



Road Investment Strategy East Area 6

A47 Wansford to Sutton Non-Technical Summary Report

Document Control

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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 Peterborough City Council and Cambridgeshire County Council who were able to comment on the emerging options and provide their strategic input and advice.

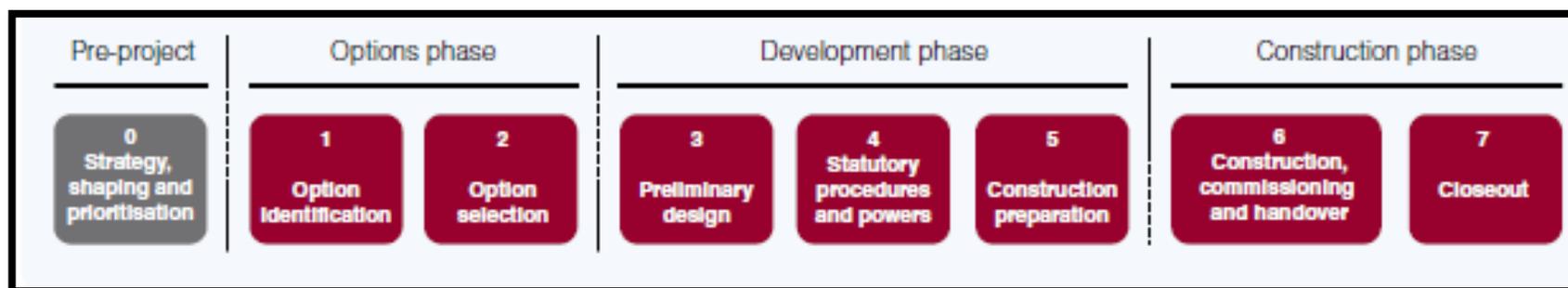
In working towards the non-statutory consultations the project team has increasingly been in discussion with the relevant District Councils as well to take on board input on local demographics, planning issues etc. which will help shape a successful consultation exercise.

