


South East Northumberland Public Transport Corridor Study



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1 Introduction

1.1 Introduction

AECOM has been commissioned by Northumberland County Council to develop an overarching **evidence base** for South East Northumberland; considering economic, social and environmental aspects, including both current and future transport movements. **Key challenges** will be drawn from the evidence base with a view to developing and subsequently assessing **interventions** designed to alleviate the identified challenges.

The key driver for the study of the South East Northumberland Public Transport Corridor is the recent publication of Northumberland's Local Transport Plan 3 (LTP3)¹. The LTP3 identifies a number of issues in, and associated with, the locality in the context of public transport provision. Notably, Northumberland has a net outflow of commuter trips, with a reliance on employment opportunities in Tyne and Wear. Public transport connectivity to Tyne and Wear, particularly from South East Northumberland, is characterised by long journey times and high fares. Congestion on local and strategic routes and junctions used to access employment locations, contributes to longer and more unreliable journey times for bus users. Congestion has also contributed to an Air Quality Management Area being established in Blyth (the only such one in Northumberland).

The LTP3 document identifies a range of transport related aspirations for Northumberland in general, but also those specifically relating to South East Northumberland. These focus on the themes of managing and maintaining the existing network, capacity improvements to the network, together with improvements to local bus and rail services, and enhancements to the walking and cycling infrastructure. The development of transport related interventions as part of this study will be founded in an evidence base such that they are appropriate to the requirements of the South East Northumberland area. They too will work towards meeting the aspirations of Northumberland County Council in terms of sustainable transport provision in the area and in particular the development of South East Northumberland's Public Transport Corridor.

1.2 Report Structure

Following this introductory section, the remainder of the report is structured as follows:

Section 2 – identifies the study area under consideration, its demographics and the policy context it operates within;

Section 3 – outlines the transport network in South East Northumberland and highlights the key transport movements;

Section 4 – introduces specific transport related problems in the South East Northumberland Corridor;

Section 5 – gives a portrait of the economy, society and the environment within South East Northumberland and identifies how this relates to transport;

Section 6 – takes the emerging challenges set out in previous sections and rationalises them by theme, before formulating study specific objectives; and

Section 7 – develops interventions which are designed to alleviate the rationalised challenges and contribute to the study specific objectives, as set out in Section 6. The process of assessing these interventions and scoring them against the study specific objectives is discussed.

Section 8 – Provides a summary of the contents of the report and the conclusions reached

2 Study Area

2.1 Introduction

This chapter identifies the study area under consideration, and highlights the area's demographics and the policy context under which the area operates.

2.2 South East Northumberland

For the purposes of service administration, Northumberland County Council divides the county into three service areas; North Northumberland, West Northumberland and South East Northumberland. The three service areas amalgamate localities which are characteristically similar.

The South East Northumberland area is shown in detail in **Figure 1** and also in the context of the wider Northumberland area, as shown in **Figure 2**. South East Northumberland combines the former Local Authority areas of Wansbeck, Blyth Valley as well as the Ellington and Lynemouth wards of the former Castle Morpeth district.

South East Northumberland is the smallest of the three service areas in Northumberland covering an area of only 155km². It is centred on the urban areas of Ashington, Blyth and Cramlington and as such, has a high population density compared to the rest of Northumberland at 951 people per km².

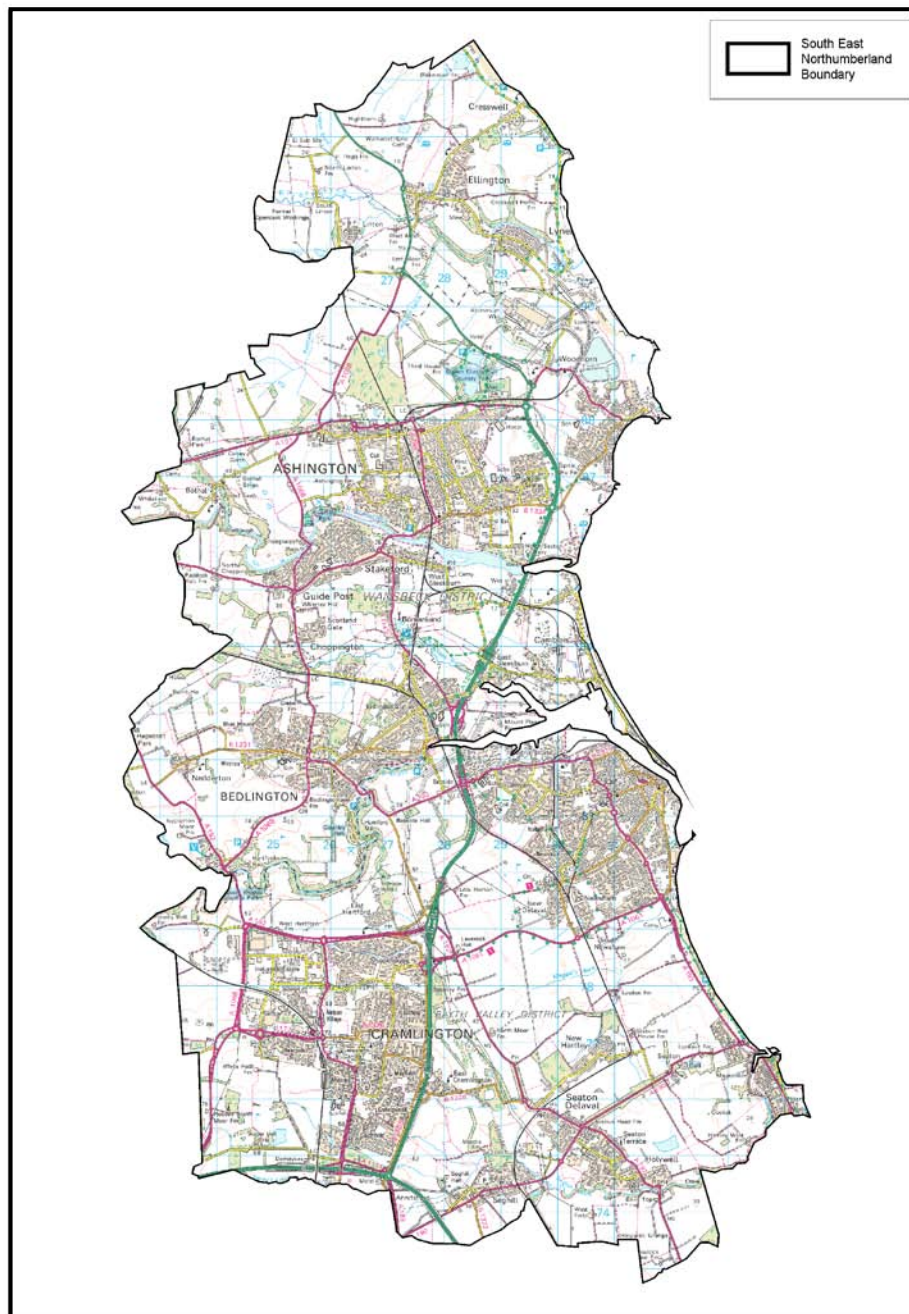
Many of the urban areas of South East Northumberland were built around the mining industry which has seen a significant decline over the last 30 years. This has led to the area being characterised by high levels of unemployment and considerable pockets of deprivation, ranking it below the national average for many aspects of the index of multiple deprivation.

South East Northumberland is positioned adjacent to Tyne and Wear and due to a lack of jobs in the local area, many inhabitants commute into Tyne and Wear for work purposes. Despite the strong linkages between the two areas, the public transport network is limited with a small passenger rail network, serving Cramlington only, and time consuming bus journeys. The cost of public transport between South East Northumberland and Tyne and Wear is also an issue with high public transport costs restricting access. In addition to problems with public transport provision, the highway network is exhibiting areas of peak hour stress on the approaches into Tyne and Wear.

These themes are explored further in subsequent sections of the report.

