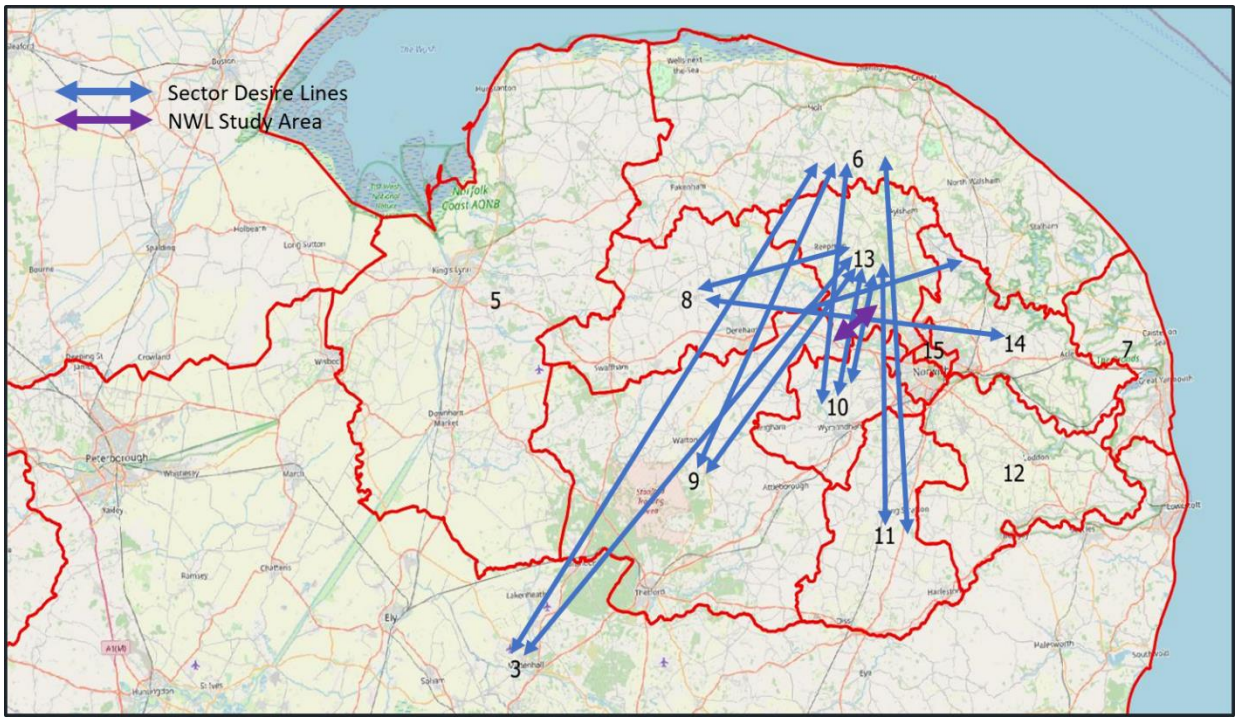
ORIGIN DESTINATION DATA

6.2.2. The model zoning system has been aggregated into 16 model sectors, which are listed in **Table 6-1** and displayed in **Figure 6-2**. Analysis has then been undertaken to assess the desire lines through each sector which would potentially be served by an NWL and the number of trips likely to reroute to a new link between the A47 and the A1067 through the NWQ.

Table 6-1 Model Sectors

Sector ID	Sector Description
1	Scotland/North
2	East/West Midlands (plus Wales)
3	South East (excluding London)
4	London
5	King's Lynn District
6	North Norfolk District
7	Great Yarmouth District
8	Breckland North (north of A47)
9	Breckland South (south of A47)
10	South Norfolk West (west of A11)
11	South Norfolk Central (between A11 and A140)
12	South Norfolk East (east of A140)
13	Broadland West (west of A140)
14	Broadland East (east of A140)
15	Norwich North (north of river)
16	Norwich South (south of river)

Figure 6-2 Local Model Sectors & Relevant Desire Lines



6.2.3. **Table 6-2** illustrates the number of trips (from 2019 observed Telefonica data) occurring between the nine key sectors that may encompass a desire line through the NWQ that could benefit from a new highway link. Those highlighted in red are the trips likely to re-route onto a NWL, with a desire line directly through the NWQ. This produces a two-way AADT demand of 51,334 trips per day travelling through the NWQ and an annual total of 15,400,207 two-way trips. This represents a conservative estimate as some other sector to sector movements may also include journeys through the NWQ.

Table 6-2 Origin-Destination AADT on Desire Lines Through the NWQ

		Sector Destination									
		3	6	8	9	10	11	13	14	15	Total
Sector Origin	3	14,260	**2,704**	2,408	22,915	3,694	13,368	**1,377**	2,960	1,279	64,967
	6	**2,666**	67,318	3,568	**1,142**	**1,403**	**257**	7,187	7,660	3,810	95,010
	8	1,947	3,364	17,697	6,647	2,924	409	**2,344**	**920**	828	37,081
	9	21,149	**1,014**	7,162	38,874	6,963	4,516	**1,172**	1,845	1,058	83,752
	10	3,373	**1,445**	2,857	6,091	15,578	3,859	**5,666**	7,107	5,372	51,348
	11	12,497	**349**	536	4,632	4,094	17,319	**790**	1,580	1,013	42,810
	13	**1,540**	7,283	**2,193**	**1,491**	**6,504**	**689**	**14,742**	11,317	5,734	51,492
	14	2,962	8,326	**929**	1,841	7,291	1,435	11,572	23,265	13,347	70,967
	15	1,516	3,748	809	1,074	5,269	1,050	6,575	12,456	6,030	38,527
	Total	61,911	95,550	38,158	84,706	53,719	42,903	51,425	69,110	38,472	535,954

Source: Telefonica, 2019

6.2.4. An NWL could support a significant number of local and strategic movements providing accessibility to a wide range of key facilities and services, whilst reducing the impact of travel through the NWQ on local highway networks, local communities and the surrounding environment. The number of trips is expected to grow into the future, with key areas across Norfolk forecasting high levels of employment and residential development. The transport system therefore requires future-proofing to support the level of future growth expected.

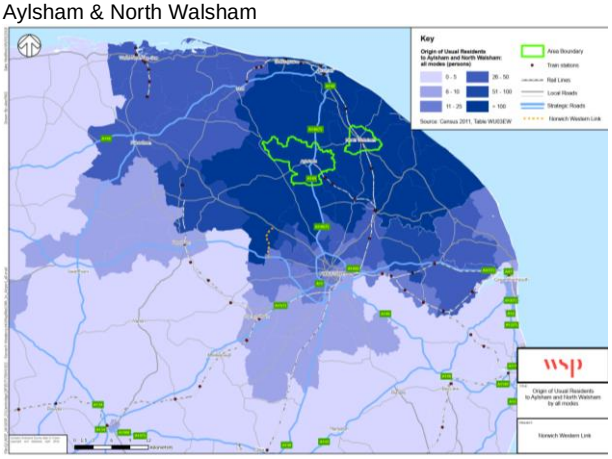
KEY DESTINATIONS

Employment

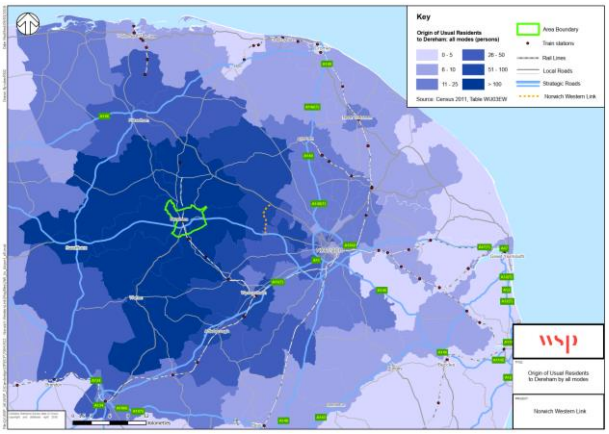
6.2.5. The OAR notes the location of key facilities, services and retail areas towards Norwich city centre, and close to the main urban populations in Norfolk. Local services are more dispersed to the west of the study area as it is more sparsely populated. The OAR, using 2011 Census journey to work data, displays the origins of usual residents to the key employment locations identified as Norwich International Airport, Lotus Factory, Norwich City Centre, NNUH, UEA and Attleborough / Wymondham. **Figure 6-3** demonstrates further key employment sites across the wider study area where there is potential for an NWL to assist with commuter journeys made by car.

