



Department  
for Transport

# A1 NORTH OF NEWCASTLE

## Feasibility Study Summary

March 2015

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# 1. Introduction

- 1.1 The A1 North of Newcastle feasibility study was one of six studies undertaken by the Department for Transport to look at problems and identify potential solutions to tackle some of the most notorious and long-standing road hot spots in the country.
- 1.2 The commitment to the studies was part of the biggest ever upgrade of the strategic national roads network, announced by the Government at the time of the 2013 Spending Review.
- 1.3 The studies have been progressed alongside the Highways Agency's Route Strategy programme, which is considering the current and future performance of the entire strategic road network, in order to inform future investment decisions.
- 1.4 This summary document for the A1 North of Newcastle feasibility study outlines: the study's aims and objectives; the current and likely future problems along the route; the development and assessment of potential options; the assessment of business cases for prioritised investment options; and the investment decisions and outcomes announced by Government in its Road Investment Plan<sup>1</sup>.

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<sup>1</sup> <https://www.gov.uk/government/collections/road-investment-strategy>

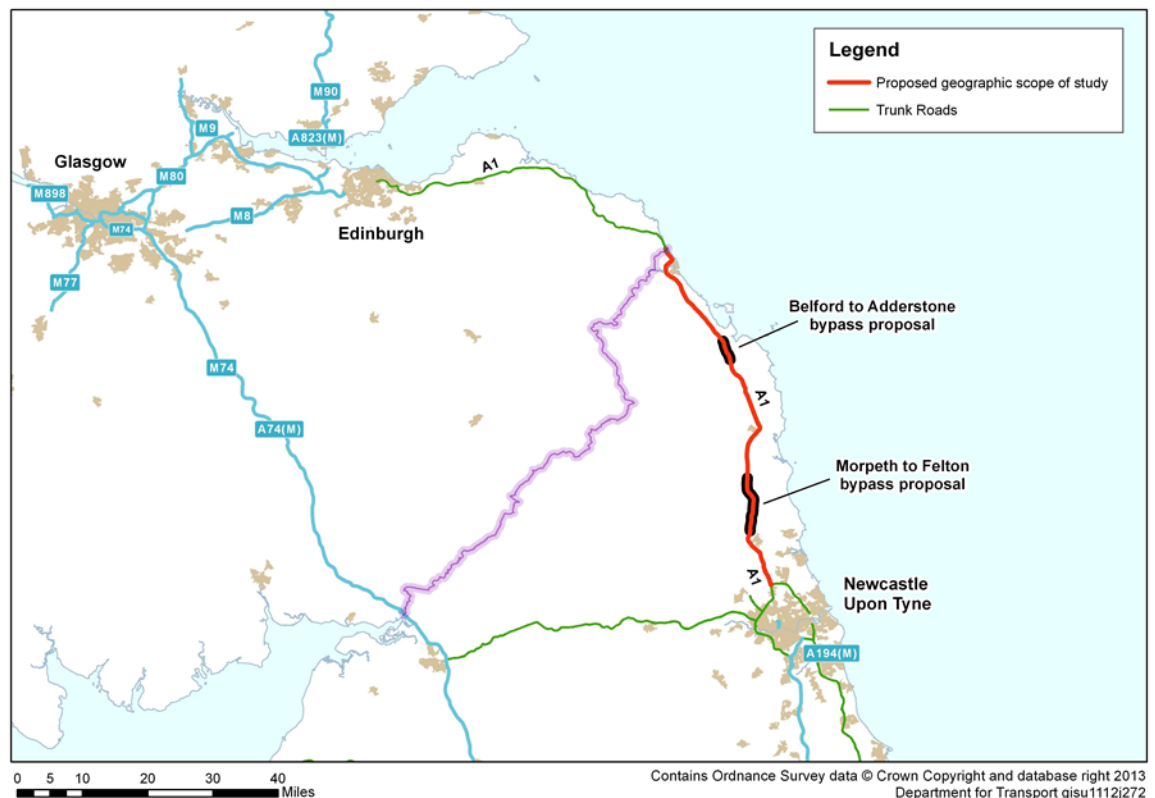
## 2. Context

- 2.1** The A1 North of Newcastle forms an important strategic route between England and Scotland through Northumberland, especially for long distance traffic, on the eastern side of the country. The Government has recognised the importance of the route, particularly its role in facilitating the movement of freight and its role in providing transport connectivity between the UK's capital cities. The route also caters for local commuters and agricultural traffic. The route is some 59 miles long; 23 miles are dual carriageway, with 36 miles of single carriageway (in three sections of 8, 5 and 23 miles heading north).
- 2.2** Public transport along the route is limited, although a small number of bus services do operate. The East Coast Main Line runs approximately parallel to the route of the A1 North of Newcastle; passenger rail usage in Northumberland on the whole is low, with 2011 census data showing that just 1% of people in the county commute daily using the rail network.
- 2.3** The case for dualling the single carriageway sections was considered by the 2002 A1 (North of Newcastle) Multi Modal Study (A1MMS). That Study concluded that there was not an adequate justification on economic grounds to dual the whole of the remaining A1 North of Newcastle but that this should be reviewed were surrounding sections of A1 upgraded or where there were changes in traffic flows and accident rates. In responding to the