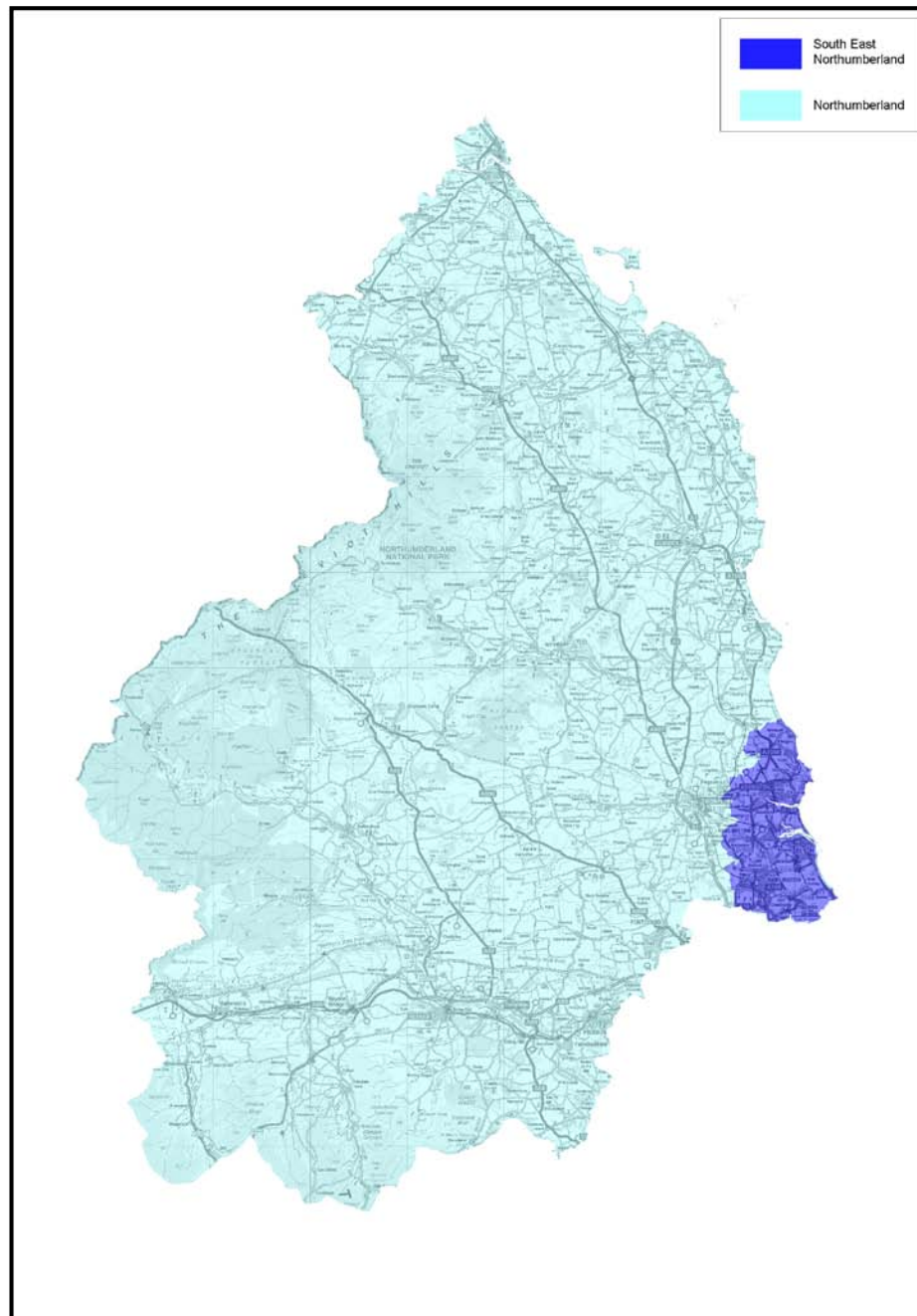
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Figure 1 – South East Northumberland Study Area



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Figure 2 – South East Northumberland Context Plan



2.3 Policy Context

It is important to understand the policy and administrative framework within which Northumberland currently operates. National, regional and local policy are briefly described in this section of the report as it is recognised that transport problems have varying degrees of intensity across different spatial areas.

2.3.1 National Policy

A number of national policy documents have been reviewed and are summarised in the section below.

2.3.1.1 DfT White Paper: Creating Growth, Cutting Carbon Making Sustainable Local Transport Happen (2011)²

The Government's vision for a sustainable local transport system is set out in the January 2011 Transport White Paper "Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen."

The White Paper acknowledges that transport provision is essential for economic growth if the Government is to improve the economic deficit which it is currently facing. The Paper also recognises however, that the current levels of carbon emissions from transport cannot be sustained if the nation is to meet its national commitments on climate change as well as creating a safer and cleaner environment in which to live. With this in mind, the Government highlights sustainable transport solutions as a means by which the economy can grow which will also see a positive impact on the local environment. As such any interventions suggested as part of this study which seek to improve the use and quality of sustainable transport modes and thus reduce transport related emissions will be favourable.

Whilst the White Paper outlines the funding options which will be available for sustainable transport schemes, it also recognises that investment alone will not be enough and that help needs to be given to people to ensure that the transport choices they make are good for society as a whole. The White Paper recognises that it is at the local level where most can be done to encourage sustainable transport modes and implement sustainable transport schemes. Solutions should be developed for the places they serve, tailored for the specific needs and behaviour patterns of individual communities. Providing an evidence base for this study in order to inform locally suited interventions will work towards achieving this.

Within the White Paper, sustainable transport considers more than just public transport, walking and cycling schemes and acknowledges that it is not feasible for some trips to be undertaken using these modes. There is therefore a

realisation that the car will continue to be an important mode of transport and a focus should be given to making car travel greener through electric and other low emission vehicles.

2.3.1.2 Delivering a Sustainable Transport System (DaSTS)³

As a derived demand, transport is inextricably linked to, and influenced by, other areas of policy including the economy, spatial planning, health, education and the environment. The development, management and maintenance of an efficient transport system is therefore essential to social well-being and can be either an enabler or a constraint on activity and all the benefits which flow from such activity. The need to ensure both connectivity and accessibility between different geographies and different groups of people is therefore central to the economic and social functioning of the UK and an imperative which, through time, will continue to demand a complex, complementary and integrated palette of interventions. Regardless of economic or other conditions prevailing at the time, failure to deliver this will progressively erode the pivotal enabling role which transport is required to provide.

Against this background, two major pieces of work in recent years, the Eddington Study⁴ and the Stern Review⁵, have challenged existing practices and perceptions in a number of ways. Amongst other things, Eddington insisted that the impact of transport intervention be measured across a comprehensive range of social, economic and environmental outcomes whilst Stern emphasised the need for a transition to a low carbon economy if climate change were to be avoided.

These two studies provoked a critical review of how transport supports other activities in society and how we can best measure its contribution. Most importantly, it has forced practitioners to think more carefully about how we migrate from our current position towards a system that maintains or improves accessibility and connectivity but which is less reliant on new infrastructure, less reliant on fossil fuels and more focused on behavioural change as the pivotal mechanism for achieving greater transport efficiency. Any approach, either within or outside the transport sector and whether traditional, radical or innovative will require a firm basis of evidence and understanding about movements currently being made on the network, by whom, for what purpose and at what time. It requires, in addition, an understanding of the underlying 'drivers' of movement, the options available to satisfy transport needs and the reasons which underpin the preferred choice. This is the basis of DaSTS, to develop a comprehensive and detailed understanding of what movement is occurring and why, before considering the widest possible palette of

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interventions for modifying behaviour towards a more sustainable outcome as reflected in the overarching DfT goals for the transport sector.

As part of this process, the National Networks study programme was commissioned by DfT to examine some of the most pressing transport problems in England at the present, taking account of the key role that transport plays in helping to deliver economic competitiveness and regeneration, environmental improvements and wider social benefits. The one study of particular relevance to South East Northumberland is the 'Access to Tyne & Wear City Region Study'⁶ which aims to identify a package of measures which improves performance of the A1 Newcastle – Gateshead Western Bypass, as well as addressing a series of challenges within the City Region and its environs.

