Road Investment Strategy
East Area 6

A47 Blofield to North Burlingham
Non-Technical Summary Report

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Document Control

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Approvals

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Tony Davis		Senior Responsible Owner	**15/03/17**	**2.0**

Contents

Introduction

During 2014 a feasibility study was undertaken to look at the A47 corridor. The study identified where further work was required and this informed the Government's Road Investment Strategy (RIS) which was issued in December 2014.

A total of twenty-two locations were shown to demonstrate traffic and safety problems either now or in the immediate future. Sifting of these options was completed, and six specific locations were to become the main focus along the A47.

The six improvement schemes were identified as:

- A47 Wansford to Sutton Dualling
- A47 Guyhirn Junction Improvements
- A47 North Tuddenham to Easton Dualling
- A47 Thickthorn Interchange improvements
- **A47 Blofield to North Burlingham Dualling**
- A12 Junction Improvements (now called Great Yarmouth Junctions)

The DfT's *A47 and A12 corridor feasibility study* (published in February 2015) can be located at:
https://www.gov.uk/government/publications/a47-and-a12-corridor-feasibility-study-technical-report

The DfT's *Roads Investment Strategy* (2015-2020) can be located at:
https://www.gov.uk/government/collections/road-investment-strategy-post-2020

Planning Context

The scale of the scheme means that it is likely to qualify as a Nationally Significant Infrastructure Project (NSIP). This means that a Development Consent Order (DCO) will be required to permit construction. DCO applications are determined in accordance with the National Policy Statement for National Networks (NPSNN).

The NPSNN requires the consideration of:

- Potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits
- Potential adverse impacts, including any longer term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts

These environmental, safety, social and economic benefits and adverse impacts should be considered at national, regional and local levels.

In addition to Environmental Impact Assessment, the NPSNN sets specific policy on design, climate change adaptation, pollution, safety, security and health. It also covers the generic impacts of air quality, carbon emissions, biodiversity, waste, aviation, coastal change, nuisance, flood risk, land instability, landscape and visual impact, land use, noise, impacts on transport networks and water resources.

Liaising with Local Authorities

Detailed discussion took place with technical officers from Norfolk County Council who were able to comment on the emerging options and provide their strategic input and advice.

Suffolk County Council was also consulted given the importance of the A47 in providing the crucial link between Lowestoft and the rest of the Trunk Road network.

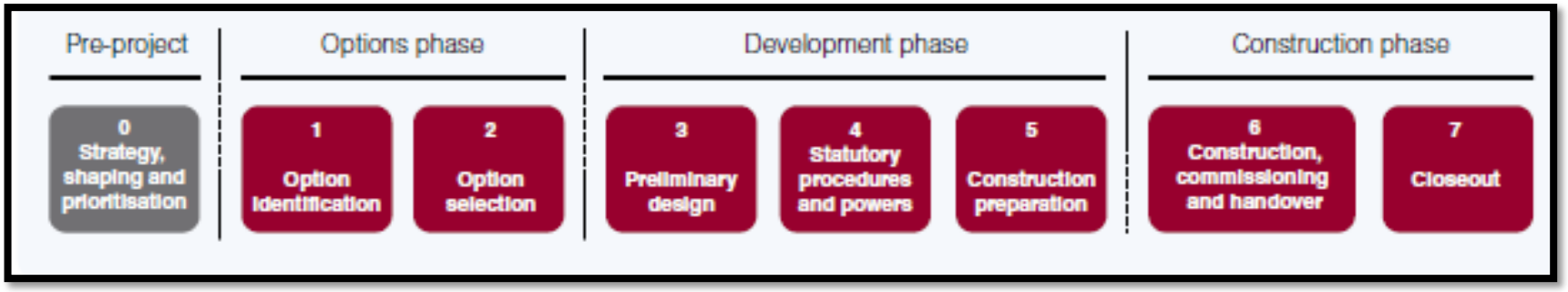
In working towards the non-statutory consultations the project team intensified discussion with County, District and Parish Councils and the Broads Authority to capture local demographics, planning issues as well as other associated issues of this nature to help shape a successful consultation exercise.