Figure 6-3 Origins of Usual Residents to Various Key Employment Locations

Aylsham & North Walsham

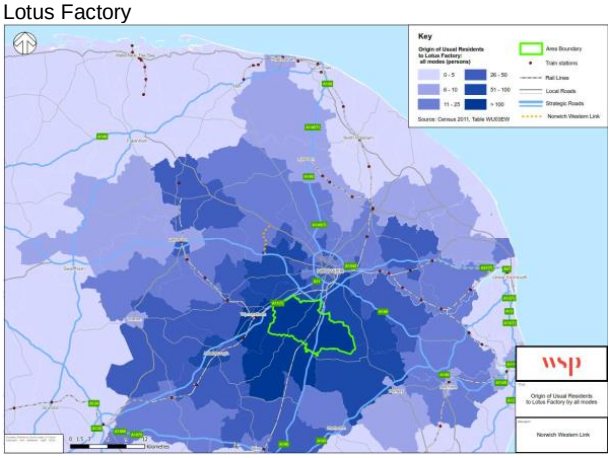


Dereham

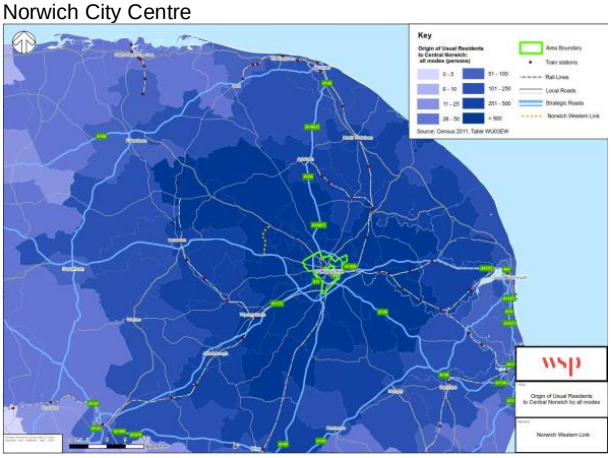


Norwich International Airport

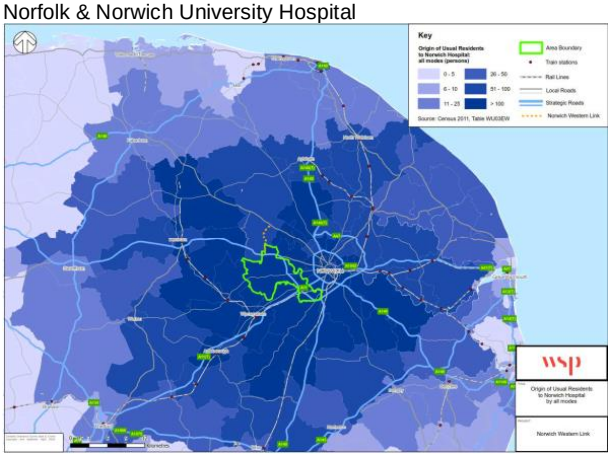
Lotus Factory



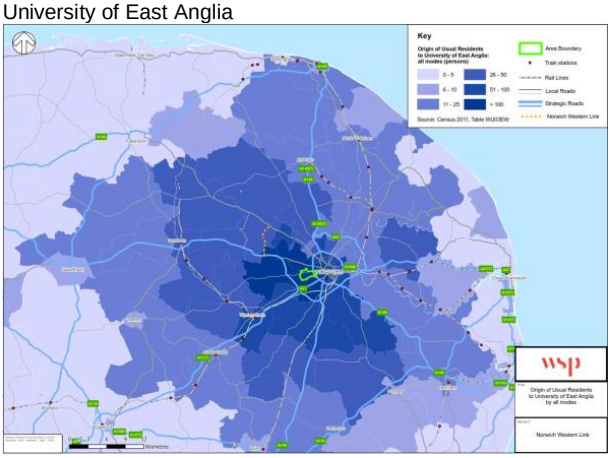
Norwich City Centre



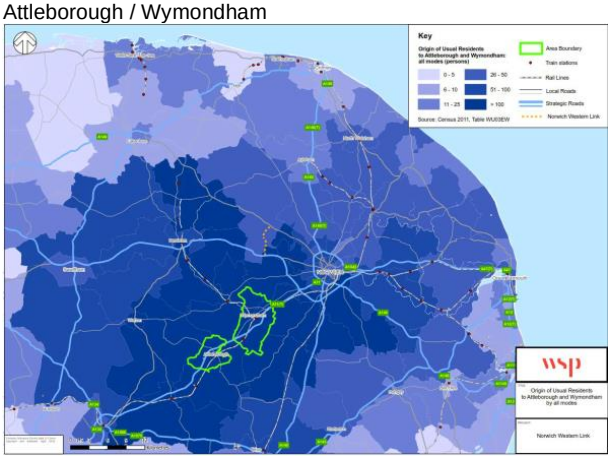
Norfolk & Norwich University Hospital



University of East Anglia



Attleborough / Wymondham



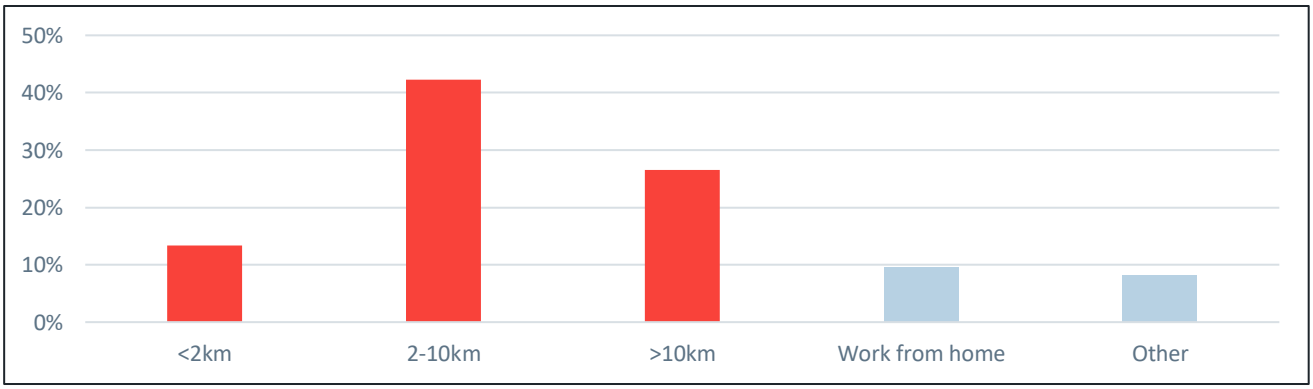
Source: Table WU03EW – Location of usual residence and place of work by method of travel to work (MSOA level), 2011 Census

6.2.6. The 2011 Census journey to work data indicates that a number of commuter journeys have potential desire lines through the NWQ, which could benefit from an NWL. In addition, key workplaces such as NNUH, UEA, Norwich Research Park, Norwich Airport and further afield location such as Aylsham and Dereham, attract a large proportion of journeys to work from the NWQ, and could benefit from a NWL, avoiding the need to use the local road network, or the outer ring road of Norwich to access the A11 heading south-west out of the city. An NWL could remove the need to travel through Norwich city centre, reducing journey times and making routes more direct.

DISTANCE TRAVELLED TO WORK

6.2.7. **Figure 6-4** shows that about 12% of journeys to work (by residents within parishes within the NWQ) are under 2km. This suggests that there are opportunities for encouraging modal shift – through the implementation of a wider package of measures supporting a new link road – to more sustainable forms of transport, although this alone is unlikely to fully address the problems identified in the study area. Over 65% of commuters travel more than 2km to work, with journeys in the longer distance band (>10km) likely to incorporate part of the MRN; therefore, there is a demand for improving strategic connectivity in the NWQ.