Alongside the programme of National Networks studies, the DfT also made funding available to the English Regions to undertake further studies of transport priorities in their areas. In the North East of England this programme was led by ONE North East in close co-operation with a range of regional transport partners. Of these studies, of particular relevance to South East Northumberland was:

- A study of *Strategic Connections in the North East*⁷, examining transport network deficiencies and the case for transport investment to links between the City Regions in the North East, and links to other Regions in the UK;

2.3.2 Regional Policy

Several key regional policy documents for the North East have been reviewed as it is recognised that any solutions or interventions developed as part of this study will need to be compatible with other policies in the region. It is noted that the weight given to regional strategy documents may diminish in the light of governance changes proposed by the new Government formed in May 2010.

2.3.2.1 Regional Spatial Strategy

There are four themes underlying the Regional Spatial Strategy for the North East⁸:

- Delivering economic prosperity and growth;
- Creating sustainable communities;
- Conserving and enhancing the built and natural environment of the region together with its heritage and culture; and
- Improving connectivity within and beyond the region.

In line with these key themes, the following transport priorities, relevant to South East Northumberland, have been extracted from the strategy;

- Strategies, plans and programmes should develop public transport provision that encourages a rebalancing of the transport system in favour of more sustainable modes. Local Transport Plans and other strategies, plans and programmes should support that action;
- Local Transport Plans and other strategies, plans and programmes should develop core networks of public transport links focused on key hubs, and in particular on the rural service centres, with frequent services from these centres to the Conurbations and Main Settlements within the two city-regions.

Notwithstanding the future role of Regional Spatial Strategies under coalition government policy, there is still a need to ensure that land use and local transport plans are mutually consistent, and deliver the most effective and sustainable development for their area.

2.3.2.2 Regional Economic Strategy

The Regional Economic Strategy⁹ recognises the role that transport has to play in the growth of the regional economy and recommends that transport investment is designed to support increased economic activity, business competitiveness and sustainable communities. With this in mind, the strategy outlines a number of challenges which need to be met with the core theme underlying these challenges being connectivity.

2.3.2.3 Local Enterprise Partnerships

Under the new coalition government Local Enterprise Partnerships (LEPs) are encouraged to develop in order to oversee the economic development of the locality. The government's coalition programme states:

"We will support the creation of Local Enterprise Partnerships - joint local authority-business bodies brought forward by local authorities themselves to promote local economic development - to replace Regional Development Agencies (RDAs)"

Nationally there are 30 Government approved LEPs at present, one of which is the North Eastern LEP. The North Eastern LEP comprises the local authorities within Tyne and Wear (Newcastle, Gateshead, North Tyneside, South Tyneside and Sunderland) together with the Northumberland and Durham authorities. Currently board members are being appointed to the LEP.

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2.3.2.4 North East Enterprise Zone

In March's 2011 Budget the Government announced plans to establish 21 enterprise zones throughout the country, the first ten of which have designated locations. One of these designated locations is the North East, although it is the responsibility of the North Eastern LEP to establish a specific site for the zone. The zones are designed in order to stimulate economic development in an area, through enhancements to business and a simplified planning process, amongst other incentives. The development of a new business site is likely to impact on travel to work patterns; as such the site should have suitable access for all modes – with access by more sustainable modes being encouraged.

2.3.3 Local Transport Policy

2.3.3.1 Northumberland Local Transport Plan 3

Local Transport Plan 3 for Northumberland sets out what the Council wants to achieve over the period 2011 to 2026 and includes long term aspirations for transport; the implementation plan outlines short term measures to be implemented within the next four year period.

The Plan is centred on the overall vision for Northumberland which is identified in the Sustainable Community Strategy as follows:

'To make Northumberland a place that is resilient for the future.'

Five goals have been identified to help try and achieve this vision. These are largely set in the context of the five national transport goals and are displayed in the text below.

- Support Northumberland's economic competitiveness and sustainable growth by delivering reliable, resilient and efficient transport networks.
- Minimise the environmental impact of transport by reducing carbon emissions and addressing the challenge of climate change.
- Promote greater equality of opportunity by improving peoples' access to services and facilities.
- Improve transport safety and security and promote and enable healthier travel.
- Ensure that transport helps to improve quality of life for residents, employers and visitors, and protects and enhances the local environment.

For each goal identified above, a number of objectives have been set which will focus the local transport plan programme

and policies. These objectives are shown in **Table 1** against the goal which they are likely to support most.

Table 1 – LTP3 Goals and Objectives

Support Economic Growth
<ul style="list-style-type: none"> - Improve the performance of existing transport networks in those places that show signs of increasing congestion and unreliability. - Extend the reach of existing network where it is needed to meet growing demand. - Strengthen our networks against the effects of climate change and extreme weather events.
Reducing Carbon Emissions
<ul style="list-style-type: none"> - Deliver sustainable low carbon travel choices.
Improving Access to Services
<ul style="list-style-type: none"> - Improve transport connections to key services and facilities.
Safer and Healthier Travel
<ul style="list-style-type: none"> - Improve safety of the transport network, particularly for vulnerable road users. - Enable and encourage more physically active and healthy travel.
Quality of Life
<ul style="list-style-type: none"> - Improve transport connections within and between communities. - Provide better access to the natural environment. - Improve the integration of transport into streetscapes. - Protect the natural environment, heritage and landscape - Protect the fabric of historic town centres.

The Plan identifies a number of actions to be implemented during the fifteen year period it is in existence for. Given the current constraints on funding, it is likely that many of these actions will not be implemented until future spending review periods. Nevertheless, despite the reduced sources of funding, some funding is still available. Key schemes are identified and include:

- Consider options for reducing congestion on the A193 Cowpen Road Corridor
- Investigate the development of a major scheme business case for the South East Northumberland Public Transport Corridor
- Assess gaps in key services in deprived and isolated areas and develop local accessibility action plans

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- Work with partners to progress provision of real time passenger information at key locations in Northumberland
- Develop a core network of walking and cycling routes as part of a prioritised programme of schemes

2.3.3.2 Local Development Framework

The Local Development Framework¹⁰ (or LDF) is a collection of planning policy documents which will guide future development and regeneration in Northumberland. Policies should reflect the vision for Northumberland set out in the Sustainable Community Strategy.

Alongside regional planning policies set out in the Regional Spatial Strategy, the Local Development Framework is the development plan for Northumberland.

2.3.3.3 Sustainable Communities Strategy

Sustainable Community Strategies (SCS)¹¹ are key long-term planning documents for improving the quality of life and services in a local area. It is from these that local area agreements (LAA) are developed.

Northumberland articulates its ambition and vision through the Sustainable Communities Strategy (SCS), which is currently being refreshed. The current SCS vision is:

"That we work together to release the strength of all our communities so that everyone in Northumberland has the same life opportunities, is broadly satisfied with the quality of their lives and is able to influence decisions that affect them."

Emerging work on the new SCS is establishing what is distinctive about Northumberland and how thematic areas can contribute to maintaining and improving environmental, community, economic and social well being. A sustainable transport network will be central to achieving the aims of the SCS by assisting in:

- **Responding to climate change** by offering alternatives to the private car;
- **Affording equality of opportunity** by affording safe and quality accessibility to key services;
- **Narrowing the poverty gap** by providing access for all to a range of education and employment opportunities;
- **Supporting the vulnerable people**
- **Fostering confident young adults** again through the provision of access to education, training and employment.

2.3.3.4 Economic Strategy

The Economic Strategy¹² supports delivery of the SCS and is set within the context of the existing Regional Economic Strategy. The aim of the economic strategy is:

'To maintain and improve economic growth and performance whilst ensuring that all residents can share in high living standards'

The focus of the strategy is therefore on sustainable economic growth and the development of a low carbon economy developed around eight thematic priorities:

- A working economy;
- A skilled economy;
- An inclusive economy;
- A competitive economy;
- A resilient and diverse economy;
- An enterprising economy;
- A vibrant economy; and
- A connected economy

Northumberland's economy cannot be divorced from that of Tyneside – almost a third (28%) of the workforce commute to Tyne and Wear on a daily basis although a greater proportion live and work within the county's boundaries. Those commuting into Tyne and Wear are shown to predominately travel to Newcastle and North Tyneside. Therefore, developing the region's economy must focus on both the connections within Northumberland but also beyond the region's boundary, in particular south to Tyne & Wear.