Project Control Framework

The scheme identified in the RIS is now being taken forward by Highways England as a major project through the Project Control Framework (PCF).

The PCF sets out how Highways England manages and delivers major projects. It is designed to ensure Highways England deliver road projects that meet their customers' needs in a cost efficient and timely manner.

Figure 1 - Major Projects Lifecycle

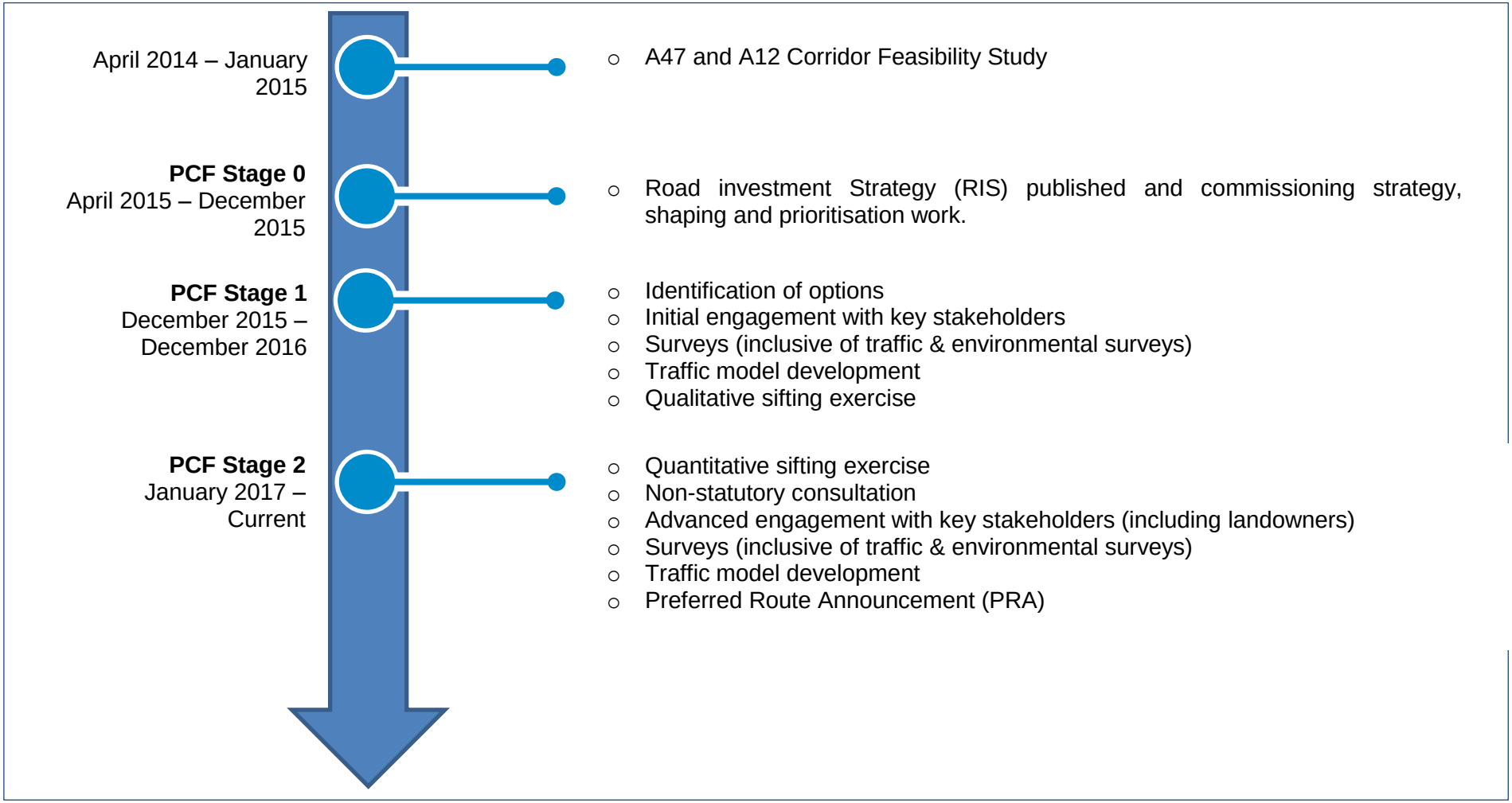


The scheme is currently in PCF Stage 2 Options Selection of the Options Phase. The current project timeline is shown in Figure 2 below.