Figure 6-4 Average Distance Travelled to Work



Source: 2011 Census

6.2.8. The above highlights the need to define a large geographic area of impact, which has been input to the NATS Model to ensure that the scheme meets the aims of the project objectives.

Appendix A

TECHNICAL NOTE 10: NWL – REVIEW OF OBJECTIVES FOR STAGE 2

TECHNICAL NOTE 10

DATE:	16 January 2020	**CONFIDENTIALITY:**	Public
SUBJECT:	NWL – Review of Objectives		
PROJECT:	Norwich Western Link	**AUTHOR:**	SP EM LA
CHECKED:	SG	**APPROVED:**	LW/SG/PJC

REVIEW OF NWL OBJECTIVES FOR STAGE 2 OBC

This document has been prepared by WSP for Norfolk County Council (NCC), in order to record potential alterations to the Norwich Western Link (NWL) Business Case Objectives as the scheme moves forward to the Outline Business Case stage. It has been proposed in the joint NCC/ WSP lessons learned meeting that the current project objectives are reviewed to reduce the overall number of objectives to a more presentable, manageable and SMART-orientated objectives group in line with those typically required at OBC stage.

The NWL objectives were originally categorised at strategic and specific local scales, outlined below.

High Level Objectives

A range of objectives for the scheme were developed to align with high-level objectives presented in national, regional and local policy.

The NWL high-level objectives reflect issues and opportunities identified to support the principal aim of a modern and efficient transport system:

- H1 Support sustainable growth
- H2 Improve the quality of life for local communities
- H3 Support economic growth
- H4 Promote an improved environment
- H5 Improve strategic connectivity with the national road network

Specific Objectives

The specific objectives for the NWL were developed to both support the high-level objectives and respond to the local challenges identified and need for intervention and are outlined below:

- S1 Reduce congestion and delay, and improve journey time reliability, on routes through the study area
- S2 Improve network resilience and efficiency of the strategic and local transport network
- S3 Reduce the number of Heavy Goods Vehicles using minor roads
- S4 Make the transport network safer for all users (including Non-Motorised Users)
- S5 Encourage modal shift to more sustainable modes of transport
- S6 Provide traffic relief (and reduce noise & emissions) within residential areas
- S7 Enable improved accessibility to existing and new housing and employment sites
- S8 Improve emergency response times
- S9 Improve access to green space
- S10 Not affect the ecological integrity of the River Wensum SAC
- S11 Contribute to the improved health and well-being of local residents
- S12 Improve connectivity and accessibility to Norwich International Airport, Norwich Research Park and Norfolk & Norwich University Hospital
- S13 Minimise any detrimental impact on valued landscapes, the built environment and heritage assets, including through high quality design

OBC Objective Setting

The Department for Transport's *TRANSPORT ANALYSIS GUIDANCE, The Transport Appraisal Process* (May 2018) states that operational and intermediate objectives should generally be as SMART (Specific; Measurable; Accepted; Realistic; Time-defined) as possible given the nature of the evidence available at this stage of the process. Where appropriate, they should also be capable of quantification into specific targets by the end of Stage 1 Strategic Outline Business Case. High level or strategic objectives may need to be expressed in broader, more qualitative terms.

Objectives may need to evolve as further evidence is collected later in Stage 1. For example, assessment of options in Step 7 of Stage 1 – Option Development, might identify new environmental constraints which need to be reflected in the objectives.

The objectives defined here will influence the focus of the appraisal methodology specified in Step 9, and undertaken in Stage 2 – Further Appraisal.

REVIEW OF HIGH LEVEL OBJECTIVES

After consideration of the individual High Level Objectives, it was determined that *H1 Support sustainable growth* and *H3 Support economic growth* were closely related and could be condensed into a single high-level objective, *H1 Support sustainable economic growth* with the emphasis now placed on the encouragement of sustainable economic growth.

REVIEW OF SPECIFIC OBJECTIVES

A review was undertaken of specific objectives, identifying whether they were of a SMART nature or had relationships with other objectives which may allow for combinations. These are summarised below.

Objective	Type	SMART	Relationship
S1 Reduce congestion and delay, and improve journey time reliability, on routes through the study area	Speed journey time	SMART	S3 S8
S2 Improve network resilience and efficiency of the strategic and local transport network	Resilience	Hard to measure	None
S3 Reduce the number of Heavy Goods Vehicles using minor roads	Vehicular flow	SMART	S1
S4 Make the transport network safer for all users (including Non-Motorised Users)	Accidents	SMART	S1 S11
S5 Encourage modal shift to more sustainable modes of transport	Modal shift	Difficult to measure	S3
S6 Provide traffic relief (and reduce noise & emissions) within residential areas	Vehicular flow and environmental impact	SMART	S1 S3 S10 S13

Objective	Type	SMART	Relationship
S7 Enable improved accessibility to existing and new housing and employment sites	Accessibility	SMART	S9 S12
S8 Improve emergency response times	Speed Journey time	SMART	S1
S9 Improve access to green space	Accessibility	SMART	S12
S10 Not affect the ecological integrity of the River Wensum SAC	Environmental Impact	SMART through Biodiversity	S6 S13
S11 Contribute to the improved health and wellbeing of local residents	Wellbeing	NON- SMART	S4
S12 Improve connectivity and accessibility to Norwich International Airport, Norwich Research Park and Norfolk & Norwich University Hospital	Accessibility	SMART	S1 S2 S4 S5 S7 S8 S9
S13 Minimise any detrimental impact on valued landscapes, the built environment and heritage assets, including through high quality design	Environmental Impact	SMART	S6

The core themes represented by the original objectives include journey times together with speed, delay and congestion, resilience, vehicular flow related to vehicle type, accidents and wellbeing, environmental impacts and accessibility.

There is currently ongoing debate over the ability to both measure and forecast network resilience, including on possible methodologies which may be applied. Currently no definitive and agreed upon methodology exists and, therefore, *S2 Improve network resilience and efficiency of the strategic and local transport network* has been removed. While improved network resilience has been removed as an objective is has been included as a strategic outcome of *S1 Improve connectivity and journey times on key routes within the Greater Norwich area.* as it is assumed that the provision of a new link will in itself increase local resilience of the network as an outcome of the scheme.

The remaining 11 original specific objectives have been condensed into six new objectives and associated strategic outcomes to deliver a more transparent and measurable set of objectives.

Specific intermediate Objectives	Strategic Outcomes	Method of measure
S1 Improve connectivity and journey times on the key routes within the Greater Norwich area.	■ Improve journey time and Journey time reliability, on routes through the area west of Norwich ■ Reduce congestion and delay through the area west of Norwich ■ Reassignment of traffic away from existing routes reducing delay and congestion improving existing accessibility. ■ Reduce emergency response times	■ Modelled outputs of speed flow and delay ■ Survey Data, traffic count & Journey Time ■ Improved journey time between key origins and destinations

Specific intermediate Objectives	Strategic Outcomes	Method of measure
	■ Improve network resilience ■ Provide a more suitable direct route for HGV/LGV vehicles. ■ Reduce trips on local minor roads for vehicular traffic.	
	■	■
S2 Reduce the impacts of traffic on people and places within the Western area of Greater Norwich	■ Reassignment of trips onto appropriate routes ■ Reduce noise in local communities overall in the western area of Greater Norwich ■ Reduce net emissions of CO2 and other greenhouse gases in local communities overall in the area west of Norwich ■ Improve NMU connectivity ■ Improve air quality, especially in the built-up areas of West Norwich ■ Minimise traffic impacts on local residents during construction	■ Modelled Noise and Emissions outputs ■ Survey Data – traffic counts ■ Air Monitoring stations ■ Construction Environmental Management Plan
S3 Encourage and support walking, cycling and public transport use in Greater Norwich	■ Increase in number of trips taken by walking, cycling and public transport over current levels ■ Increase access to public transport, walking and cycling facilities	■ Modal Shift – VDM outputs
S4 Improve safety on and near the road network, especially for pedestrians and cyclists	■ Reduce overall network accident rate ■ Reduce the number of people killed or seriously injured on roads in the area west of Norwich ■ Minimise highway safety impacts and severance during construction	■ COBALT outputs, STATS 19 data ■ Construction Environmental Management Plan
S5 Protect the natural and built environment including the integrity of the River Wensum SAC.	■ Biodiversity net gain ■ Minimise impact on landscape ■ Minimise impact on heritage ■ Not affect the integrity of the River Wensum SAC ■ Reduce carbon emissions to contribute to the Council's net zero aspiration by 2030 ■ Minimise impact of scheme on Climate change ■ Minimise adverse environmental impacts arising from construction	■ Key environmental outputs ■ Construction Environmental Management Plan ■ High quality design
S6 Improve accessibility to key sites in Greater Norwich	■ Improve accessibility to Norwich International Airport, Norfolk & Norwich University Hospital and key employment, housing and education sites ■ Improve accessibility to green areas ■ Improve access to the cycle and Public Right of Way network	■ Modelled outputs of speed, flow and delay ■ Survey Data, journey times ■ GIS-based isochrone analysis of accessibility for key land uses.