2.3.3.5 Housing Strategy

Northumberland County Council is now a statutory housing authority with a duty to identify housing need and publish a housing strategy to meet those needs. The Northumberland Housing Strategy¹³, adopted in 2010, is focused around five objectives:

- Rejuvenating the housing stock;
- Providing choice through the type and mix of new housing;
- Improving and maintaining existing housing;
- Addressing specific community and social needs; and
- Reducing the impact of climate change

With the focus of these objectives being on housing stock and reducing the impact of climate change, there is a close correlation with the intended outcomes of the Local Transport Plan.

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2.3.3.6 Emerging Tyne and Wear City Region Transport Strategy

The Tyne and Wear City Region covers the five districts of Tyne and Wear as well as the travel to work areas of South East Northumberland, the Tyne Valley in Northumberland and northern County Durham. Northumberland will therefore be directly impacted by the emerging Tyne and Wear City Region Transport Strategy which is due to be published in 2011. This strategy has the following vision for transport within the Tyne and Wear City Region;

'To provide a transport network that is modern, seamless, efficient reliable and sustainable.'

The Tyne & Wear City Region Transport Strategy will be the mechanism for delivering this vision for transport and contribute towards the high level DfT goals of tackling climate change, supporting economic growth, promoting equality of opportunity, contributing to better safety, security and health, and improving quality of life.

2.4 Spatial Distribution of Land Use

The spatial distribution of development is an important driver of transport demands and behaviour. This section of the report focuses on the current distribution of population and employment across South East Northumberland in order to better understand the key generators of trips.

Figure 3 shows the population density of South East Northumberland by lower super output area (LSOA); the average population of a lower super output area nationally is 1500.

It is evident from the plan that population density is highest around Blyth, Cramlington and Ashington. Many of these settlements were formed around the mining industry but are now located on the periphery of Tyne and Wear where they can take advantage of employment opportunities in the neighbouring authorities.

In the wider South East Northumberland area, the population density is low with many LSOA's having a population density of fewer than 1500 people per square kilometre. If population density is low, it will often mean essential services and facilities are not commercially viable leading to an increased need to travel.

Figure 4 shows the job density per working age population for each LSOA. It shows that there are 10 LSOAs in South East Northumberland from a total of 96 which have a job density per head of working age population of one or above. This means

that people must be travelling into these areas to fill the jobs. Similarly to population density, many of the areas of highest job density are located in Cramlington, Ashington and parts of Blyth.

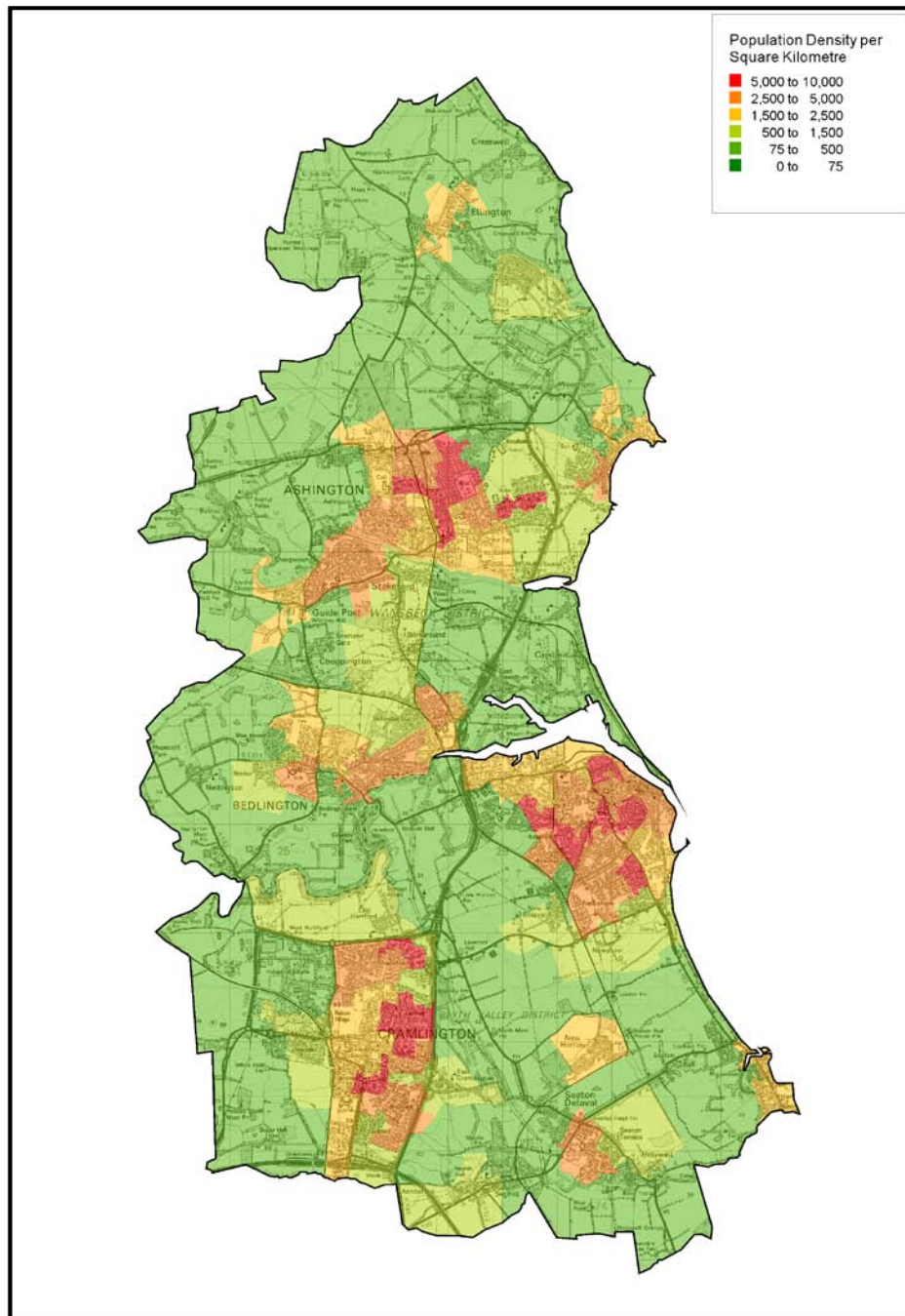
The remaining 86 LSOAs in South East Northumberland have a job density per head of working age population between 0 and 1. This means that if every person of the working age population in these areas wants to work, some must commute to other areas where employment is more readily available. Whilst in some areas this is because the LSOA is more rural in nature, other areas lack provision for employment. Therefore, it is essential that the transport links from these areas to the LSOAs with greater job densities are good.

Emerging Challenges

There are insufficient numbers of jobs in South East Northumberland to support the population that live there. People will therefore be required to travel to neighbouring LSOAs to gain employment.