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

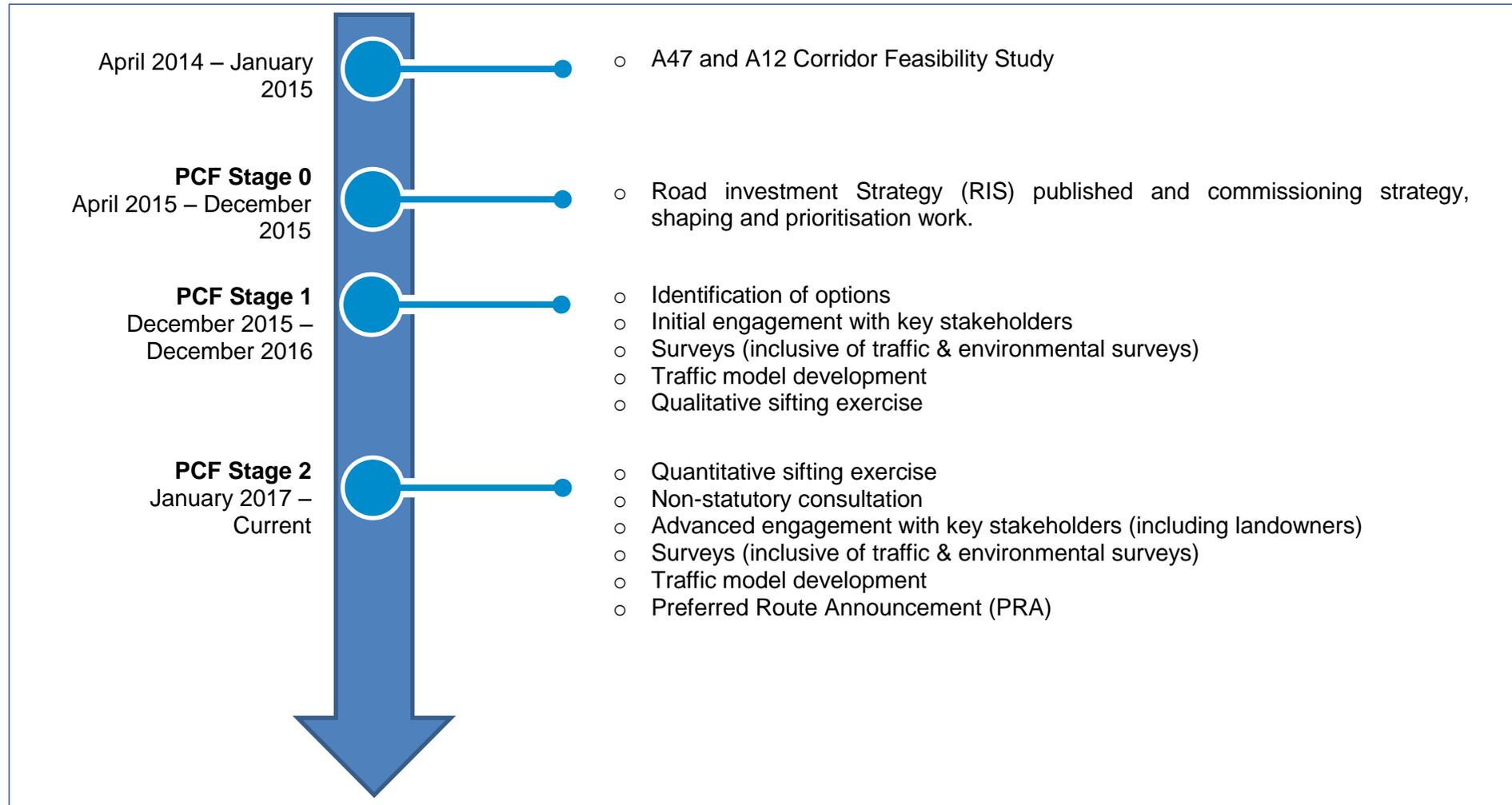


The scheme is currently in PCF Stage 2 Options Selection of the Options Phase. The current project timeline is shown in Figure 2 below.

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 Wansford to Sutton

The key problem identified in the Feasibility Study (February 2015) for Wansford to Sutton was “for both east and west bound traffic substantial stress is being shown on many sections of the A47, most notably A1 to Sutton Roundabout.”

The east bound carriageway is already operating over capacity in peak time. This is an indicator of congestion and affects journey times and journey time reliability on the road.

If nothing is done the peak period congestion currently experienced on the link will worsen. Traffic is forecast to grow across the country and this, combined with local growth in Peterborough and Norwich, will exacerbate this condition.

Within a 5 year period between 1st July 2011 and 30th June 2016, 41 accidents were recorded along this section of the A47. These included: 2 fatal accidents, 5 serious accidents and 34 slight accidents.

Traffic and Safety Solution

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

“dualling of the A47 between the A1 and the dual carriageway section west of Peterborough”

Dualling this single carriageway section of the A47 offers a solution to the congestion which 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 orange.

