



NORTHERN TRANS-PENNINE ROUTES STRATEGIC STUDY

Stage 1 Report – Executive Summary

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1 Executive Summary

1.1 Introduction

- 1.1.1 The Northern Trans-Pennine Routes (NTPR) Strategic Study is sponsored by the Department for Transport/Transport for the North and undertaken by Highways England on their behalf. WSP | Parsons Brinckerhoff, Halcrow | TRL and Steer Davies Gleave was commissioned in August 2015 to undertake this package of works.
- 1.1.2 The requirement for a study was set out in the first Roads Investment Strategy (RIS), published in December 2014, which announced a programme of new Strategic Studies to explore options to address some of the Strategic Road Network's emerging challenges. The results of these high-level studies will inform the second RIS. The Strategic Studies are:
- Northern Trans-Pennine Study
 - Trans-Pennine Tunnel Study
 - Manchester North-West Quadrant Study
 - A1 East of England Study
 - Oxford to Cambridge Expressway Study
 - M25 South-West Quadrant Study
- 1.1.3 Transport for the North has also identified this study, which investigates strategic road improvements, as one of its priorities for 2015/16. It is believed that the recommendations of this report can positively contribute towards the development of the Northern Powerhouse, which sets out a vision for 'improved east-west major road links to ensure more reliable journey times between major cities within the North' and 'effective road connections to the country's major ports in the North of England'.

1.2 Study and Stage 1 Objectives

- 1.2.1 The strategic aim of the NTPR Study is to identify options for a new strategic corridor, upgrading either or both the A66 and A69 routes, with the potential to make alternative improvements along their length. Further aims are to improve east-west connectivity within the North of England, whilst considering the impact that any options may have on wider east-west links between the M62 corridor and the Scottish border, build network resilience and promote economic growth. An assessment will be made of the economic potential of appropriate interventions; including improvements to journey times/safety and the wider economic impact of any proposals.
- 1.2.2 The study will identify options that can feasibly be constructed, and can be operated/used safely and reach conclusions on the strategic, economic, safety, environmental/operational benefits and impacts for each of the feasible options, making recommendations regarding a preferred option(s).
- 1.2.3 Key to forming a judgement will be the wider economic costs and benefits of different options, in particular their impacts on the local labour/product markets and the economic geography of the northern transport area, allowing an understanding to be formed relating to how the options can act as an enabler to raising growth in the north. The study specific objectives are identified in Table 1-1.