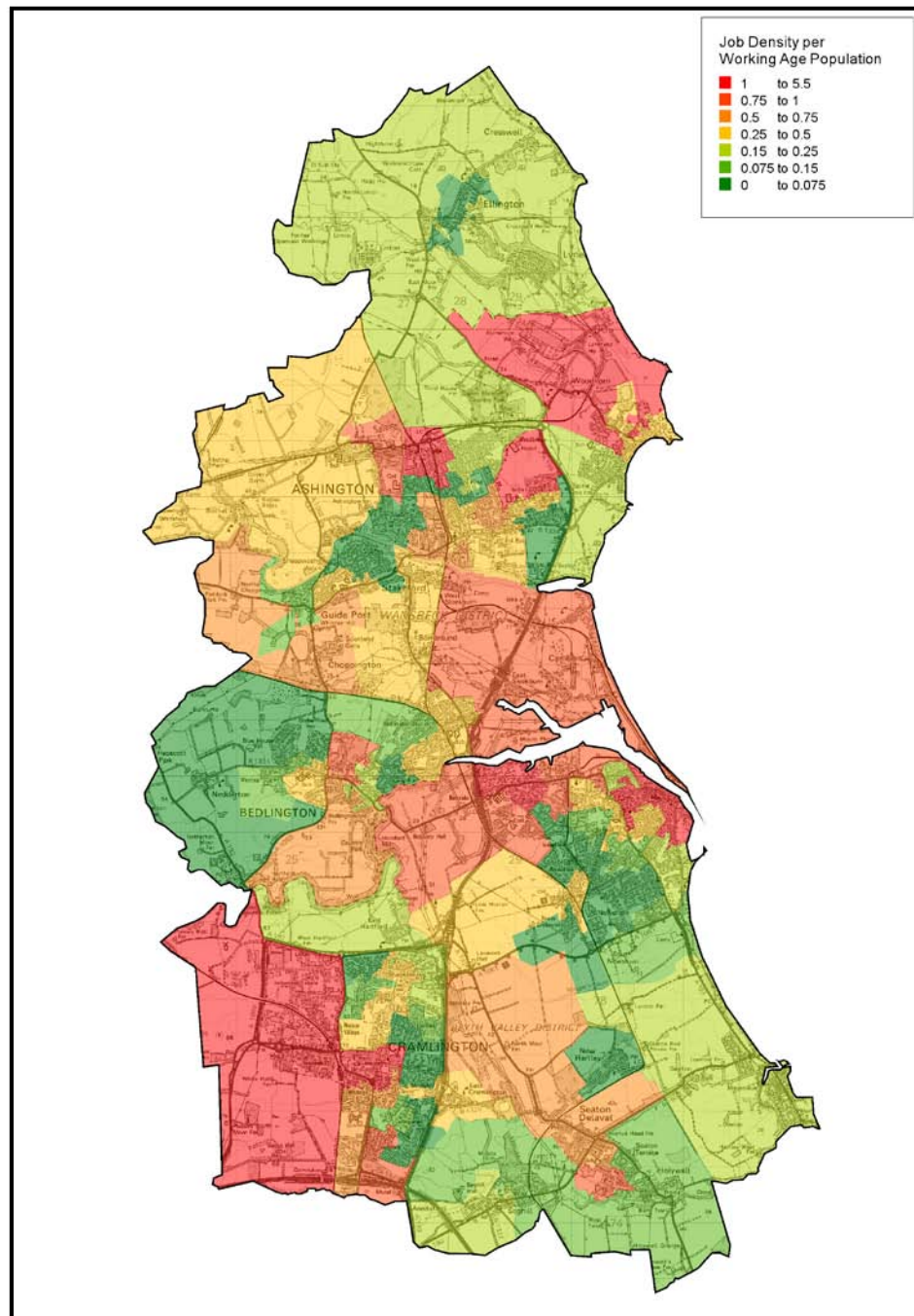
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Figure 3 – Population Density in Northumberland (2008)



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Figure 4 – Job Density of South East Northumberland (2008)



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2.5 Future Spatial Distribution of Development

Future changes in the spatial distribution of development will have a big impact on the operation of the transport network in Northumberland. For this reason, where available, information has been gathered on proposed developments across Northumberland.

2.5.1 Housing

The Housing Growth Point initiative is likely to have a big impact on the population density of South East Northumberland. The area achieved Growth Point status in July 2008 following which a Programme of Development was prepared that set out how the Growth Point Partnership's growth ambitions might be realised. Growth Point status represents a joint commitment between government and the new Growth Point Partnership to increase the level of housing provision in the sub region and accelerate its delivery. However it is not solely about housing numbers; it is also about:

- Improving the quality of the housing and the design of new development;
- Widening housing choice;
- Providing "greener" housing (the Housing Green Paper agenda);
- Improving the quality of life for local people.

The vision for the South East Northumberland New Growth Point states that:

"Our vision is to create a strengthened network of sustainable communities in South East Northumberland's Corridor of Opportunity through broadening the range and improving the quality of housing, regenerating town centres, and supporting new economic enterprise and employment"

The Growth Point area comprises the whole of the former districts of Blyth Valley and Wansbeck; extends northwards into the former Rural Coalfield area and westward to include the market town of Morpeth; its main settlements are Ashington, Blyth, Cramlington and Morpeth. Growth point sites are shown in **Figure 5**.

Providing an efficient and sustainable multi-modal transport network will be key to facilitating successful delivery of the Growth Point Programme.

2.5.2 Employment

The RSS for the North East recognises the need for suitable employment land if the economic growth aspired to in the RSS is to be achieved. The strategy does however suggest that much of this growth will be focused on Tyne and Wear with an

emphasis on developing offices and knowledge based industries in the city centres and using out of town locations, with good public transport and road connections, for manufacturing and logistics developments. This suggests that whilst South East Northumberland will be the focus of increased housing provision in the form of Housing Growth Point sites, many of the new jobs will be located in Tyne and Wear. The proximity of the residential areas within South East Northumberland to the new employment opportunities in Tyne and Wear is such that there will be opportunity for residents to take advantage of the additional job prospects. This being the case, it is therefore essential that transport provision between these two areas is facilitated.

That said, employment sites will be developed in Northumberland and an understanding of the transport implications these developments may have needs to be understood. Allocated and committed employment developments in Northumberland which are likely to have a significant impact on the transport network are shown in **Figure 6**. The figure shows that there are sizeable employment developments planned in the South East Northumberland area, therefore provision should be made in the future to ensure that access to these sites by all modes is adequate for the needs of potential employees.

2.5.3 Other Public Services

Government cuts in public spending have led to many public services schemes being put on hold. This has impacted on the development aspirations of both the health and education sectors.

Emerging Challenge

There is an emphasis on employment growth in the North East being centred on Tyne and Wear despite housing growth points being established in South East Northumberland, this will require longer distance journeys to work and will not work towards increasing South East Northumberland's job density.