Summary

The existing objectives for the Norwich Western Link have been considered in the context of the preferred option and stage 2 of the Outline Business Case. Initially 5 High Level Objectives and 13 Specific

Objectives existed. These have now been refined to four High Level Objectives (which tie in with national objectives) and six Specific Objectives (which consider desired outcomes at a regional and localised level) with improved network resilience included as an objective of S1 Improve connectivity and journey times on the key routes within the Greater Norwich area.

The NWL Project Board have also been consulted on proposed revisions to the scheme Objectives and their comments incorporated. The suggestion to include a specific objective about construction was considered but was concluded to be more appropriate as a strategic outcome since the reduced objectives are sufficiently comprehensive to include both the construction and operational phases of the scheme. NCC recently adopted policy on Carbon Emissions Targets for 2030 are also acknowledged in the strategic outcomes for S5 and S2. The geographic scope of some objectives has also been widened to Greater Norwich, rather than just west of Norwich to allow a more comprehensive assessment of scheme benefits.

HIGH LEVEL OBJECTIVES

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

SPECIFIC OBJECTIVES

- S1 Improve connectivity and journey times on key routes within the Greater Norwich area.
- S2 Reduce the impacts of traffic on people and places within the Western area of Greater Norwich.
- S3 Encourage and support walking, cycling and public transport use in Greater Norwich.
- S4 Improve safety on and near the road network, especially for pedestrians and cyclists.
- S5 Protect the natural and built environment, including the integrity of the River Wensum SAC.
- S6 Improve accessibility to key sites in Greater Norwich.

These revised objectives will be adopted during the ongoing Outline Business Case stage once agreed by the NWL Project Board.

Appendix B

EAST SENSITIVITY TEST

Key	New High Level Objectives	Support sustainable economic growth									
1 - Unlikely to address the objective and may result in a negative impact 2 - Slightly / partially address the objective having a modest overall impact 3 - Moderately / somewhat addresses the objective having a reasonably significant impact 4 - Significantly / largely addresses the objective 5 - Fully addresses the objective	Superseded High Level Objectives	Support economic growth	Support sustainable growth	New Average	Unchanged High Level Objectives	Improve the quality of life for local communities	Protect and enhance the natural environment	Improve strategic connectivity with the national road network	Old Average Score	New Average Score	Difference
Name / No.											
Option 1: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (1A), single carriageway		4	3	4		3	3	3	3	3	0
Option 2: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (1A), dual carriageway		5	3	4		4	3	3	4	4	0
Option 3: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (2A), single carriageway		4	3	4		3	3	4	3	4	1
Option 4: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (2A), dual carriageway		5	3	4		4	3	5	4	4	0
Option 5: A1067 Attlebridge to A47 west of Easton; 2014 Brown, single carriageway		4	5	5		3	3	4	4	4	0
Option 6: A1067 Attlebridge to A47 west of Easton; 2014 Brown, dual carriageway		5	4	5		4	3	5	4	4	0
Option 7: A1067 (west of A1067 / A1270 junction) to A47 west of Easton; 2014 Red, single carriageway		4	4	4		3	3	4	4	4	0
Option 8: A1067 (west of A1067 / A1270 junction) to A47 west of Easton; 2014 Red, dual carriageway		5	4	5		5	3	5	4	5	1
Option 9: A1067 (east of A1067 / A1270 junction) to A47 west of Easton; 2014 Blue (1), single carriageway		4	4	4		3	3	4	4	4	0
Option 10: A1067 (east of A1067 / A1270 junction) to A47 west of Easton; 2014 Blue (1), dual carriageway		5	5	5		4	3	5	4	4	0
Option 11: A1067 / A1270 junction to A47 west of Easton; 2014 Blue (2), single carriageway		4	4	4		3	3	4	4	4	0
Option 12: A1067 / A1270 junction to A47 west of Easton; 2014 Blue (2), dual carriageway		5	5	5		4	3	5	4	4	0
Option 13: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (1), single carriageway		4	3	4		3	3	4	3	4	1
Option 14: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (1), dual carriageway		5	4	5		4	3	5	4	4	0
Option 15: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (2), single carriageway		4	3	4		3	3	4	3	4	1
Option 16: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (2), dual carriageway		5	4	5		4	3	5	4	4	0
Option 17: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (3), single carriageway		4	4	4		3	3	4	4	4	0
Option 18: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (3), dual carriageway		5	5	5		4	3	5	4	4	0
Option 19: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (4), single carriageway		4	4	4		3	3	4	4	4	0
Option 20: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (4), dual carriageway		5	5	5		4	3	5	4	4	0
Option 21: A1067 (east of A1067 / A1270 junction) to A1074 east of Longwater; 2014 Orange (5), single carriageway		4	4	4		3	3	4	4	4	0
Option 22: A1067 (east of A1067 / A1270 junction) to A1074 east of Longwater; 2014 Orange (5), dual carriageway		5	5	5		4	3	5	4	4	0
Option 23: A1067 / A1270 junction to A1074 east of Longwater; 2014 Orange (6), single carriageway		4	4	4		3	3	4	4	4	0
Option 24: A1067 / A1270 junction to A1074 east of Longwater; 2014 Orange (6), dual carriageway		5	5	5		4	3	5	4	4	0
Option 25: A140 / A1270 junction to A1074 east of Longwater; 2014 Green, single carriageway		4	5	5		3	3	4	4	4	0
Option 26: A140 / A1270 junction to A1074 east of Longwater; 2014 Green, dual carriageway		5	5	5		4	3	5	4	4	0
Option 27: North Tuddenham via Attlebridge; 2018 Road Alignment (1), single carriageway		4	3	4		3	3	4	3	4	1
Option 28: North Tuddenham via Attlebridge; 2018 Road Alignment (1), dual carriageway		5	3	4		4	3	5	4	4	0
Option 29: A47 Honingham to Attlebridge (1); 2018 Road Alignment (2), single carriageway		4	3	4		3	3	4	3	4	1
Option 30: A47 Honingham to Attlebridge (1); 2018 Road Alignment (2), dual carriageway		5	3	4		4	3	5	4	4	0
Option 31: A47 to Attlebridge (2), 2018 Road Alignment (3), single carriageway		4	3	4		3	3	4	3	4	1
Option 32: A47 to Attlebridge (2), 2018 Road Alignment (3), dual carriageway		5	3	4		4	3	5	4	4	0
Option 33: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (4), single carriageway		4	4	4		3	3	4	4	4	0
Option 34: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (4), dual carriageway		5	4	5		4	3	5	4	4	0
Option 35: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (5), single carriageway		4	4	4		3	3	4	4	4	0
Option 36: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (5), dual carriageway		5	4	5		4	3	5	4	4	0
Option 37: Tolled routes / bridges		2	1	2		1	3	1	2	2	0
Option 38: Improvements to existing routes		3	4	4		3	4	1	3	3	0
Option 39: Improvements to existing junctions		4	3	4		3	4	1	3	3	0
Option 40: Signing and lining improvements		4	3	4		3	4	1	3	3	0
Option 41: Signal improvements		3	2	3		3	3	1	2	3	1
Option 42: Speed limit changes		2	1	2		3	4	1	2	3	1
Option 43: Directional traffic management schemes		2	1	2		3	4	1	2	3	1
Option 44: New / improved crossing points		2	3	3		4	4	1	3	3	0
Option 45: New wider footpath		2	2	2		3	4	1	2	3	1
Option 46: New cycling links to key facilities and services		2	2	2		3	3	1	2	2	0
Option 47: Cycle parking facilities		3	1	2		3	4	1	2	3	1
Option 48: New orbital bus route		3	4	4		3	5	1	3	3	0
Option 49: Improvements to existing bus services (28, 29 and X29)		3	4	4		4	4	1	3	3	0
Option 50: Improvements to existing bus services (23, 23A, 24 and 24A)		3	4	4		4	5	1	3	4	1
Option 51: Improved public transport information: real-time app		3	4	4		4	5	1	3	4	1
Option 52: Improved public transport information: real-time information at stops		3	4	4		4	4	1	3	3	0
Option 53: Update the digital road map		4	4	4		4	5	1	4	4	0
Option 54: Develop local cycling and walking infrastructure plan		3	2	3		4	4	1	3	3	0
Option 55: Promote cycling schemes		3	2	3		4	4	1	3	3	0
Option 56: Develop green lung schemes		1	1	1		4	4	1	2	3	1
Option 57: Bike-on-bus schemes		3	3	3		4	4	1	3	3	0
Option 58: Mobility as a service scheme		4	3	4		4	4	1	3	3	0
Option 59: Light rail		4	3	4		4	3	1	3	3	0
Option 60: Very light rail		4	3	4		4	5	1	3	4	1
Option 61: Offline busway		4	3	4		4	4	1	3	3	0
Option 62: New orbital rail line		4	4	4		4	4	1	3	3	0
Option 63: Inner ring road widening		3	3	3		4	3	1	3	3	0
Option 64: Provision of sprint services: A47 / A1074		3	3	3		4	4	1	3	3	0
Option 65: Provision of sprint services: A1067 corridor		3	3	3		4	4	1	3	3	0
Option 66: Provision of a sustainable urban distribution centre		5	4	5		3	4	1	3	3	0
Option 67: Provision of improved freight route intelligence		5	4	5		3	4	1	3	3	0
Option 68: Lorry management strategy		5	4	5		3	3	1	3	3	0
Option 69: Purple line (2018 public consultation), single carriageway		4	4	4		3	3	4	4	4	0
Option 70: Purple line (2018 public consultation), dual carriageway		5	4	5		4	3	5	4	4	0
Option 71: Blue line (2018 public consultation), single carriageway		4	4	4		3	3	4	4	4	0
Option 72: Blue line (2018 public consultation), dual carriageway		5	4	5		4	3	5	4	4	0
Option 73: Relay Fakenham to Norwich rail line		4	2	3		4	4	1	3	3	0
Option 74: New bus route connecting Dereham, Hellesdon and Norwich Airport		4	4	4		4	3	1	3	3	0
Option 75: Black line (2018 public consultation), existing route, single carriageway		4	3	4		4	3	2	3	3	0
Option 76: Black line (2018 public consultation), existing route, dual carriageway		4	3	4		4	3	2	3	3	0
Option 77: Outer ring road widening		4	4	4		4	2	2	3	3	0
Option 78: Do nothing		1	2	2		1	3	1	2	2	0
Option 79: Pink line (2018), single carriageway		4	3	4		3	3	4	3	4	1
Option 80: Pink line (2018), dual carriageway		4	3	4		4	3	5	4	4	0
Option 81: Yellow line (2018), single carriageway		4	4	4		3	3	4	4	4	0
Option 82: Yellow line (2018), dual carriageway		5	4	5		4	3	5	4	4	0