This report provides a high level summary of the work done in PCF Stage 1 to determine the route options which would be put forward for non-statutory public consultation in PCF Stage 2.

Timeline to date

Figure 2 - Project timeline to date



Traffic and Safety Problem

A47 Corridor

The A47 is ranked 2nd nationally for fatalities on A roads and the accident severity ratio is above average.

The A47 is a mix of dual carriageway (47%) and single carriageway (53%) and the current traffic flows generally exceed capacity.

Rapid growth is planned in the area. Norwich, Cambridge and Peterborough are amongst the fastest growing cities in the country.

A47 Blofield to North Burlingham Dualling

The key problem identified in the Feasibility Study (February 2015) for Blofield to North Burlingham was as follows: “Link stress calculations indicate that this link is currently exceeding 100%”. This could be further exacerbated by future developments in the area that may use the A47 at this location.

This means that the section of the A47 between Blofield and North Burlingham is already over capacity. If nothing is done, the peak period congestion on the link will worsen. Traffic is forecast to grow across the country and when combined with local growth, in Peterborough and Norwich, will exacerbate the condition.

The A47 Blofield to North Burlingham (eastbound) currently has an average speed significantly lower than the daily average during the AM peak. This is an indicator of congestion and affects journey times and journey time reliability on the road.

The resilience of the link is an issue as there are no alternative routes.

During the period July 2011 to June 2016 a total of 1 fatal accident, 5 serious accidents and 27 slight accidents have been recorded along the section of the A47.

Traffic and Safety Solution

The proposed solution to the traffic and safety issue which is defined in the RIS is;

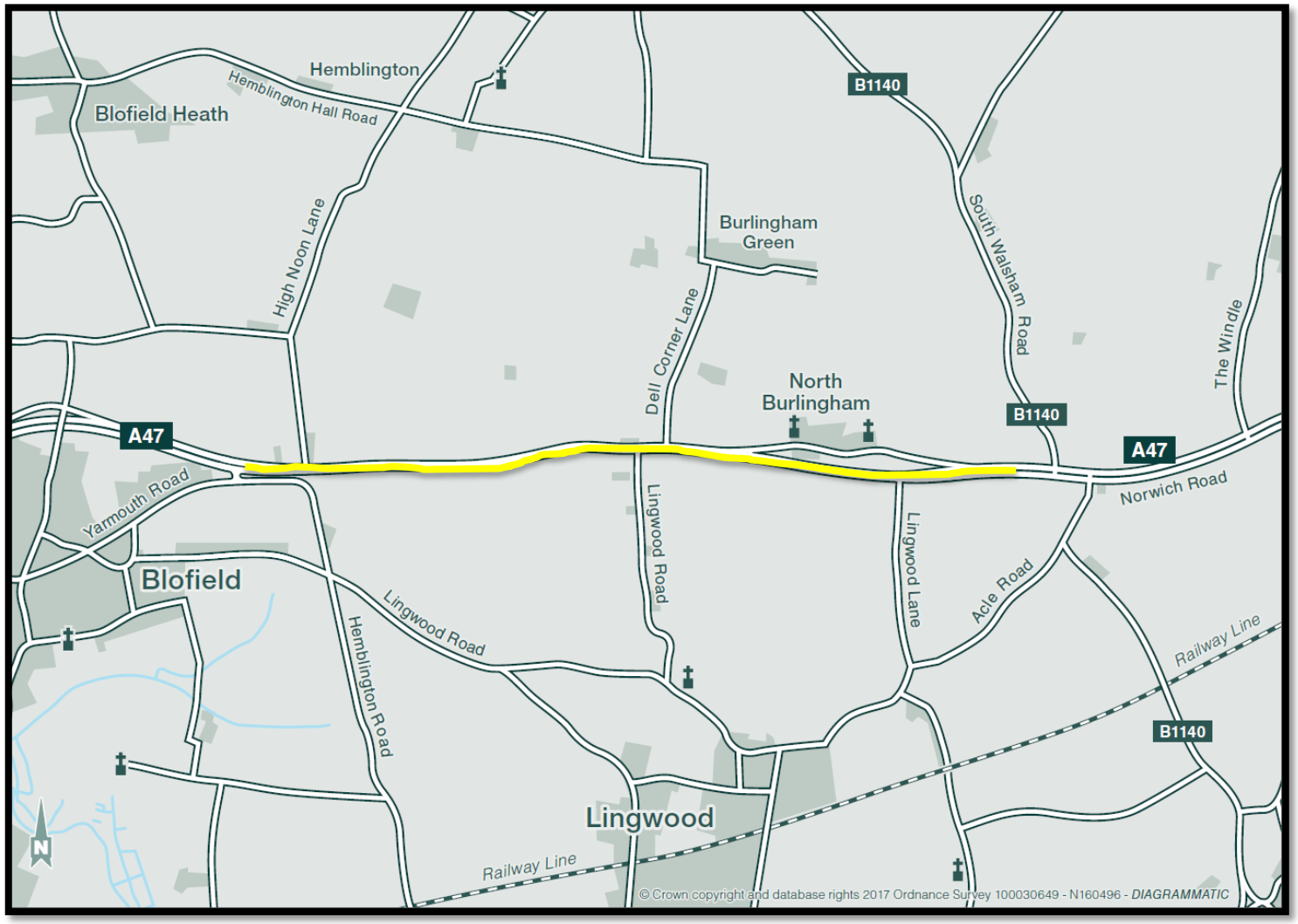
> *“dualling of the A47 to fill a gap in the dual carriageway section between Norwich and the Acle Straight”*