Figure 5 – Housing Growth Point Sites

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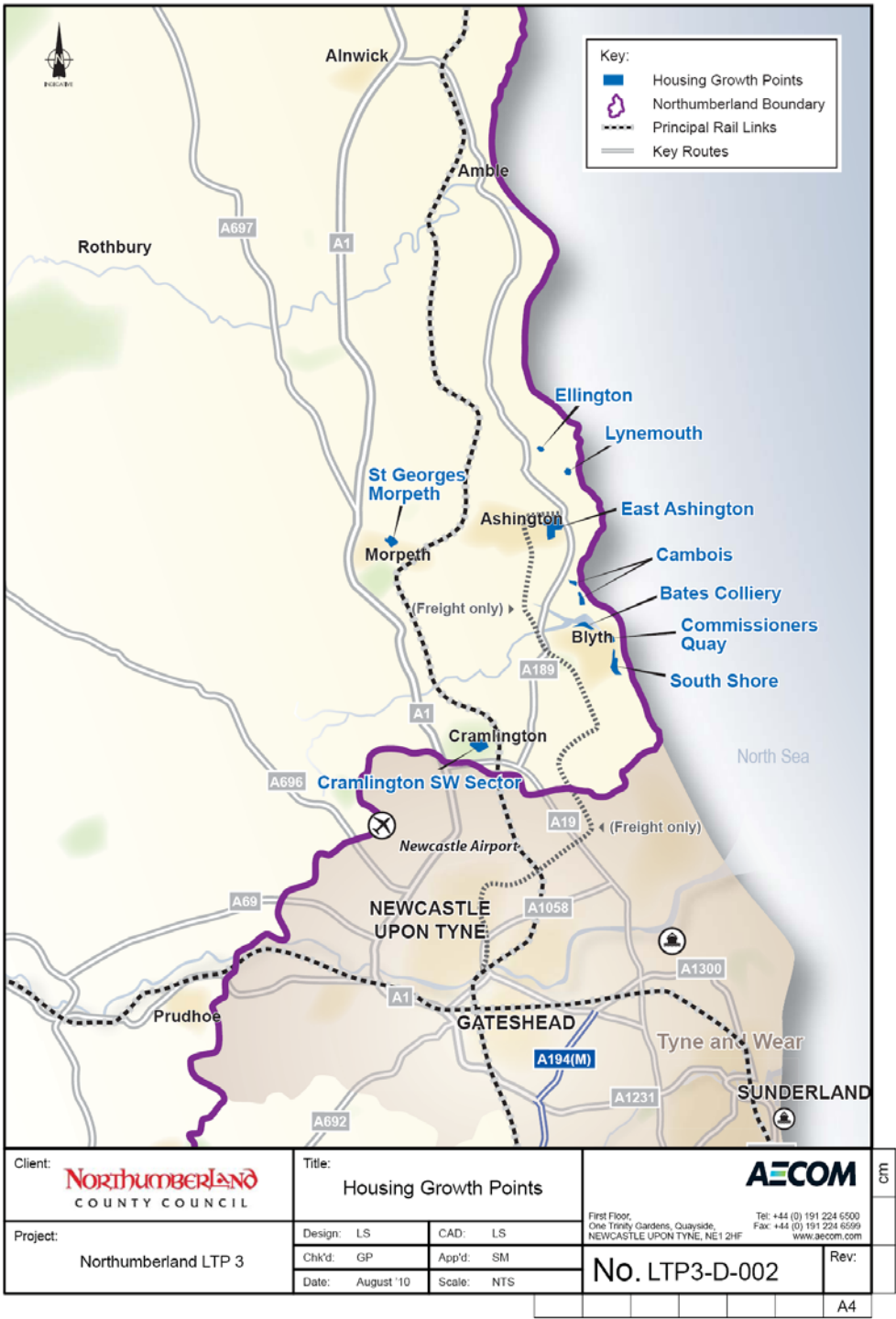
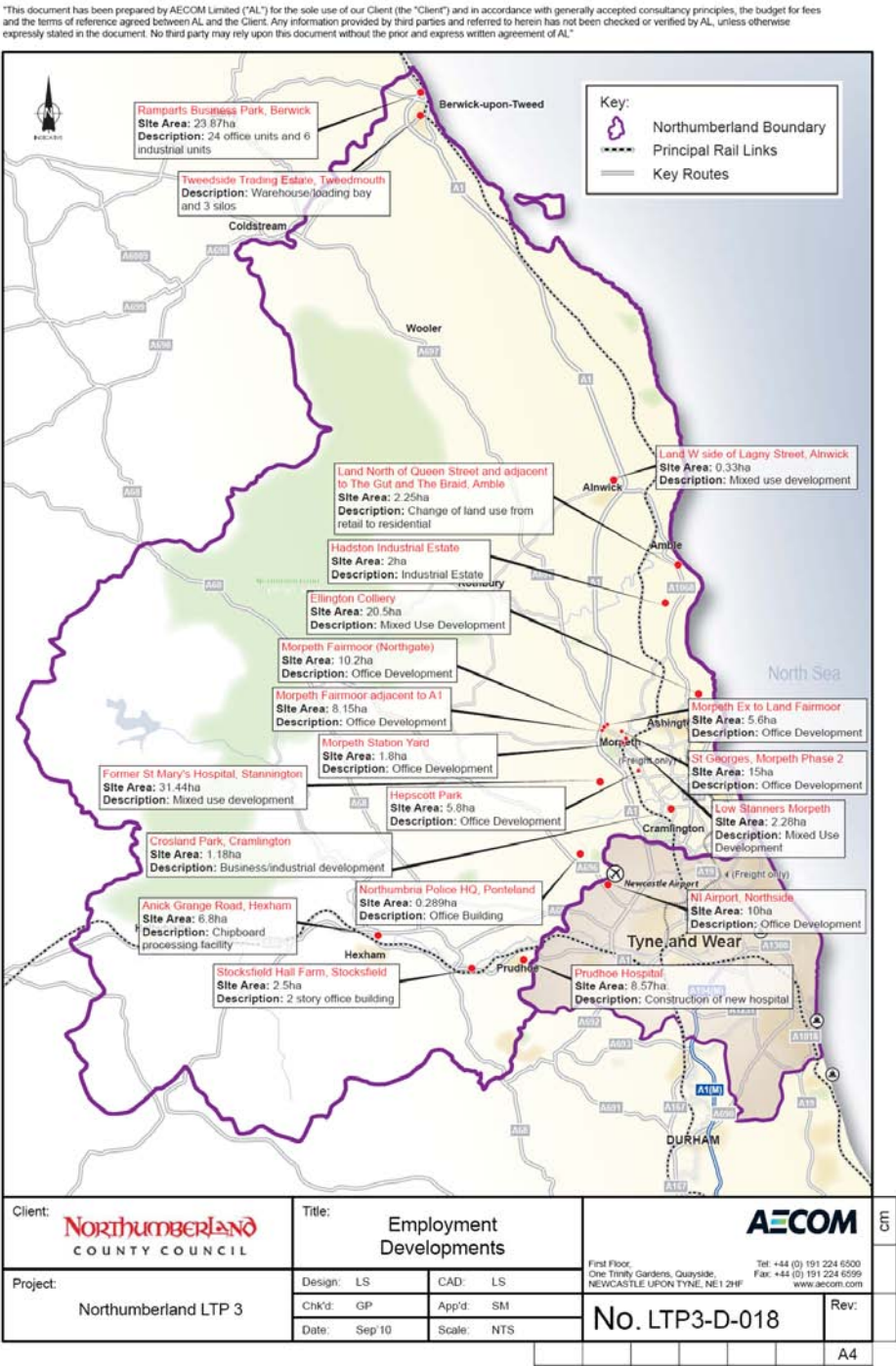


Figure 6 – Employment Developments in Northumberland



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2.6 Population Characteristics

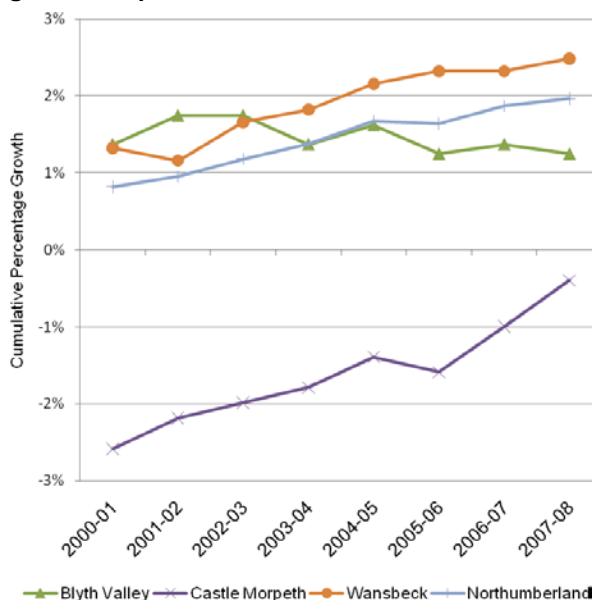
Population trends for the South East Northumberland area will have a direct impact upon transport demands, both in terms of the overall levels of population and the spatial distribution of population within the districts of Northumberland.

Where data is available throughout the remainder of the document, the Northumberland area is split into the former Local Authority districts for the purpose of analysis. Considering that the South East Northumberland area is comprised of the former areas of Wansbeck and Blyth Valley and only two wards from the Castle Morpeth area, it is the Wansbeck and Blyth Valley areas which are focused on given that they best represent the characteristics of South East Northumberland, although figures for Castle Morpeth are included for completeness.

2.6.1 Population Trends

Historically the North East region has had a declining population. However there is variation in the figures shown for the former local authority districts and the figures for Northumberland, as shown in **Figure 7**

Figure 7 – Population Growth in Northumberland



Source: Annual Population Survey 2008

Figure 7 demonstrates that, both Blyth Valley and Wansbeck demonstrated modest overall growth over the 18 year period whilst Castle Morpeth has shown until recently a decline in

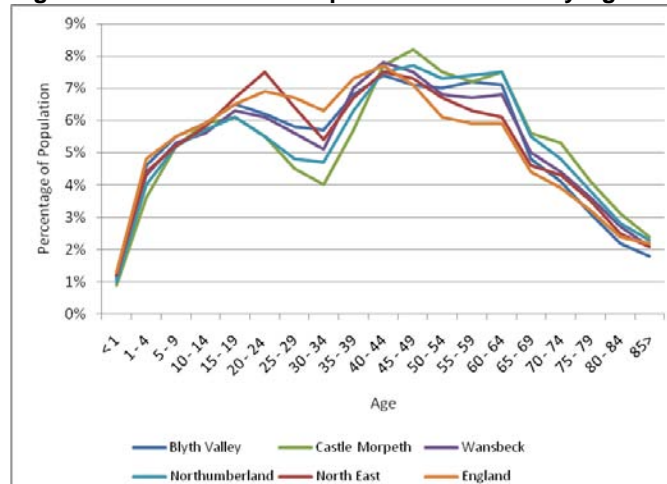
population; however the population is now on par with the numbers recorded in 2000.