Key	New Specific Objectives	Objectives: Improve connectivity and journey times on key routes within the Greater Norwich area				Reduce the impacts of traffic on people and places within the Western area of Greater Norwich				Encourage and support walking, cycling and public transport use in Greater Norwich		Improve safety on and near the road network, especially for pedestrians and cyclists		Protect the natural and built environment, including the integrity of the River Wensum SAC		Improve accessibility to key sites in Greater Norwich				Old Average Score	New Average Score	Difference
1 - Unlikely to address the objective and may result in a negative impact																						
2 - Slightly / partially address the objective having a modest overall impact	Superseded Specific Objectives	Reduce congestion and delay, and improve journey time reliability on routes through the study area	Improve network resilience and efficiency of the strategic and local transport network	Improve emergency response times	New Average	Reduce the number of Heavy Goods Vehicles using minor roads	Provide traffic relief (and reduce noise & emissions) within residential areas	Contribute to the improved health and well-being of local residents	New Average	Encourage modal shift to more sustainable modes of transport	New Average	Make the transport network safer for all users (including Non-Motorised Users)	New Average	Not affect the ecological integrity of the River Wensum Valley Special Area of Conservation	New Average	Enable improved accessibility to existing and new housing and employment sites	Improve access to green space	Improve connectivity and accessibility to Norwich International Airport, Norwich Research Park and NNUH	New Average			
3 - Moderately / somewhat addresses the objective having a reasonably significant impact																						
4 - Significantly / largely addresses the objective																						
5 - Fully addresses the objective																						
Name / No.																						
Option 1: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (1A), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	3	4	4	4	4	4	0
Option 2: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (1A), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	4	5	4	4	4	4	0
Option 3: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (2A), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	4	4	2	3	4	3	-1
Option 4: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (2A), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	2	4	4	4	0
Option 5: A1067 Attlebridge to A47 west of Easton; 2014 Brown, single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	4	4	2	3	4	3	-1
Option 6: A1067 Attlebridge to A47 west of Easton; 2014 Brown, dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	4	5	2	4	4	4	0
Option 7: A1067 (west of A1067 / A1270 junction) to A47 west of Easton; 2014 Red, single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	4	4	4	4	0
Option 8: A1067 (west of A1067 / A1270 junction) to A47 west of Easton; 2014 Red, dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	4	4	5	4	0
Option 9: A1067 (east of A1067 / A1270 junction) to A47 west of Easton; 2014 Blue (1), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	3	4	4	4	0
Option 10: A1067 (east of A1067 / A1270 junction) to A47 west of Easton; 2014 Blue (1), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	3	4	4	4	0
Option 11: A1067 / A1270 junction to A47 west of Easton; 2014 Blue (2), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	4	4	4	4	0
Option 12: A1067 / A1270 junction to A47 west of Easton; 2014 Blue (2), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	4	5	4	4	0
Option 13: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (1), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	3	4	4	4	0
Option 14: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (1), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	3	4	4	4	0
Option 15: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (2), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	4	4	4	4	0
Option 16: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (2), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	4	5	4	4	0
Option 17: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (3), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	3	4	4	4	0
Option 18: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (3), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	3	4	4	4	0
Option 19: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (4), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	4	4	4	4	0
Option 20: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (4), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	4	5	4	4	0
Option 21: A1067 (east of A1067 / A1270 junction) to A1074 east of Longwater; 2014 Orange (5), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	3	4	4	4	0
Option 22: A1067 (east of A1067 / A1270 junction) to A1074 east of Longwater; 2014 Orange (5), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	3	4	4	4	0
Option 23: A1067 / A1270 junction to A1074 east of Longwater; 2014 Orange (6), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	4	4	4	4	0
Option 24: A1067 / A1270 junction to A1074 east of Longwater; 2014 Orange (6), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	4	5	4	4	0
Option 25: A140 / A1270 junction to A1074 east of Longwater; 2014 Green, single carriageway		3	3	4	3	2	5	3	3	2	2	4	4	4	4	5	4	4	4	4	3	-1
Option 26: A140 / A1270 junction to A1074 east of Longwater; 2014 Green, dual carriageway		4	5	5	5	3	5	3	4	2	2	4	4	4	4	5	5	4	5	4	4	0