Dualling this single carriageway section of the A47 offers a solution to the congestion, will allow economic growth in the area and has the potential to reduce the number of accidents.

Existing Layout

Figure 3 below shows the existing layout of the area of the scheme. The existing single carriageway section of the A47 is highlighted.

Figure 3 - Existing Layout of Area (single carriageway shown highlighted yellow)



Existing Conditions and Constraints

There are a number of constraints which were identified in PCF Stage 0 within the corridor. The key environmental constraints close to the existing A47 are shown on Figure 4 below

- **Existing properties and buildings:** there are three villages close to the existing A47; Blofield, North Burlingham and Lingwood. Other farm and commercial buildings are close to the existing A47. In addition there are churches and community facilities near to the road and there are also properties scattered throughout the rural area.

- **Existing local access roads and property access:** a number of local side roads join the A47 and there are a number of direct property accesses both commercial and residential on to the existing A47.

- **Historic and listed buildings:** there are 20 listed buildings in the study area; 3 grade I listed churches and 11 other grade II listed buildings. The key buildings closest to the existing A47 are shown on the environmental constraints plan.

- **Areas of nature conservation:** there are two County Wildlife Sites (CWS) nearby. Church and Drive Plantation CWS being the closest to the existing A47.

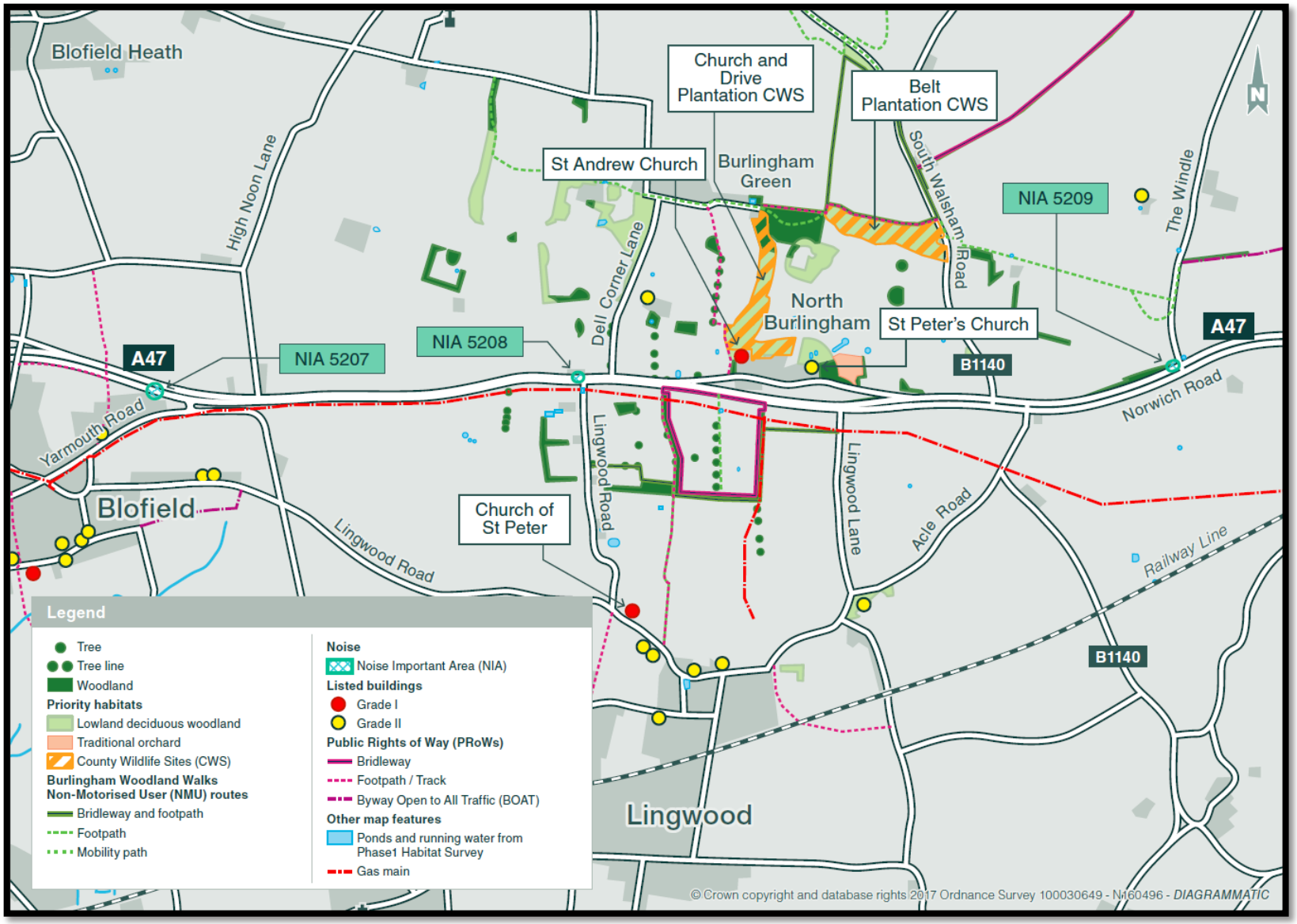
- **Areas of potential ecological importance:** extensive areas of habitats are found in the area which support a range of protected species and there are areas of woodland to the north and south of the A47.

- **River and water bodies:** a number of ponds and watercourses are within the area

In addition to the constraints listed above there are a number of other physical constraints to the scheme such as existing underground and over ground services supplies for electricity, communications, gas and water in the area, as well as ground conditions and geological conditions.

The investigation into constraints and environmental survey and assessment work has not stopped and continues in PCF Stage 2. This is outlined later in this report.