A1MMS study, the then Secretary of State agreed to the development of proposals to dual the 8 mile section of road between Morpeth and Felton and the 2.5 mile section between Adderstone and Belford. Proposals were developed at both locations, but in 2006 the then interim Regional Transport Board for the North East did not identify either of the schemes as a funding priority for the period up to 2016. Since that time there has been a number of calls to revisit the case for dualling the A1 north of Newcastle, both in terms of addressing the accident record of the A1 and the impacts that incidents can cause, but also in terms of improving connectivity between Newcastle and Scotland.

# 3. Study aims and objectives

- 3.1 The aim of the study was to establish the potential business case for dualling the remaining sections of the A1 north of Newcastle and to consider the potential economic cases for other transport investment opportunities on the route.
- 3.2 In terms of geographic scope, the study considered the length of the A1 from its junction with the A19 to the north of Newcastle to where the A1 meets the Scottish Border. The map showing the geographic scope of the study from the scope document is below.

**Figure 1: The geographic scope of the A1 North of Newcastle feasibility study**



- 3.3 The modal scope of the study was predominantly road-based, taking into consideration the details of performance and current investment proposals on the identified parts of the strategic road network. It also took into consideration improvements planned to the surrounding strategic road network and surrounding transport systems, including local road and rail networks.

**3.4** The objectives of the study were to:

- identify and assess the economic business case, deliverability and timing of proposals to complete the dualling of the A1 North of Newcastle;
- identify and assess the economic business case, deliverability and timing of potential specific road infrastructure investments along the A1 corridor north of Newcastle;
- understand the comparative balance of benefits and impacts from individual investment proposals and any additional benefits or impacts from an investment on a corridor basis; and
- evidence, where possible, the wider economic impacts from the potential road infrastructure investment in the A1 corridor.

**3.5** The study took place from spring to autumn 2014 and was undertaken by the Highways Agency and its consultants. The study process followed that in the Department for Transport's guidance (WebTAG) for such studies and a stakeholder Reference Group was formed to ensure effective external involvement. This Reference Group acted as a sounding board and allowed the views of stakeholders to be captured and considered during the study process. The organisations represented on the group are listed in the Annex.