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



Existing Conditions and Constraints

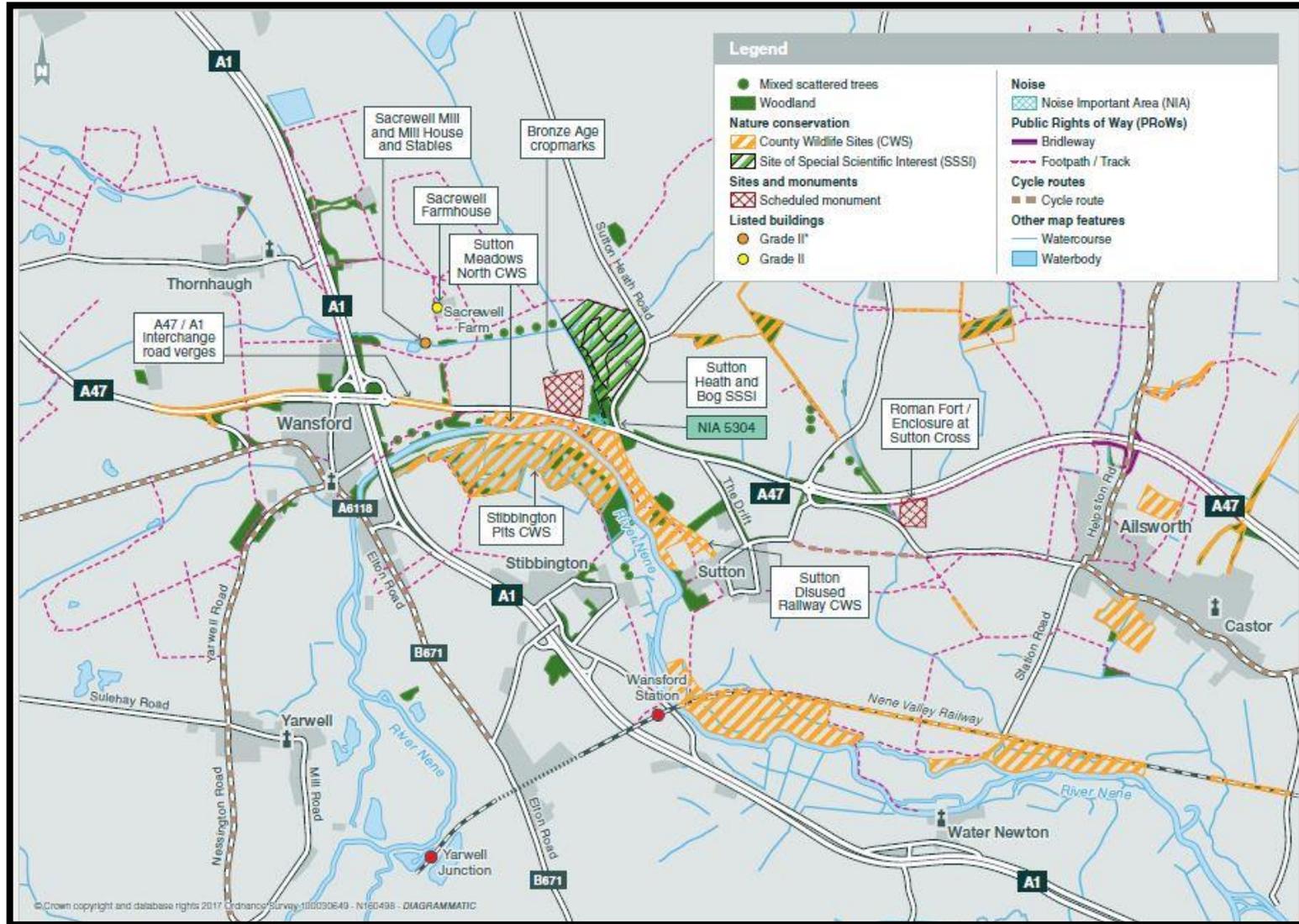
There are a number of constraints which were identified in PCF Stage 0 within the corridor. The key environmental constraints close to the existing A47 are shown on Figure 4 below.

- **Existing properties and buildings:** there are two villages close to the existing A47; Wansford and Sutton. There is a fuel station just south of the A47 and a picnic area to the west. There are 3 properties just off the A47, 2 of which are accessed directly off the A47. Sacrewell Farm and Country Centre, a tourist destination, is located north of the A47 between the A1/A47 Junction and Sutton Heath Road.
- **Existing local access roads and property access:** a number of local side roads join the A47 and there are a small number of direct property accesses on to the existing A47. There is also access to the fuel station directly from the A47.
- **Historic and listed buildings**
 - There are 10 Scheduled Ancient Monuments within the 1.5km study area, one of which is immediately adjacent to the A47 (Bronze Age Crop Marks). They are assigned a high sensitivity value as they are nationally designated sites and are protected under the terms of the National Planning Policy Framework. There is the potential for the scheme to have an adverse impact either directly on them or indirectly on their settings.
 - There are 139 Listed Buildings in the study area, primarily located within Wansford, Stibbington, Sutton and Ailsworth. Having regard to the study area and route options, the most significant of these are Sacrewell Farmhouse (Grade II), lodge (Grade II, millhouse and stables (grade II*). The key buildings closest to the existing A47 are shown on the environmental constraints plan.
- **Areas of national nature conservation importance:** There are five statutory designated nature conservation sites within 2km of the scheme extents. Sutton Heath and Bog Site of Special Scientific Interest (SSSI) being the closest to the existing A47.
- **Areas of potential ecological importance:** Extensive areas of priority habitats are found in the area, which support a range of protected species. There is an area of woodland just north of the A47 and a number of County Wildlife sites lie to the immediate south of the A47.
- **River and water bodies:** The River Nene meanders very close to the south of the existing A47 and a number of other ponds and watercourses are present 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 the report.