Figure 4 - Key environmental constraints adjacent to existing A47



Potential Route Options

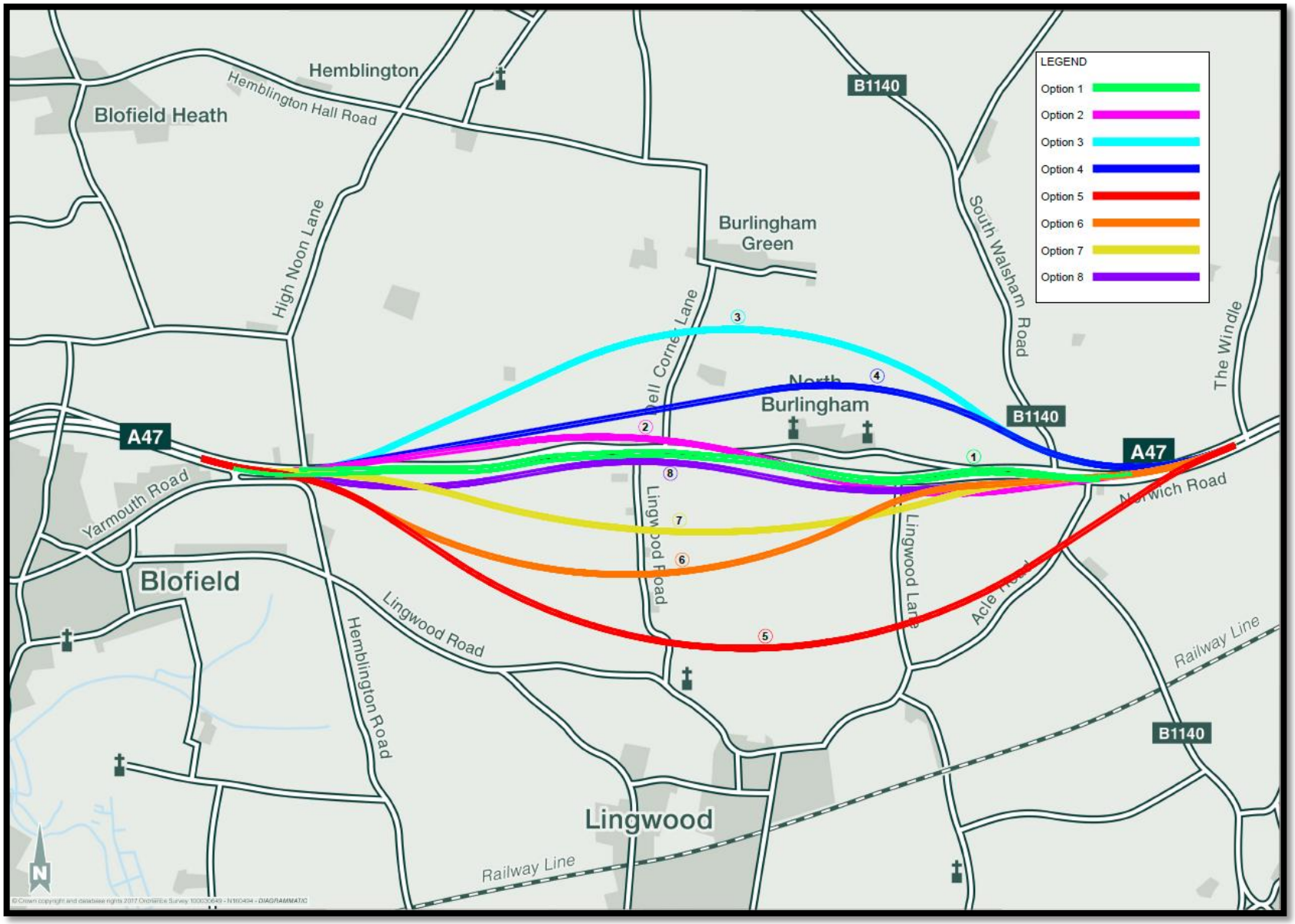
The feasibility work undertaken in PCF Stage 0 identified that dualling the section of the A47 between Blofield and North Burlingham represented a potential solution to solve the identified transportation problem. As part of the PCF Stage 0 work broad solutions were reviewed to ensure that dualling of the route represented a suitable and economically cost effective solution.

During PCF Stage 1 these broad solutions were used as a basis to develop a number of more defined potential route options. These route options were drawn as potential high level engineering routes. The main route options identified were numbered 1-8 for reference purposes and these options are listed in Table 1 below and the routes are shown in Figure 5 on the following page.