# 4. Current and future situation

- 4.1** The first part of the study reviewed evidence from other relevant study work and analysis to form a view as to the nature and scale of current and future performance on the A1 North of Newcastle. It also established both the availability of transport modelling and the need to undertake transport modelling for the study.
- 4.2** The analysis of available traffic data suggested that there is a number of problems and issues on the A1 that impact upon the efficient and safe movement of people and goods. These problems are likely to be exacerbated in the future as a result of forecast traffic growth on the route.
- 4.3** The Northumberland Local Transport Plan (2011-2026) recognises the importance of rail travel in the region and sets out a number of aspirations to address issues with the current rail services. These rail improvements are likely to result in some modal shift away from roads, but, given that these proposals are not confirmed, and the very low level of existing rail use, it is unlikely that traffic levels on the A1 will be significantly affected.
- 4.4** The problems and issues along the route were identified as:
- a lack of alternative routes;
  - inconsistent carriageway standards on the route;
  - poor junctions standards and layout;
  - a large number of at-grade junctions and private means of access which can result in delays to following vehicles and potential for accidents when vehicles slow down to exit or enter the main carriageway;
  - average traffic speeds on the single carriageway sections of the route are significantly lower than sections that have been upgraded to dual carriageway;
  - a relatively high proportion of heavy goods and agricultural vehicles resulting in reduced speeds for following vehicles and potential driver frustration;
  - the lack of overtaking opportunities; and
  - peak hour traffic speeds significantly below free flow speeds.
- 4.5** The dual carriageway sections of the route perform much better in terms of speed (and thus journey times), resilience and safety. Given that traffic volumes reduce considerably on northern sections of the route, it was clear that investment is a higher priority on the southern sections.



- 4.6** The data collection and analysis and identified problems and issues were used to define a set of intervention objectives that were used to identify and assess potential options to improve the route. The resulting intervention objectives were:
- to improve journey times on this route of strategic national importance;
  - to improve network resilience and journey time reliability;
  - to improve safety;
  - to maintain access for local traffic whilst improving the conditions for strategic traffic;
  - to facilitate future economic growth; and
  - to avoid, mitigate and compensate for potential impacts upon the built and natural environment.

# 5. Investment options

- 5.1** Following the identification of problems on the route, the study reviewed previous work to identify infrastructure proposals that could address the problems. The study considered a range of potential individual investment proposals and combinations of investment propositions, initially building on work done to date, rather than completing a fresh process of proposal identification.
- 5.2** The study took as its starting point the proposals recommended by the then Secretary of State in response to the 2002 A1MMS and other proposals recommended from more recent study work.
- 5.3** The study included consideration of previous proposals to dual the A1 between Morpeth and Felton (8 miles) and between Adderstone and Belford (2.5 miles). The study did not however rule out consideration of other investment proposals and it captured details of potential investment proposals emerging from the first phase of the Highways Agency's London to Scotland East Route Strategy (within the study's geographic scope).
- 5.4** The option generation process considered a long list of discrete highway interventions, public transport interventions, demand management interventions and combinations of interventions. The next stage was then to 'sift out' any potential solutions that clearly failed to meet the objectives, failed to alleviate the identified problems or failed to meet key deliverability and feasibility criteria.
- 5.5** Only those potential interventions that met all sifting criteria were selected for further consideration using the Department's Early Assessment and Sifting Tool. Eight options were taken forward for more detailed assessment against the DfT's Option Assessment Framework, with evidence presented against the best practice Treasury five case model (which assesses the strategic, economic, financial, management and delivery and commercial cases):
- Morpeth to Felton online dualling;
  - Morpeth to Felton offline dualling;
  - full dualling;
  - dualling to Ellingham (online and offline);
  - dualling to Ellingham with localised widening on single carriageway sections to the north;
  - dualling to Ellingham with overtaking (climbing) lanes on single carriageway sections to the north;
  - dualling Morpeth to Felton with junction rationalisation and parallel access roads on the dual carriageway to Alnwick; and