Table 1-1: Northern Trans-Pennine Routes Strategic Study Objectives

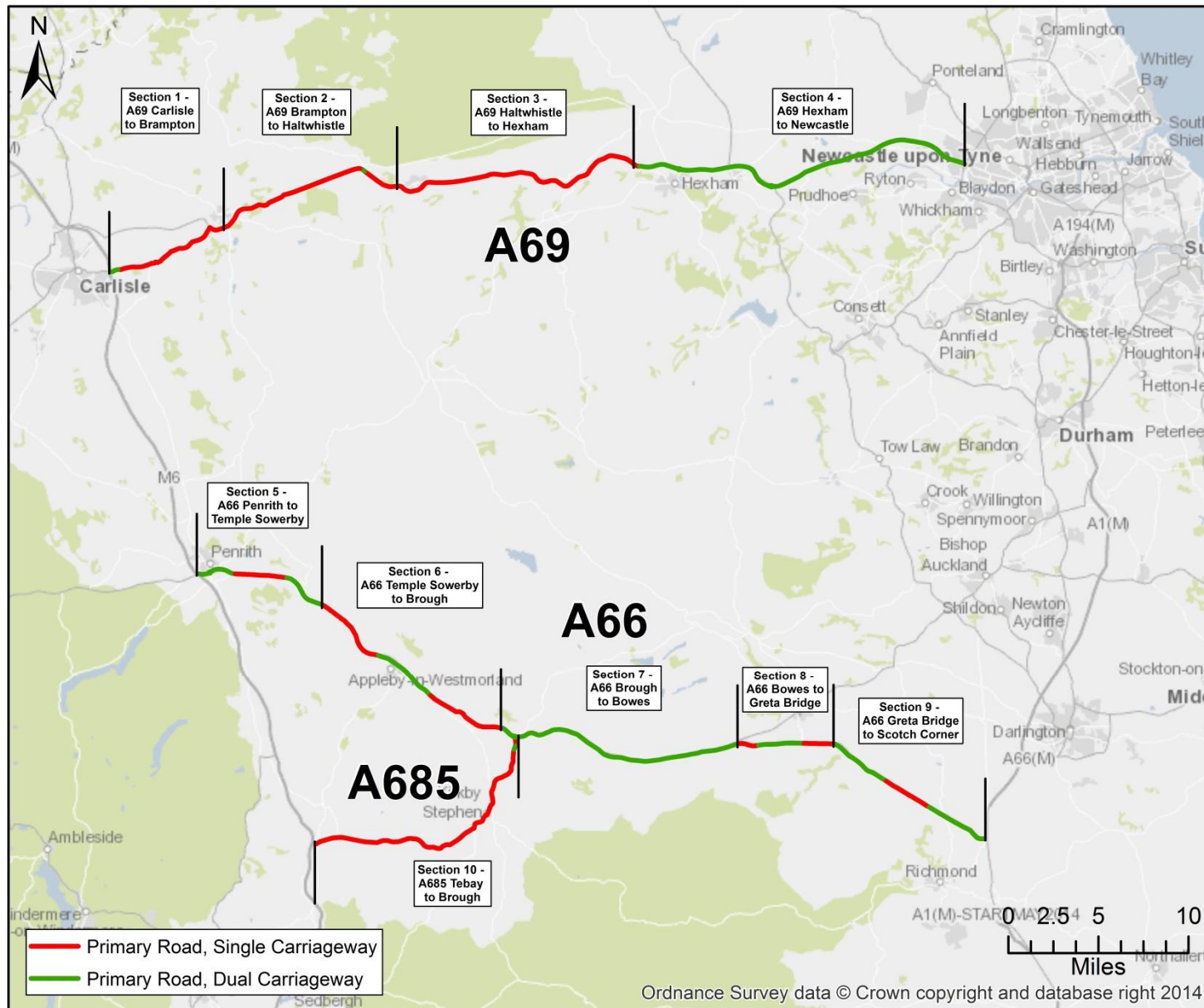
No.	Study Objectives
1	Review previous study work, other relevant data, and current investment plans to understand current performance and constraints of the existing road infrastructure, and confirm the strategic case for considering further investment.
2	Identify options for a new strategic corridor upgrading one or both of the A66 and A69 and making other improvements along their length, including how they will connect with the existing strategic route network and the local road network and reaching conclusions on the feasibility of their delivery.
3	Understand the operational benefits and challenges of the construction of each of the options, in particular the significant issues with weather related resilience and long diversions following incidents; also assessing the safety impact road users and on local communities of these options and the operational issues associated with periodic and emergency maintenance and renewals.
4	Understand the benefits and impacts resulting from the provision of a new strategic corridor - including the benefits and impacts accruing on the M62 and other existing trans-Pennine routes, including local roads - to further inform the strategic and economic case for investment in new road infrastructure in the corridor. The benefits assessment will need to encompass analysis of the congestion-relief, reliability, safety, and environmental outcomes of constructing a new strategic corridor. The study will need to consider a range of individual potential investment proposals and potentially combinations of investment proposals. As set out in the Transport Investment and Economic Performance Report and the Department for Transport's response on Understanding and Valuing the Impacts of Transport Investments, the study will need to reach an understanding on how options impact on the local and regional environment.
5	Have reference to and reflect wherever possible the key findings of the other northern Strategic Studies (Trans Pennine Tunnel and M60 Manchester north- west quadrant). Specifically, understand the inter-dependencies between the potential options arising from the Trans Pennine Tunnel Strategic Study and the Manchester north-west quadrant study, to include: <ul style="list-style-type: none"> Understanding the implications of the timing and phasing of potential schemes for the three study locations, to minimise impact on the performance of the network during the build phases. Identification of opportunities for synergy or optimal sequencing of major road and rail works involved in, and options for mitigating strategic risks arising from, three major complex projects being undertaken within the same function geography potentially within the same Roads Period.