Figure 4 - Key Environmental Constraints adjacent to Existing A47



Potential Route Options

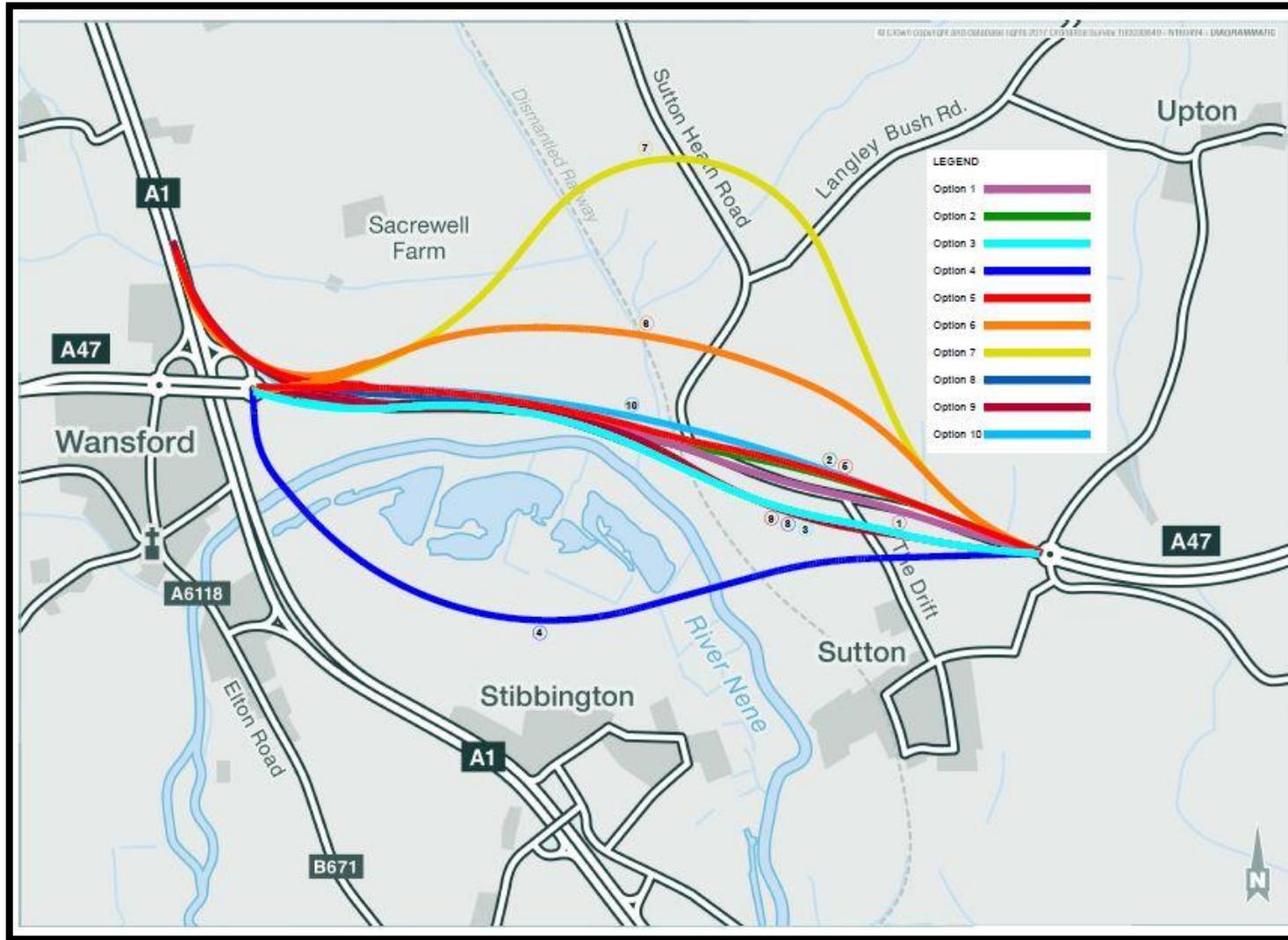
The feasibility work undertaken in PCF Stage 0 identified that dualling the section of the A47 between Wansford and Sutton represented a feasible potential solution to solve the identified transportation problem. As part of the PCF Stage 0 work broad solutions were reviewed to ensure that dualling of 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 1-10 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 plus free flow slip road from A1 Southbound	purple
Option 2	Part online, part offline to the north plus free flow slip road from the A1 Southbound	green
Option 3	Offline to the south plus free flow slip road from the A1 Southbound	cyan
Option 4	Offline to the south of the River Nene	blue
Option 5	Offline to the north plus free flow slip road from the A1 Southbound	red
Option 6	Offline to the north plus free flow slip road from the A1 Southbound	orange
Option 7	Offline to the north plus free flow slip road from the A1 Southbound	yellow
Option 8	Part offline to the north, part offline to the south plus free flow slip road from the A1 Southbound	light blue
Option 9	Part online, part offline to the south plus free flow slip road from the A1 Southbound	red
Option 10	Offline to the north plus free flow slip road from the A1 Southbound	blue