Option 27: North Tuddenham via Attlebridge; 2018 Road Alignment (1), single carriageway		4	4	4	4	4	3	3	3	2	2	4	4	3	3	3	4	1	3	3	3	0
Option 28: North Tuddenham via Attlebridge; 2018 Road Alignment (1), dual carriageway		5	5	5	5	5	4	3	4	2	2	4	4	3	3	3	5	1	3	4	4	0
Option 29: A47 Honingham to Attlebridge (1); 2018 Road Alignment (2), single carriageway		4	4	4	4	4	3	3	4	2	2	4	4	3	3	4	4	2	3	4	3	-1
Option 30: A47 Honingham to Attlebridge (1); 2018 Road Alignment (2), dual carriageway		5	5	5	5	5	4	3	4	2	2	4	4	3	3	4	5	2	4	4	4	0
Option 31: A47 to Attlebridge (2), 2018 Road Alignment (3), single carriageway		4	4	4	4	4	4	3	4	2	2	4	4	3	3	4	4	2	3	4	3	-1
Option 32: A47 to Attlebridge (2), 2018 Road Alignment (3), dual carriageway		5	5	5	5	5	4	3	4	2	2	4	4	3	3	4	5	2	4	4	4	0
Option 33: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (4), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	4	4	4	4	0
Option 34: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (4), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	4	5	4	4	0
Option 35: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (5), single carriageway		4	4	4	4	4	5	3	4	2	2	4	4	3	3	5	4	4	4	4	4	0
Option 36: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (5), dual carriageway		5	5	5	5	5	5	3	4	2	2	4	4	3	3	5	5	4	5	4	4	0
Option 37: Tolled routes / bridges		1	1	1	1	5	1	4	3	1	1	3	3	5	5	1	1	1	1	2	2	0
Option 38: Improvements to existing routes		3	3	3	3	5	1	3	3	2	2	3	3	5	5	2	3	3	3	3	3	0
Option 39: Improvements to existing junctions		3	3	4	3	5	3	3	4	2	2	4	4	5	5	3	3	3	3	3	4	1
Option 40: Signing and lining improvements		3	3	3	3	5	3	3	4	1	1	4	4	5	5	1	3	3	2	3	3	0
Option 41: Signal improvements		4	4	4	4	1	2	1	1	1	1	4	4	3	3	1	1	1	1	2	2	0
Option 42: Speed limit changes		1	1	1	1	5	4	5	5	4	4	4	4	3	3	1	1	1	1	3	3	0
Option 43: Directional traffic management schemes		1	1	1	1	5	4	5	5	3	3	4	4	3	3	1	1	1	1	3	3	0
Option 44: New / improved crossing points		1	1	1	1	1	4	5	3	4	4	4	4	3	3	2	3	2	2	3	3	0
Option 45: New wider footpath		1	1	1	1	1	3	4	3	4	4	4	4	3	3	2	3	2	2	2	3	1
Option 46: New cycling links to key facilities and services		2	1	1	1	1	3	5	3	5	5	4	4	3	3	2	3	2	2	3	3	0
Option 47: Cycle parking facilities		1	1	1	1	1	3	4	3	5	5	1	1	5	5	2	3	2	2	2	3	1
Option 48: New orbital bus route		3	1	1	2	1	4	4	3	5	5	3	3	5	5	2	3	5	3	3	4	1
Option 49: Improvements to existing bus services (28, 29 and X29)		3	2	1	2	1	4	4	3	5	5	3	3	5	5	2	3	3	3	3	4	1
Option 50: Improvements to existing bus services (23, 23A, 24 and 24A)		3	2	1	2	1	4	4	3	5	5	3	3	5	5	2	3	3	3	3	4	1
Option 51: Improved public transport information: real-time app		3	2	1	2	1	4	4	3	4	4	3	3	4	4	2	3	3	3	3	3	0
Option 52: Improved public transport information: real-time information at stops		3	2	1	2	1	4	4	3	4	4	3	3	3	3	2	3	3	3	3	3	0
Option 53: Update the digital road map		4	4	3	4	4	4	3	4	1	1	4	4	3	3	4	3	3	3	3	3	0
Option 54: Develop local cycling and walking infrastructure plan		1	2	1	1	1	2	5	3	5	5	2	2	5	5	1	3	1	2	2	3	1
Option 55: Promote cycling schemes		1	2	1	1	1	2	5	3	5	5	2	2	5	5	1	3	1	2	2	3	1
Option 56: Develop green lung schemes		1	1	1	1	1	2	5	3	3	3	2	2	5	5	3	5	1	3	3	3	0
Option 57: Bike-on-bus schemes		2	2	1	2	1	2	5	3	5	5	2	2	5	5	3	3	2	3	3	3	0
Option 58: Mobility as a service scheme		2	2	1	2	1	2	3	2	5	5	4	4	5	5	4	3	2	3	3	4	1
Option 59: Light rail		3	2	1	2	1	3	3	2	5	5	2	2	2	2	3	3	2	3	3	3	0
Option 60: Very light rail		3	2	1	2	1	3	3	2	5	5	2	2	2	2	3	3	2	3	3	3	0
Option 61: Offline busway		3	2	1	2	1	3	3	2	5	5	4	4	3	3	3	3	2	3	3	3	0
Option 62: New orbital rail line		3	2	1	2	1	3	3	2	5	5	2	2	3	3	3	3	4	3	3	3	0
Option 63: Inner ring road widening		3	2	4	3	2	2	1	2	1	1	1	1	5	5	2	3	3	3	2	3	1
Option 64: Provision of sprint services: A47 / A1074		4	3	1	3	1	3	3	2	5	5	3	3	5	5	3	3	2	3	3	4	1
Option 65: Provision of sprint services: A1067 corridor		4	3	1	3	1	3	3	2	5	5	3	3	5	5	3	3	2	3	3	4	1
Option 66: Provision of a sustainable urban distribution centre		3	3	3	3	5	5	5	5	1	1	4	4	4	4	1	2	1	1	3	3	0
Option 67: Provision of improved freight route intelligence		3	3	3	3	5	5	4	5	1	1	4	4	4	4	1	2	1	1	3	3	0
Option 68: Lorry management strategy		3	4	3	3	5	5	4	5	1	1	4	4	4	4	1	2	1	1	3	3	0
Option 69: Purple line (2018 public consultation), single carriageway		4	4	4	4	5	4	4	4	2	2	3	3	3	3	3	4	4	4	4	3	-1
Option 70: Purple line (2018 public consultation), dual carriageway		5	5	5	5	5	4	4	4	2	2	3	3	3	3	3	5	4	4	4	4	0
Option 71: Blue line (2018 public consultation), single carriageway		4	4	4	4	5	4	4	4	2	2	3	3	3	3	3	4	4	4	4	3	-1
Option 72: Blue line (2018 public consultation), dual carriageway		5	5	5	5	5	4	4	4	2	2	3	3	3	3	3	5	4	4	4	4	0
Option 73: Relay Fakenham to Norwich rail line		3	3	1	2	3	4	3	3	5	5	3	3	4	4	2	3	1	2	3	3	0
Option 74: New bus route connecting Dereham, Hellesdon and Norwich Airport		3	3	1	2	3	3	3	3	5	5	3	3	5	5	4	3	5	4	3	4	1
Option 75: Black line (2018 public consultation), existing route, single carriageway		3	3	2	3	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	0
Option 76: Black line (2018 public consultation), existing route, dual carriageway		4	4	2	3	4	4	4	4	3	3	3	3	3	3	3	4	4	4	4	3	-1
Option 77: Outer ring road widening		3	4	4	4	4	4	3	4	1	1	2	2	5	5	1	2	3	2	3	3	0
Option 78: Do nothing		1	1	1	1	1	1	2	1	1	1	1	1	3	3	1	1	2	1	1	1	0
Option 79: Pink line (2018), single carriageway		4	4	3	4	4	4	3	4	2	2	4	4	3	3	3	4	3	3	3	3	0
Option 80: Pink line (2018), dual carriageway		5	5	4	5	5	4	3	4	2	2	4	4	4	4	4	5	3	4	4	4	0
Option 81: Yellow line (2018), single carriageway		4	4	3	4	4	4	3	4	2	2	4	4	3	3	3	4	4	4	4	4	0
Option 82: Yellow line (2018), dual carriageway		5	5	4	5	5	4	3	4	2	2	4	4	3	3	4	5	4	4	4	4	0