1.2.4 This is the Executive Summary of Stage 1 of the study, the objectives of which are to:

- Understand the current and future context/conditions within the study area, including a review of previous studies, current policy, travel patterns, road congestion and capacity, safety, journey times, bus/rail patronage, environmental constraints, future development, topology, community amenity, socio economics and labour markets.
- Examine the need for intervention through the preparation of a sound body of analysis to consider the requirement for development of an appropriate improvement scheme.

1.2.5 Figure 1-1 shows the A69 and A66/A685 corridors in the context of the North Pennines region of England.

Figure 1-1: Study Area Illustrating the A69 and A66/A685 Corridors in the Context of the North Pennines



1.3 Key Findings

1.3.1 The key findings in relation to the **A66/A685** route are summarised in Figure 1-2:

Figure 1-2: Summary of Key Findings: A66/A685 Route

Current Functions of the Route

- The A66 acts as a strategic link for national and regional journeys between the south and east of the UK and the north and west of the UK, providing the most direct east-west crossing of the Pennines north of the M62. For some journeys the A66 can serve as an alternative and more direct east-west crossing to the M62.
- The A66 is a particularly important strategic route for freight traffic. The route has a high freight flow, with commercial vehicles over 20% of total vehicles on most sections of the route between Scotch Corner and Penrith.
- The route links local communities along its route, such as Bowes and Brough, and links these communities with destinations to the east and west of the route, such as Darlington and Penrith. It is an important link to both essential services and employment opportunities for local communities.
- The A66 is also an important route for providing access to popular local and regional tourism destinations, such as the North Pennines and Lake District.

Current Issues Associated with the Route

- Although journey times on the A66 are not generally affected by traffic congestion, the attractiveness of the A66 as a strategic route is diminished by the current mix of single and dual carriageway standards.
- The evidence from data and stakeholders is that journey times are unreliable, due to the impact of slow-moving vehicles on single carriageway sections of the route and the lack of overtaking opportunities.
- Single carriageway sections also make it more difficult to keep the route open, and there are regular closures along the route due to planned road-works, weather and incidents accidents, with two sections of the route experiencing a higher number of accidents and incidents than the national average.
- In the event of incidents, diversionary routes are poor, particularly for HGVs. Generally closure of the A66 means northbound/westbound/eastbound trips need to use the A1 and the A69, involving much longer journeys over poorer standard routes, and southbound trips need to use the M62.
- There is no real time journey information which exacerbates the journey uncertainty and unreliability issues and prevents better journey planning.
- The public transport alternative to the road link is poor. There is no rail line to provide an alternative public transport route to the A66 between Darlington and Penrith and there is low bus service provision.
- There are major environmental constraints in the corridor, including Special Areas of Conservation, SSSIs and 21 Noise Important Areas along the A66 and A685 corridors.
- Although most communities along the route, such as Temple Sowerby and Appleby, have been bypassed by previous interventions, there remains a community impact at Kirby Thore where the A66 continues to bisect the village.
- The key issue on the A685 is the height and weight restriction at Kirby Stephen which prevents HGVs from using the route.

1.3.2 The key findings in relation to the A69 corridor are summarised in Figure 1-3:

Figure 1-3: Summary of Key Findings: A69 Route

Current Functions of the Route

- The A69 acts as the major regional road link between Tyne and Wear and Northern Cumbria and South West Scotland, and is an important link for freight traffic between the Tyne ports and west coast ports.
- The A69 provides links between local communities along its route, such as Haltwhistle and Hexham, and links these communities to destinations to the east and west of the route, such as Newcastle and Carlisle.
- There are substantial commuting flows via the A69 into regions either end of the route, for example between Hexham and Newcastle and between Brampton and Carlisle.
- The A69 is also important for access to tourism facilities, with frontiers of the Hadrian's Wall World Heritage Site and the presence of the North Pennines Area of Outstanding Natural Beauty, Northumberland National Park and Northumberland Dark Sky Park all situated within 2km of the route corridor.