- dualling to Ellingham and dualling of the Berwick Bypass.
- 5.6** The assessment indicated that all options are well supported by policy and all would address the route objectives. All are likely to be well received by stakeholders but some may receive a mixed response from the general public as they involve non-dualling improvements to single carriageway sections of the route. All the options scored similarly across social impacts, but some options would result in a higher level of accident savings as they improve longer stretches of the route. A similar pattern was seen with regards to user benefits.
- 5.7** Offline variants are likely to have a greater impact environmentally, particularly on the local landscape. All options are likely to have a significant adverse effect on townscape, but offline variants are likely to be easier to construct. Full dualling is likely to be significantly more expensive than any other option which affects the value for money.
- 5.8** Based on the assessment, four options were prioritised for more detailed assessment:
- dualling Morpeth to Felton - online or offline (8 miles) - to provide continuous dual carriageway standard from London to Alnwick;
  - dualling to Ellingham (13 miles, which includes the Morpeth to Felton section) - to provide continuous dual carriageway standard from London to Ellingham;
  - dualling to Ellingham (13 miles) with overtaking/climbing lanes on sections to the North - to provide continuous dual carriageway standard from London to Ellingham plus localised improvements further north; and
  - full dualling (36 miles, this includes dualling to Ellingham plus a further 23 mile section) - to provide continuous dual carriageway standard from London to the Scottish border.

## 6. Investment cases

- 6.1** The affordability, value for money (VfM) and deliverability of the prioritised proposals were then assessed. The study used the Department's transport appraisal guidance and considered the benefits and business cases for each of the transport investment proposals, as well as the cumulative or additional benefits and impacts from investment in the corridor as a whole.
- 6.2** The appraisal conducted was appropriate to the early stage of development of the proposals and will be developed further to ensure a full understanding of the impacts of the proposals and value for public money. Explanation of the way DfT assesses VfM can be found in the VfM note<sup>2</sup>.
- 6.3** *Morpeth to Felton dualling* - this would create a consistent dual carriageway to Alnwick and would address the problems and issues on the most heavily trafficked single carriageway section of the route. Online dualling could deliver high value for money.
- 6.4** *Dualling to Ellingham* – this would address the problems and issues on the most heavily trafficked single carriageway section of the route, providing a consistent carriageway standard as far north as Ellingham. As would be expected, this option could deliver larger benefits than dualling from Morpeth to Felton, but it would also be more expensive. Online dualling could deliver medium value for money.
- 6.5** *Dualling to Ellingham with complementary measures to the north* - this would address the problems and issues on the most heavily trafficked single carriageway section of the A1, providing a consistent carriageway standard as far north as Ellingham, and would also improve conditions for traffic on the more lightly trafficked northern sections. As would be expected, this option could deliver larger benefits than dualling to Ellingham alone, but it would also be more expensive. Online dualling could deliver medium value for money.
- 6.6** *Full Dualling of the A1* - this scheme would fully address the problems and issues on the route by providing a consistent carriageway standard to the Scottish border. This option could deliver the highest level of benefits of all four shortlisted options, but it would also be considerably more expensive than any other option and the online dualling could deliver low value for money.