Table 1 – Table of Potential Route Options and Descriptions

Option	Description of Option	colour of option on plan
Option 1	online dualling following the existing route	
Option 2	offline dualling to the north of existing western part of the route and to the south of the existing eastern part of the route	
Option 3	offline dualling to the north of the existing route	
Option 4	offline dualling to the north of the existing route	
Option 5	offline dualling to the south of the existing route	
Option 6	offline dualling to the south of the existing route	
Option 7	offline dualling to the south of the existing route	
Option 8	offline dualling to the south of the existing route	

Figure 5 - Potential Route Options Plan



Qualitative Assessment of Potential Route Options and Sifting

Each of the options shown in Figure 5 were assessed using Highway England's objectives and KPIs to ensure that they all represented solutions which would solve the identified transportation problem and meet the commitments of the RIS.

The options were initially assessed comparatively in terms of their engineering, environmental, transportation and economic suitability. These assessments were undertaken based on data gathered from desk based information supplemented by initial walk over environmental surveys undertaken in 2016.

Each of the assessments qualitatively and comparatively rated each option as either red, amber or green. The options rated red having the least favourable outcome for the assessment, the options rated green the more favourable outcome from the assessment. Amber ratings were given where assessments were considered to be in-between the red and green ratings.

Environmental Assessment: A qualitative environmental assessment, based on available environmental data, was undertaken to provide a comparative assessment. The following environmental topics were reviewed:

- Noise
- Air Quality
- Greenhouse gases
- Landscape
- Townscape
- Historic Environment
- Biodiversity
- Water Environment

Transportation Assessment: Each of the options offered a solution to the transportation problem and each provided additional capacity on the network, the transportation assessment was therefore predominantly based on route length. The shorter the route, the lower likely journey times and the more favourable the option was rated in the assessment.

Engineering: A qualitative engineering assessment, based on the data available, was made taking the following engineering criteria into consideration;

- Buildability
- Landtake required
- General Alignment
- Accommodation works
- Geotechnical
- Structures
- Impact on Statutory Undertakers

Economic Assessment: A comparative economic assessment of each option was made based on high level comparative estimates of scheme costs and potential benefits.

Assessment Results: The results from the above assessments are presented in Table 2. These results were reviewed and used to determine a reduced number of potential options to take forward for further assessment and analysis and for the non-statutory public consultation in PCF Stage 2.

Table 2 – Results of Comparative Qualitative Option Assessment

Option	Comparative Qualitative RAG Rating				Option taken forward to consultation	Comment
	Environment	Engineering	Traffic	Economic		
Option 1					yes	option provides a feasible route offline dualling option along the existing A47 for public consultation
Option 2					yes	option provides a feasible route offline dualling option to the north and the south of the existing A47 for public consultation
Option 3					no	all four assessments red
Option 4					no	one out of the four assessments red and two amber
Option 5					no	three out of the four assessments red and one amber
Option 6					no	two out of the four assessments red and two amber
Option 7					yes	option provides a feasible route offline dualling option to the south of the existing A47 for public consultation
Option 8					yes	option provides a feasible route offline dualling option to the south of the existing A47 for public consultation

The Options for Consultation

Table 2 identifies the 4 options selected for further assessment and non-statutory public consultation and these are shown in Figure 6:

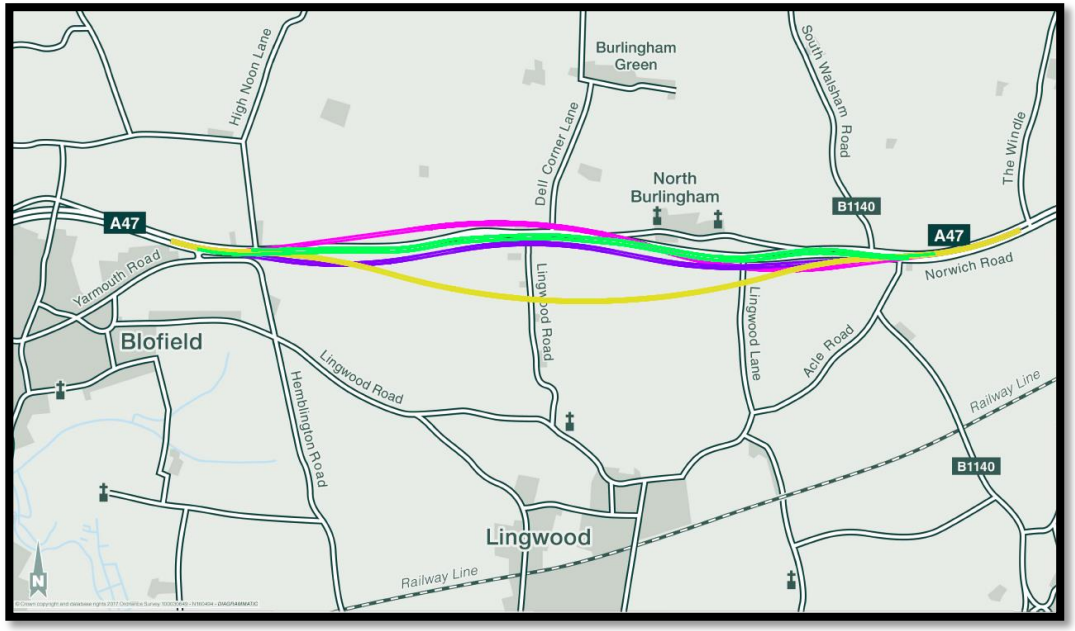
- Option 1 an online dualling following the existing A47 route
- Option 2 an offline dualling to the north of the existing A47 for the western part of the route and to the south of the existing for the eastern part of the route
- Option 7 an offline dualling to the south of the existing A47 route
- Option 8 an offline dualling to the south of the existing A47 route

NOTE: For simplicity in gathering public comment and presentation at the public consultation the above options will be renumbered sequentially 1 to 4

Non Statutory Consultation

Options to be presented for public comment at the non-statutory consultation in March and April of 2017.

Figure 6 - Options to be taken forward for Non-Statutory Consultation



Further and Ongoing Assessment

The following work is ongoing in PCF Stage 2 alongside the non-statutory public consultation.

Commercial Estimates: Detailed estimates for each of the 4 options are currently being prepared by Highways England Commercial Team.

Value Management: The initial available cost estimate information from Highways England Commercial Team has been reviewed in detail by the Project Team and a range of value management opportunities have been identified which will be incorporated in the designs as the designs are developed through PCF Stage 2.

Traffic Modelling: A strategic transportation model is currently being developed for this scheme. Following detailed discussion with Norfolk County Council with regard to the detail and status of the Norwich Area Transport Strategy (NATS) model and discussion with Highways England Traffic Appraisal, Modelling and Economics (TAME) department with regards to transportation modelling approach, a detailed update to the NATS transportation model is currently in progress. When completed, this model will be used to further assess the scheme.

Environmental Surveys and Assessment: Further environmental assessment will be required for each of these four options to ensure that the A47 Blofield to North Burlingham dualling scheme does not adversely affect the environment. These include:

- Nature Conservation and Biodiversity – detailed ecological surveys including amphibians, badger, bat, birds, invertebrates, white-clawed crayfish, otter, reptiles, water vole and invasive species etc to inform the Ecological Impact Assessment and the Habitats Regulations Assessment;
- Air Quality – air quality monitoring at specific locations within the study area;
- Landscape and Visual – summer and winter site walkover and viewpoint photography along with characterisation of the Zone of Visual Influence (ZVI);
- Noise and Vibration – noise baseline surveys and modelling;
- People and Communities – Non Motorised User (NMU) surveys and information on land take, land ownership and land use;
- Road drainage and water – flood risk assessment;
- Geology and Soils – phase II contaminated land assessment to be combined with preliminary geotechnical ground investigation to include associated sampling and monitoring; and
- Cultural Heritage – assessment of potential archaeological effects and impacts on listed buildings.

Required Statutory Process: Given the scale and size of the dualling scheme it is considered likely that improvements to this stretch of carriageway will meet the criteria for a Nationally Significant Infrastructure Project and will therefore be subject to the Development Consent Order process.

Preferred Route Announcement

When all the assessment work is complete and subject to the findings of the consultation, a preferred route announcement will be made in late 2017 and the pre-application stage of the development consent process will begin.