Current Issues Associated with the Route

- Although journey times on the A69 are not generally affected by traffic congestion, the 33 mile single carriageway section between the M6 and Hexham, with the lack of overtaking opportunities, such as at Low Row, can create unreliable journey times.
- This unreliability is exacerbated by specific pinch points, such as Warwick Bridge which has a 30mph speed limit, and delays caused by accidents and incidents. The section of the route between Brampton and Carlisle, for example, has a higher frequency of slight severity collisions than the national average.
- The lack of real time journey information also exacerbates the journey uncertainty and unreliability issues and prevents better journey planning.
- In the event of incidents, diversionary routes are poor, particularly for HGVs.
- Although there is an alternative rail service, from Carlisle to Newcastle via various communities en route, current journey times are long and the service is infrequent.
- There are major environmental constraints in the corridor, including frontiers of the Hadrian's Wall World Heritage Site and the presence of the North Pennines Area of Outstanding Natural Beauty, Northumberland National Park and Northumberland Dark Sky Park all situated within 2km of the scheme corridor.
- Although most communities along the route, such as Brampton and Haltwhistle, have been bypassed by previous interventions, there remains a community impact at Warwick Bridge where the A69 passes through the village.

1.4 The Need for Intervention

A66/A685 Corridor

- 1.4.1 The A66 currently serves as a strategic road link for the North of England and as an important national link for north-south journeys. It is the most direct route between the Tees Valley, North Yorkshire, South Yorkshire, parts of West Yorkshire, the East Midlands, Eastern England and North Cumbria, Glasgow, much of the central belt of Scotland and Stranraer (for access to Northern Ireland and the Republic of Ireland).
- 1.4.2 For some journeys the A66 can serve as an alternative and more direct east-west crossing to the M62. For example, from Ferrybridge (A1/M62 junction) to Penrith (M6/A66 junction) the route is approximately 42 miles and 29 minutes shorter via the A1 and A66 than the alternative route via the M62, M61 and M6.
- 1.4.3 The A66 has a high freight flow, with commercial vehicles over 20% of total vehicles on most sections of the route between Scotch Corner and Penrith. The expectation is that freight traffic generated in the North of England and Scotland will continue to grow, and that Northern Powerhouse aspirations for the Ports and the economy as a whole will only accelerate this growth. Time savings, shorter distances and more reliable journeys are critical for freight operators and have a direct impact on operating costs and the real economy.
- 1.4.4 The existing evidence shows that the A66 is under-utilised given the comparative travel distances and journey times, particularly by freight traffic. The analysis undertaken using the 'GB Freight Model' for the Northern Freight Strategy Study, for example, estimates (based on travel distances and journey times) that use of the A66 for Trans-Pennine movements by commercial vehicles should be double that of current flows, with those journeys using the M62 instead. Consultation with stakeholders confirms that the A66 is used less by freight traffic than it should be, due to the actual and perceived unreliability of the route compared with north-south routes and the M62.
- 1.4.5 It is likely that the completion of the upgrade of the A1 to three lane carriageway standard up to the junction with the A66 (the final stage of A1 Leeming to Barton is underway) by 2017 will make the A1/A66 route even more attractive as a strategic route, assuming that issues with the A66 can also be addressed.
- 1.4.6 Other studies of the A66 east of the A1 between Scotch Corner and Tees Valley and west of the M6 between Penrith and Workington are also being undertaken within a similar timescale to this study, recognising the future importance of a strategic link between the Tees Valley area and ports and Northern Cumbria and west coast ports such as Workington.
- 1.4.7 Although there is no evidence to show that current journey times on the A66 are generally affected by traffic congestion, except on an occasional or localised basis, the current mix of road standards affects the attractiveness of the route. The evidence shows that:
- There are regular closures along the route, due to planned road works and maintenance; incidents and weather impacts (high winds and snow).
 - There are sections of the route where there is a higher number of incidents and accidents than the national average, particularly Greta Bridge and Scotch Corner.
 - The diversionary routes are either poor or involve long detours, particularly for HGVs due to the weight and height restrictions on the A685.