Figure 5 - Potential Route Options Plan



Qualitative Assessment of Potential Route Options and Sifting

Each of the 10 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 10 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	Green	Red	Green	Red	yes	Option online so has least impact on designated sites
Option 2	Green	Yellow	Green	Yellow	no	Considered too similar to options 1 and 5 within the tolerance of design evolution
Option 3	Green	Green	Green	Green	no	Option ranks well on all 4 assessments and considered similar to option 8 which ranked 2 nd . However due to its proximity to the Fuel station it was not taken forward.
Option 4	Red	Red	Red	Red	no	All four assessments red and crosses the river in two places
Option 5	Green	Yellow	Green	Green	no	Three of the assessments are green and considered similar to Options 1 and 5 within the tolerance of design evolution. It was agreed this Option should move slightly further north and called Option 10 which would be taken forward
Option 6	Green	Green	Red	Yellow	no	Option goes through SSSI
Option 7	Green	Green	Red	Red	no	Two out of four assessments red and is a longer route
Option 8	Green	Yellow	Green	Green	yes	Three out of the four assessments green and was taken forward as it is slightly further away from the Fuel station compared to Option 3
Option 9	Green	Red	Green	Yellow	no	Option considered similar to Options 3 and 8 within the tolerance of design evolution
Option 10	Green	Yellow	Green	Green	yes	Modified Option 5

The Options for Consultation

Table 2 identifies the 3 options selected for further assessment and non-statutory public consultation and these are shown in Figure 6:

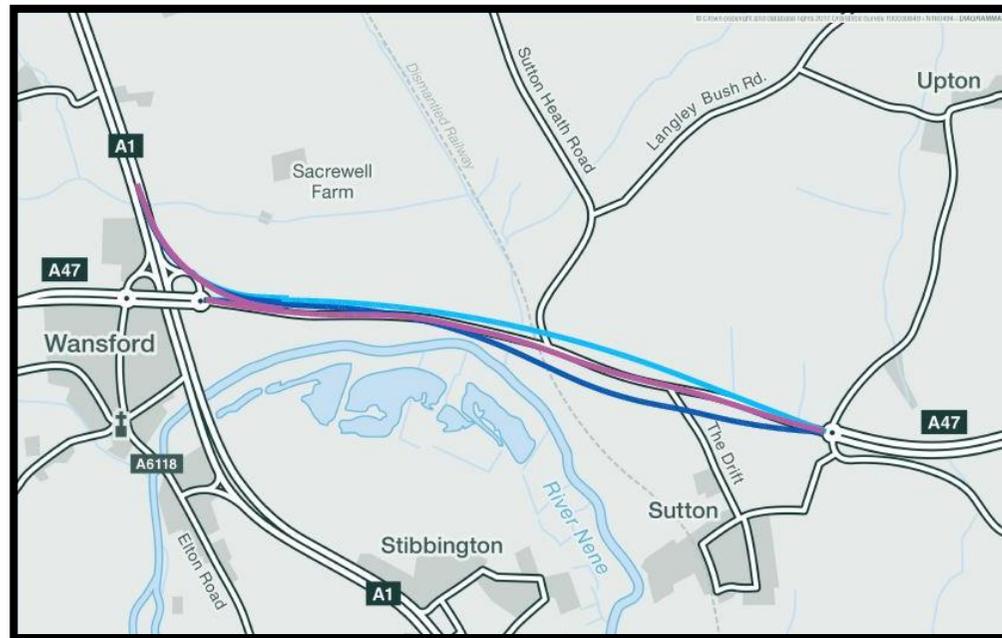
- Option 1 - online dualling following the existing A47 route with a free flow slip road from the A1 southbound
- Option 8 - part offline dualling to the north, part offline dualling to the south of the existing A47 with a free flow slip road from the A1 southbound
- Option 10 - offline dualling to the north of the existing A47 with a free flow slip road from the A1 southbound

NOTE: For simplicity in gathering public comment and presentation at the public consultation the above options will be renumbered sequentially 1 to 3

Non Statutory Consultation

The 3 options will 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 3 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 bespoke traffic model of the highway network to the west of Peterborough will be developed using traffic surveys and information from existing local and regional traffic models to understand the traffic behaviour at a strategic and local level. The model will simulate existing routing behaviour, traffic conditions and operational problems. 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 three options to ensure that the A47 Wansford to Sutton 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 amount of land take required for dualling the 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.