2.6.2 Age Profile

The age structure of the South East Northumberland population will have serious implications for transport provision in the region. Of particular issue will be concessionary travel for the young and the elderly, accessibility to key services and facilities and car ownership levels.

Mid-year population estimates for 2008 highlight that Northumberland and the former local authority districts deviate from national trends in that they have a higher percentage of elderly residents with a lower percentage of working age residents. This is illustrated in **Figure 8**.

Figure 8 – 2008 Mid Year Population Estimates by Age



Source: Office of National Statistics

The data in **Figure 8** suggests that South East Northumberland will be at a disadvantage compared to other areas nationally in its ability to grow economically due to the lower proportion of working age residents in the region. The higher proportion of elderly people in the area will lead to an increasing need for transport provision to health facilities and hospitals as well as additional funding for concessionary travel.

Emerging Challenge

South East Northumberland has an increased proportion of elderly residents and a lower proportion of working age residents compared to the regional and national averages. This will lead to a need for transport to health facilities and hospitals as well as additional funding for concessionary travel.

2.6.3 Future Trends in Population

TEMPRO software version 6.1 has been used to assess future trends in population for South East Northumberland. This is shown in **Table 2**.

Table 2 – Future Trends in Population Growth

Area	2011-2026					
	<16	16-64	65+	Households	Jobs	Total Population
GB	4.1%	1.3%	15.0%	6.3%	5.1%	4.0%
North East	1.4%	-1.3%	12.4%	4.0%	2.4%	1.5%
Northumberland	1.4%	-3.7%	19.5%	4.5%	1.0%	1.7%
Blyth Valley	1.5%	-3.8%	24.2%	5.2%	0.7%	1.9%
Castle Morpeth	3.3%	-3.5%	15.7%	4.2%	-0.2%	1.7%
Wansbeck	2.2%	-2.2%	15.4%	4.7%	2.0%	1.8%

Source: TEMPRO v6.1

TEMPRO data shows that between 2011 and 2016 the population of Northumberland is forecast to increase by 1.7%. This is lower than the 4% forecast for Great Britain but higher than the 1.5% forecast for the North East. Blyth Valley is expected to have a population increase of 1.9% over the five years, whilst the respective figures for Wansbeck and Castle Morpeth are 1.8% and 1.7%. An increase in the population will put added pressure on the transport network although the demographic structure of the increase in population will be more useful in identifying any resultant problems.

The growth in the over 65's age bracket for Northumberland is expected to be 19.5%; this is significantly higher than the growth in over 65's for the North East at 12.4% and also higher than the figure for Great Britain at 14%. The expected increase in over 65's in Blyth valley is as great as 24.2%, whilst the respective figure for Wansbeck is somewhat lower at 15.4, although this is still higher than the expected regional and national growth figures. As previously mentioned, an increasingly ageing population will lead to an increasing need for transport provision to health facilities and hospitals. A higher proportion of elderly residents will also put added pressure on the local authority in the provision of concessionary travel.

Northumberland as a county is also expected to see a small growth in its younger dependents, those people under the age of 16. The growth rate is expected to be 1.4%. This is similar

to the figure for the North East also at 1.4% but substantially lower than Great Britain at 4.1%. Castle Morpeth, Wansbeck and Blyth Valley all show increases in the proportion of under 16's, at a 3.3%, 2.2% and 1.5% increase respectively.

TEMPRO growth figures predict that the working age population will decrease in all areas of Northumberland between 2011 and 2016 with a percentage decrease of 3.7%. This is also true of the working age population for the North East region although the percentage decrease for the region will be slightly lower at 1.3%. Great Britain however, is predicted to see an increase in its working age population of 1.3%. Within the Northumberland region, the decrease in the working age population in Blyth Valley, Castle Morpeth and Wansbeck is lower than the other districts of Northumberland; however the areas are expected to experience a greater decline in population compared to the expected regional decline and national increase. A decline in the working age population will have implications on economic growth in Northumberland with the contribution people are making to the economy being reduced.

The data in **Table 2** shows that there is forecast to be a growth in the number of jobs in all but the Castle Morpeth district of Northumberland. This is despite the decline in the working age population as identified in the preceding paragraph. This could reduce the need for residents to commute into neighbouring authorities in search of employment which could in turn have positive implications on air quality and traffic congestion. Wansbeck is shown to have the greatest increase in jobs of all the former Northumberland districts at 2%. Despite this, the expected growth in the number of jobs in Blyth Valley and Wansbeck is lower than that predicted throughout the North East and is notably lower than the national figure.

It is notable from the TEMPRO data that there is expected to be a much greater increase in the number of households compared to the increase in the population. Northumberland is predicted to see a 4.5% increase in the number of households during the period of the plan in contrast to a 1.7% increase in the population. This is not dissimilar from other trends nationally with the North East expected to see a 4% increase in households but only a 1.5% increase in population and Great Britain expected to see a 6.3% increase in households but a population growth of only 4%. The districts within Northumberland all follow a similar trend. This increase in the number of households above an increase in the population is suggestive of the society we currently live in with more single occupancy households. In terms of the transport implications,

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it is important to understand the location of these new households to identify whether the transport network is sufficient to cope with an increase in trips and whether sustainable transport options are available.

households could put added pressure on the transport network if a sustainable transport network is not in place.

Emerging Challenges

The working age population of South East Northumberland is set to decrease. This will impact upon economic growth and an individual's contribution to the economy.

Emerging Challenges

The number of households in South East Northumberland is forecast to increase at a higher rate than the population. The location of these new households could put added pressure on the transport network if a sustainable transport network is not in place.

2.7 Emerging Challenges

From this section of the report, the following important challenges have emerged that will impact on the objectives of this study and in turn assist in the development of interventions.

- **Employment Opportunities:** There are insufficient numbers of jobs in many LSOAs in South East Northumberland to support the population that live there. People will therefore be required to travel to neighbouring LSOAs to gain employment.
- **Future Developments:** There is an emphasis on employment growth in the North East being centred on Tyne and Wear despite housing growth points being established in South East Northumberland, this will require longer distance journeys to work and will not work towards increasing South East Northumberland's job density.
- **Age Structure:** South East Northumberland has an increased proportion of elderly residents and a lower proportion of working age residents compared to the regional and national averages. This will lead to a need for transport to health facilities and hospitals as well as additional funding for concessionary travel.
- **Age Structure:** The working age population of South East Northumberland is set to decrease. This will impact upon economic growth and an individual's contribution to the economy.
- **Future Population Trends:** The number of households in South East Northumberland is forecast to increase at a higher rate than the population. The location of these new

3 Transport Network

3.1 Introduction

This section of the report provides a detailed description of the transport networks currently in place in South East Northumberland as well as analysing the transport movements which take place. An understanding of traffic movements from within and beyond South East Northumberland is necessary to ensure that the current transport network is adequate and that it gets people to the places they want to go to. Understanding the means by which people travel will be essential for developing interventions.

3.2 General context

The following text provides an overview of the available transport modes in South East Northumberland.

3.2.1 Highway Network

In terms of South East Northumberland the A189 leading onto the A1068 is one of the major roads in the area and runs along the eastern part of the study area between Alnwick in North Northumberland and the A19 in the south of the study area. It is the major commuter route for those in South East Northumberland into Tyne and Wear. The road is dual carriageway between Newcastle and Ashington and single carriageway beyond Ashington.

3.2.2 Rail Network

The main passenger railway running through South East Northumberland is the East Coast Main Line, running through the south west of the area. The Ashington, Blyth and Tyne railway is a freight link connecting South East Northumberland to Tyne and Wear via the Benton Junction. The link serves the Port of Blyth and is predominantly used to transport coal and aluminium to/from Lynemouth Power Station and Rio Tinto Alcan Ltd.