- 1.4.8 The single carriageway sections of the route make it far more difficult to keep the A66 open if incidents occur and, given the quality of the diversionary routes, makes it an unreliable highway link both in actual and perceived terms. This is particularly the case for freight operators for whom route reliability is a key criteria in decisions such as route choice.
- 1.4.9 In addition to its strategic function the A66 is an important access link to local and regional services for communities along the route, particularly as there is no alternative public transport provision. It is also a link to popular local and regional tourism destinations, such as the North Pennines and Lake District.
- 1.4.10 Generally communities along the route have been by-passed by previous interventions, but this is not the case at Kirby Thore where the route runs directly through part of the village, and there is a negative community impact at this point.
- 1.4.11 So the current performance of the A66, together with the Northern Powerhouse Agenda aspirations and other highway improvements, all make a strong case for investigating interventions which could improve the performance of the A66 as a strategic route and an essential link for local communities.

Case for Intervention on the A66/A685

- The A66 is a key national and regional strategic link for a range of south north and east west movements, particularly for freight.
- Its importance will only increase with the economic growth of the Northern Powerhouse agenda, and other strategic road link improvements.
- The current standard of the route, principally its unreliability, is constraining use of the route and inhibiting strategic connectivity and economic growth.
- These problems will worsen as economic development and traffic growth takes place.
- Interventions will therefore have a positive impact on travel reliability, network resilience and future national and regional connectivity and economic growth.

A69 Corridor

- 1.4.12 The A69 serves a predominantly regional and sub-regional function. It is the most direct route for journeys between Tyne and Wear, Durham and North Cumbria, Glasgow, much of the central belt of Scotland and Stranraer (for access to Northern Ireland and Republic of Ireland). It also provides a link for freight traffic between the Tyne ports and South West Scotland.
- 1.4.13 There are a number of communities along the route that have substantial commuting flows into regions either end of the route, for example between Hexham and Newcastle and between Brampton and Carlisle. These destinations also offer health, education, professional services and retail opportunities which are not available in the communities along the route and access to these is integral to their future vitality.
- 1.4.14 Although there is a public transport alternative, the Carlisle to Newcastle rail line, which is attractive to some people along the route, and improvements are planned for this line, communities along the route generally have a high car dependency and are reliant on road access. The A69 is therefore economically very important for these communities, especially given the poor standard of alternative road links.
- 1.4.15 The A69 is also important for access to tourism facilities, with frontiers of the Hadrian's Wall World Heritage Site and the presence of the North Pennines Area of Outstanding Natural Beauty, Northumberland National Park and Northumberland Dark Sky Park all situated within 2km of the route corridor.

- 1.4.16 Although on average journey speeds are not adversely affected by traffic congestion, the road standards and quality do affect journey speeds and reliability. Specific pinch points such as Warwick Bridge (speed limit of 30mph) and the lack of overtaking opportunities, for example the incline at Low Row, have an impact on journey times and reliability.
- 1.4.17 Analysis of collision rate data shows that the section between Carlisle and Brampton has a collision rate higher than the national average for the type of road. The data also shows that the A69 overall has a higher than national average of collisions involving HGVs. There is no evidence to identify a consistent explanation for these findings although anecdotally it is felt that the single carriageway sections, particularly where there is a pinch point such as Warwick Bridge, and lack of overtaking opportunities create frustration and risky driving behaviour.
- 1.4.18 As with the A66, and noted above, the A69 is a vital transport link for communities along its route. Again many communities, such as Brampton and Haydon Bridge have been bypassed by previous interventions but the current route has an adverse impact on Warwick Bridge, where the route runs directly through a large village.
- 1.4.19 All of these issues affect how the A69 can support the economic future of the communities along the route, as well as the economy of the wider North East and northern North West.

Case for Intervention on the A69

- The A69 performs a key function in integrating communities along the route into the wider North East/North West economy.
- The route also supports access to key tourist destinations and some inter-regional freight.
- There are some specific issues along the route which will constrain the future economic development of the communities and development growth areas, such as Carlisle and Newcastle airports.
- Interventions will therefore have a positive impact on the economic vitality of local communities; the attractiveness of specific development areas; network resilience and future regional connectivity and economic growth.

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