Option	Description	Strategic			Economic			Managerial			Financial			Commerical			Environmental			Total		
		Old	New	Difference	Old	New	Difference	Old	New	Difference	Old	New	Difference	Old	New	Difference	Old	New	Difference	Old	New	Difference
Opt 1	Option 1: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (1A), single carriageway	0.73	0.73	0.00	0.65	0.65	0.00	0.80	0.80	0.00	0.53	0.53	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.60	3.60	0.00
Opt 2	Option 2: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (1A), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.73	3.73	0.00
Opt 3	Option 3: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (2A), single carriageway	0.80	0.80	0.00	0.65	0.65	0.00	0.80	0.80	0.00	0.53	0.53	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.66	3.66	0.00
Opt 4	Option 4: A1067 Attlebridge to A47 west of Honingham; 2014 Purple (2A), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.73	3.73	0.00
Opt 5	Option 5: A1067 Attlebridge to A47 west of Easton; 2014 Brown, single carriageway	0.87	0.80	-0.07	0.65	0.65	0.00	0.80	0.80	0.00	0.53	0.53	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.73	3.66	-0.07
Opt 6	Option 6: A1067 Attlebridge to A47 west of Easton; 2014 Brown, dual carriageway	0.87	0.87	0.00	0.75	0.75	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.78	3.78	0.00
Opt 7	Option 7: A1067 (west of A1067 / A1270 junction) to A47 west of Easton; 2014 Red, single carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.73	3.73	0.00
Opt 8	Option 8: A1067 (west of A1067 / A1270 junction) to A47 west of Easton; 2014 Red, dual carriageway	0.87	0.93	0.07	0.80	0.80	0.00	0.80	0.80	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.77	3.84	0.07
Opt 9	Option 9: A1067 (east of A1067 / A1270 junction) to A47 west of Easton; 2014 Blue (1), single carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.67	3.67	0.00
Opt 10	Option 10: A1067 (east of A1067 / A1270 junction) to A47 west of Easton; 2014 Blue (1), dual carriageway	0.87	0.87	0.00	0.80	0.80	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.67	3.67	0.00
Opt 11	Option 11: A1067 / A1270 junction to A47 west of Easton; 2014 Blue (2), single carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.62	3.62	0.00
Opt 12	Option 12: A1067 / A1270 junction to A47 west of Easton; 2014 Blue (2), dual carriageway	0.87	0.87	0.00	0.80	0.80	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.67	3.67	0.00
Opt 13	Option 13: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (1), single carriageway	0.80	0.87	0.07	0.65	0.65	0.00	0.80	0.80	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.50	3.57	0.07
Opt 14	Option 14: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (1), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.57	3.57	0.00
Opt 15	Option 15: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (2), single carriageway	0.80	0.87	0.07	0.65	0.65	0.00	0.80	0.80	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.50	3.57	0.07
Opt 16	Option 16: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (2), dual carriageway	0.87	0.87	0.00	0.75	0.75	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.62	3.62	0.00
Opt 17	Option 17: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (3), single carriageway	0.87	0.87	0.00	0.65	0.65	0.00	0.80	0.80	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.57	3.57	0.00
Opt 18	Option 18: A1067 (east of A1067 / A1270 junction) to A47 / A1074 Longwater interchange; 2014 Orange (3), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.57	3.57	0.00
Opt 19	Option 19: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (4), single carriageway	0.87	0.87	0.00	0.65	0.65	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.52	3.52	0.00
Opt 20	Option 20: A1067 / A1270 junction to A47 / A1074 Longwater interchange; 2014 Orange (4), dual carriageway	0.87	0.87	0.00	0.75	0.75	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.62	3.62	0.00
Opt 21	Option 21: A1067 (east of A1067 / A1270 junction) to A1074 east of Longwater; 2014 Orange (5), single carriageway	0.87	0.87	0.00	0.65	0.65	0.00	0.80	0.80	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.57	3.57	0.00
Opt 22	Option 22: A1067 (east of A1067 / A1270 junction) to A1074 east of Longwater; 2014 Orange (5), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.57	3.57	0.00
Opt 23	Option 23: A1067 / A1270 junction to A1074 east of Longwater; 2014 Orange (6), single carriageway	0.87	0.87	0.00	0.65	0.65	0.00	0.80	0.80	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.57	3.57	0.00
Opt 24	Option 24: A1067 / A1270 junction to A1074 east of Longwater; 2014 Orange (6), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.32	0.32	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.57	3.57	0.00
Opt 25	Option 25: A140 / A1270 junction to A1074 east of Longwater; 2014 Green, single carriageway	0.87	0.80	-0.07	0.60	0.60	0.00	0.67	0.67	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.44	3.37	-0.07
Opt 26	Option 26: A140 / A1270 junction to A1074 east of Longwater; 2014 Green, dual carriageway	0.87	0.87	0.00	0.65	0.65	0.00	0.67	0.67	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.44	3.44	0.00
Opt 27	Option 27: North Tuddenham via Attlebridge; 2018 Road Alignment (1), single carriageway	0.73	0.80	0.07	0.65	0.65	0.00	0.67	0.67	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.43	0.43	0.00	3.50	3.57	0.07
Opt 28	Option 28: North Tuddenham via Attlebridge; 2018 Road Alignment (1), dual carriageway	0.87	0.87	0.00	0.75	0.75	0.00	0.67	0.67	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.43	0.43	0.00	3.68	3.68	0.00
Opt 29	Option 29: A47 Honingham to Attlebridge (1); 2018 Road Alignment (2), single carriageway	0.80	0.80	0.00	0.65	0.65	0.00	0.73	0.73	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.54	3.54	0.00
Opt 30	Option 30: A47 Honingham to Attlebridge (1); 2018 Road Alignment (2), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.73	3.73	0.00
Opt 31	Option 31: A47 to Attlebridge (2), 2018 Road Alignment (3), single carriageway	0.80	0.80	0.00	0.65	0.65	0.00	0.73	0.73	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.54	3.54	0.00
Opt 32	Option 32: A47 to Attlebridge (2), 2018 Road Alignment (3), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.67	3.67	0.00
Opt 33	Option 33: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (4), single carriageway	0.87	0.87	0.00	0.65	0.65	0.00	0.67	0.67	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.49	3.49	0.00
Opt 34	Option 34: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (4), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.67	0.67	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.49	3.49	0.00
Opt 35	Option 35: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (5), single carriageway	0.87	0.87	0.00	0.65	0.65	0.00	0.67	0.67	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.49	3.49	0.00
Opt 36	Option 36: A47 Easton to A1067 / A1270 junction; 2018 Road Alignment (5), dual carriageway	0.87	0.87	0.00	0.75	0.75	0.00	0.67	0.67	0.00	0.37	0.37	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.54	3.54	0.00
Opt 37	Option 37: Tolled routes / bridges	0.40	0.40	0.00	0.30	0.30	0.00	0.67	0.67	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.43	0.43	0.00	3.08	3.08	0.00