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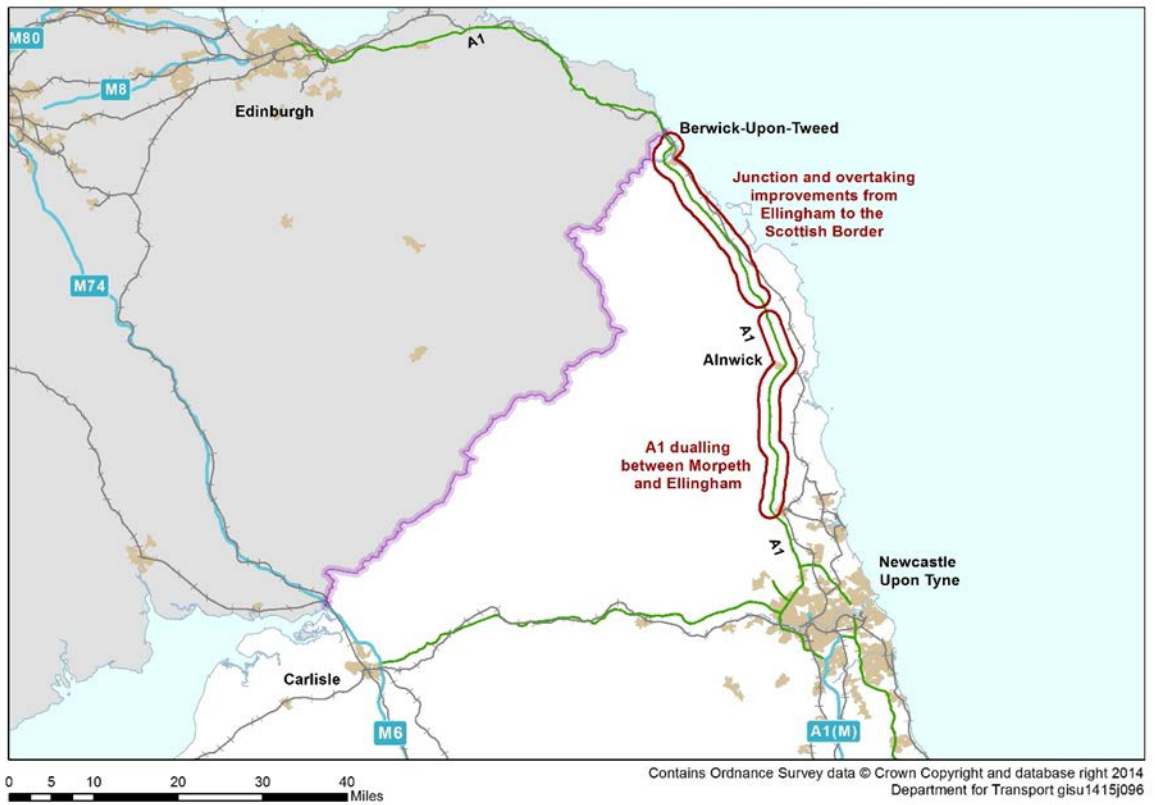
<sup>2</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/255126/value-for-money-external.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255126/value-for-money-external.pdf)



# 7. Study outcomes

- 7.1** Following completion of the study work, and consideration of the potential investment options, the Government has committed to take forward an overall investment package of around £3.5 billion for the six feasibility studies.
- 7.2** The A1 north of Newcastle provides a nationally important connection between Newcastle and Edinburgh. While the M6 remains the main traffic route to Scotland, the A1 is an essential link for the North East and Northumberland. Improving the road has been a long-standing call from businesses and communities.
- 7.3** The Government recognises that the A1 North of Newcastle needs substantial improvement to meet the needs of the local economy and to better fulfil its role in the national transport network. In order to make this happen, the Government announced investment worth around £290 million as part of the Road Investment Strategy in December 2014. This consists of the following:
- **A1 Morpeth to Ellingham** – a thirteen mile upgrade to dual the carriageway linking the Morpeth and Alnwick bypasses with the dual carriageway near Ellingham, to create a continuous, high quality dual carriageway from Newcastle to Ellingham.
  - **A1 north of Ellingham enhancements** – a set of measures to enhance the performance and safety of the A1 north of Ellingham, including:
    - Three stretches of climbing lanes totalling 2.5 miles;
    - Five junctions enhanced with right-turning refuges; and
    - Better crossing facilities for pedestrians and cyclists.
- 7.4** These changes will ensure that, for the first time, there will be dual carriageway from London to Ellingham – 34 miles north of Newcastle. The remainder of the route will also become safer and have fewer delays, with bottlenecks tackled and junctions improved.
- 7.5** These proposals will require further work, engagement and consultation in order to reach agreement on the specific details of the proposals. Delivery will require the successful completion of the necessary statutory planning process and the continued development of business cases and demonstration of value for money.
- 7.6** Longer term, the Government has a vision to upgrade the full route to Expressway Standard and will continue to examine further investments in future road investment strategies.

**Figure 2: Outcomes from the A1 North of Newcastle feasibility study**



# Annex: Reference Group Members

## Local Highway and Planning Authorities:

Newcastle City Council  
North East Combined Authority  
Northumberland County Council

## Local Economic Partnership:

North East LEP

## Statutory Bodies:

Natural England

## Other organisations:

Dual the A1 Campaign  
Northumberland Wildlife Trust

## Member of Parliament:

Sir Alan Beith MP