Opt 38	Option 38: Improvements to existing routes	0.67	0.67	0.00	0.65	0.65	0.00	0.67	0.67	0.00	0.58	0.58	0.00	0.60	0.60	0.00	0.43	0.43	0.00	3.59	3.59	0.00
Opt 39	Option 39: Improvements to existing junctions	0.67	0.73	0.07	0.65	0.65	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.43	0.43	0.00	3.63	3.70	0.07
Opt 40	Option 40: Signing and lining improvements	0.67	0.67	0.00	0.65	0.65	0.00	0.73	0.73	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.91	3.91	0.00
Opt 41	Option 41: Signal improvements	0.47	0.53	0.07	0.65	0.65	0.00	0.67	0.67	0.00	0.74	0.74	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.69	3.76	0.07
Opt 42	Option 42: Speed limit changes	0.40	0.47	0.07	0.50	0.50	0.00	0.47	0.47	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.22	3.29	0.07
Opt 43	Option 43: Directional traffic management schemes	0.40	0.47	0.07	0.45	0.45	0.00	0.40	0.40	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.11	3.17	0.07
Opt 44	Option 44: New / improved crossing points	0.60	0.60	0.00	0.65	0.65	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.71	3.71	0.00
Opt 45	Option 45: New wider footpath	0.47	0.60	0.13	0.60	0.60	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.32	3.46	0.13
Opt 46	Option 46: New cycling links to key facilities and services	0.53	0.53	0.00	0.55	0.55	0.00	0.73	0.73	0.00	0.68	0.68	0.00	0.40	0.40	0.00	0.43	0.43	0.00	3.33	3.33	0.00
Opt 47	Option 47: Cycle parking facilities	0.47	0.60	0.13	0.50	0.50	0.00	0.53	0.53	0.00	0.79	0.79	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.26	3.39	0.13
Opt 48	Option 48: New orbital bus route	0.60	0.67	0.07	0.55	0.55	0.00	0.53	0.53	0.00	0.63	0.63	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.49	3.55	0.07
Opt 49	Option 49: Improvements to existing bus services (28, 29 and X29)	0.60	0.67	0.07	0.60	0.60	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.66	3.72	0.07
Opt 50	Option 50: Improvements to existing bus services (23, 23A, 24 and 24A)	0.60	0.73	0.13	0.60	0.60	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.66	3.79	0.13
Opt 51	Option 51: Improved public transport information: real-time app	0.60	0.67	0.07	0.60	0.60	0.00	0.67	0.67	0.00	0.68	0.68	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.52	3.59	0.07
Opt 52	Option 52: Improved public transport information: real-time information at stops	0.60	0.60	0.00	0.60	0.60	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.46	3.46	0.00
Opt 53	Option 53: Update the digital road map	0.67	0.67	0.00	0.60	0.60	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.52	3.52	0.00
Opt 54	Option 54: Develop local cycling and walking infrastructure plan	0.53	0.60	0.07	0.55	0.55	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.54	3.61	0.07
Opt 55	Option 55: Promote cycling schemes	0.53	0.60	0.07	0.55	0.55	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.80	0.80	0.00	0.57	0.57	0.00	3.74	3.81	0.07
Opt 56	Option 56: Develop green lung schemes	0.40	0.47	0.07	0.40	0.40	0.00	0.67	0.67	0.00	0.74	0.74	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.37	3.44	0.07
Opt 57	Option 57: Bike-on-bus schemes	0.47	0.53	0.07	0.60	0.60	0.00	0.53	0.53	0.00	0.63	0.63	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.20	3.27	0.07
Opt 58	Option 58: Mobility as a service scheme	0.60	0.67	0.07	0.70	0.70	0.00	0.47	0.47	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.62	3.69	0.07
Opt 59	Option 59: Light rail	0.60	0.60	0.00	0.55	0.55	0.00	0.47	0.47	0.00	0.16	0.16	0.00	0.20	0.20	0.00	0.43	0.43	0.00	2.40	2.40	0.00
Opt 60	Option 60: Very light rail	0.60	0.67	0.07	0.60	0.60	0.00	0.40	0.40	0.00	0.42	0.42	0.00	0.40	0.40	0.00	0.43	0.43	0.00	2.85	2.92	0.07
Opt 61	Option 61: Offline busway	0.60	0.60	0.00	0.60	0.60	0.00	0.53	0.53	0.00	0.32	0.32	0.00	0.40	0.40	0.00	0.43	0.43	0.00	2.88	2.88	0.00
Opt 62	Option 62: New orbital rail line	0.60	0.60	0.00	0.55	0.55	0.00	0.47	0.47	0.00	0.21	0.21	0.00	0.40	0.40	0.00	0.43	0.43	0.00	2.66	2.66	0.00
Opt 63	Option 63: Inner ring road widening	0.53	0.60	0.07	0.45	0.45	0.00	0.53	0.53	0.00	0.37	0.37	0.00	0.40	0.40	0.00	0.29	0.29	0.00	2.57	2.64	0.07
Opt 64	Option 64: Provision of sprint services: A47 / A1074	0.60	0.67	0.07	0.55	0.55	0.00	0.47	0.47	0.00	0.47	0.47	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.06	3.13	0.07
Opt 65	Option 65: Provision of sprint services: A1067 corridor	0.60	0.67	0.07	0.55	0.55	0.00	0.47	0.47	0.00	0.47	0.47	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.06	3.13	0.07
Opt 66	Option 66: Provision of a sustainable urban distribution centre	0.67	0.60	-0.07	0.70	0.70	0.00	0.40	0.40	0.00	0.53	0.53	0.00	0.40	0.40	0.00	0.43	0.43	0.00	3.12	3.05	-0.07
Opt 67	Option 67: Provision of improved freight route intelligence	0.67	0.60	-0.07	0.70	0.70	0.00	0.53	0.53	0.00	0.74	0.74	0.00	0.40	0.40	0.00	0.57	0.57	0.00	3.61	3.54	-0.07
Opt 68	Option 68: Lorry management strategy	0.67	0.60	-0.07	0.70	0.70	0.00	0.47	0.47	0.00	0.74	0.74	0.00	0.60	0.60	0.00	0.57	0.57	0.00	3.74	3.67	-0.07
Opt 69	Option 69: Purple line (2018 public consultation), single carriageway	0.87	0.80	-0.07	0.70	0.70	0.00	0.80	0.80	0.00	0.53	0.53	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.78	3.71	-0.07
Opt 70	Option 70: Purple line (2018 public consultation), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.67	3.67	0.00
Opt 71	Option 71: Blue line (2018 public consultation), single carriageway	0.87	0.80	-0.07	0.70	0.70	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.73	3.66	-0.07
Opt 72	Option 72: Blue line (2018 public consultation), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.73	3.73	0.00
Opt 73	Option 73: Relay Fakenham to Norwich rail line	0.60	0.60	0.00	0.50	0.50	0.00	0.47	0.47	0.00	0.26	0.26	0.00	0.20	0.20	0.00	0.43	0.43	0.00	2.46	2.46	0.00
Opt 74	Option 74: New bus route connecting Dereham, Hellesdon and Norwich Airport	0.60	0.67	0.07	0.65	0.65	0.00	0.60	0.60	0.00	0.68	0.68	0.00	0.60	0.60	0.00	0.71	0.71	0.00	3.85	3.92	0.07
Opt 75	Option 75: Black line (2018 public consultation), existing route, single carriageway	0.67	0.67	0.00	0.60	0.60	0.00	0.73	0.73	0.00	0.58	0.58	0.00	0.80	0.80	0.00	0.43	0.43	0.00	3.81	3.81	0.00
Opt 76	Option 76: Black line (2018 public consultation), existing route, dual carriageway	0.73	0.67	-0.07	0.65	0.65	0.00	0.73	0.73	0.00	0.58	0.58	0.00	0.80	0.80	0.00	0.43	0.43	0.00	3.92	3.86	-0.07
Opt 77	Option 77: Outer ring road widening	0.67	0.67	0.00	0.55	0.55	0.00	0.67	0.67	0.00	0.47	0.47	0.00	0.40	0.40	0.00	0.43	0.43	0.00	3.19	3.19	0.00
Opt 78	Option 78: Do nothing	0.27	0.27	0.00	0.40	0.40	0.00	0.53	0.53	0.00	0.84	0.84	0.00	1.00	1.00	0.00	0.57	0.57	0.00	3.61	3.61	0.00
Opt 79	Option 79: Pink line (2018), single carriageway	0.73	0.80	0.07	0.65	0.65	0.00	0.80	0.80	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.43	0.43	0.00	3.69	3.75	0.07
Opt 80	Option 80: Pink line (2018), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.80	0.80	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.43	0.43	0.00	3.82	3.82	0.00
Opt 81	Option 81: Yellow line (2018), single carriageway	0.80	0.80	0.00	0.65	0.65	0.00	0.67	0.67	0.00	0.47	0.47	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.48	3.48	0.00
Opt 82	Option 82: Yellow line (2018), dual carriageway	0.87	0.87	0.00	0.70	0.70	0.00	0.67	0.67	0.00	0.42	0.42	0.00	0.60	0.60	0.00	0.29	0.29	0.00	3.54	3.54	0.00

	Not taken forward for further analysis
	Taken forward for further analysis

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