Although the East Coast Mainline is a strategic link running in South East Northumberland only local trains, operated by Northern, serve Cramlington Rail Station; the only local station in the South East Northumberland area.

Northern Rail services run approximately hourly from Morpeth to Newcastle, serving Cramlington on route.

3.2.3 Cycle Network

The network available to cyclists in Northumberland is shown in **Figure 9**.

Part of the National Cycle Route 1, known as the Coast and Castles Cycle Route, runs along the east coast of South East Northumberland (the route runs from Tynemouth in Tyne and

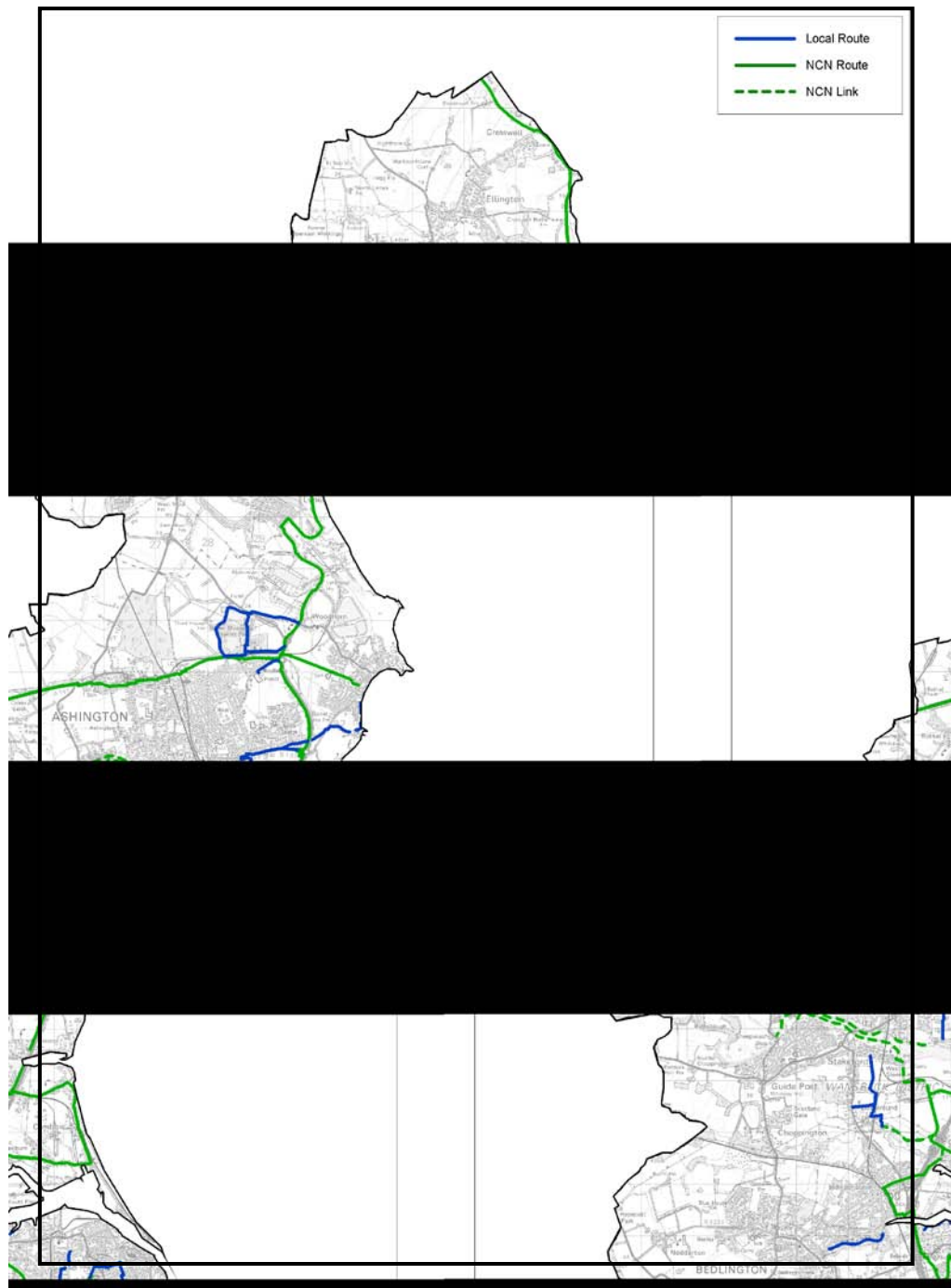
Wear to the South to Berwick in North Northumberland). Due to its relatively flat topography, the route is very attractive to cyclists. The national Route 155 runs east to west connecting the Coast, via Ashington and Pegswood to Morpeth.

The national network cycle routes form the backbone to cycle routes in South East Northumberland and help to encourage cycling in the county. They are an important attractor of tourists to the area and help to bring in essential revenue for the tourism industry. It is essential that these routes are maintained and improved throughout to encourage greater cycle use in the county.

The national cycle network is supported by a network of more local routes, which are most extensive in the Cramlington area. It is evident from looking at **Figure 9** that within South East Northumberland cycle routes tend to be fragmented.

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Figure 9 – South East Northumberland Cycle Network



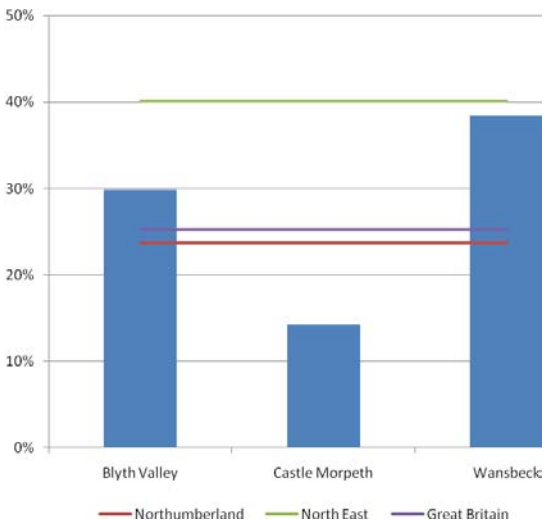
3.3 South East Northumberland Context

In this section, data sources are drawn upon in order to illustrate the important transport features in South East Northumberland, and how these features may differ from the national picture. The transport features illustrated relate to car ownership, modal share and trip distances.

3.3.1 Car Ownership in South East Northumberland

Vehicle ownership will be an influential factor in determining the choice of travel destinations, the frequency of journeys and the mode of travel chosen, for any trip purpose. Ownership levels, as established in the Census 2001, vary across the authority as illustrated in **Figure 10** below.

Figure 10 – Households that do not own a Car



Source: 2001 Census

Figure 10 shows that in 2001, the percentage of households in the former Wansbeck area that did not own a car was comparable to the figure recorded in the North East. This figure is however, notably higher than the percentage of households not owning a car in Northumberland and Great Britain. The percentage of households not owning a car in Blyth Valley was lower than the overall percentage recorded for the North East, but higher than the figure recorded for Northumberland and Great Britain. From the entire former local authority districts, Wansbeck had the highest percentage of household without a car, and this was followed by Blyth Valley.

Car ownership levels are often indicative of the levels of deprivation in an area and it is therefore no surprise that car ownership levels are lowest in the most deprived areas of Northumberland. This is described in greater detail in **Section**

5 of this report. Whilst localised congestion may not be such an issue for South East Northumberland at present, increasing car ownership levels, linked to improvements in wealth, could lead to it being a concern in the future. The projected car ownership levels over the next 15 year period are outlined in **Table 3**.

Table 3 – Future Projections for Car Ownership

Area	2011 - 2026				
	No Car	1 Car	2 Cars	3+ Cars	Total Cars
GB	1.7%	17.7%	22.1%	26.8%	21.1%
North East	-4.3%	16.2%	23.3%	22.5%	19.7%
Northumberland	-4.4%	14.4%	16.1%	11.6%	14.7%
Blyth Valley	-2.4%	16.1%	18.6%	14.7%	17.0%
Castle Morpeth	-4.3%	14.3%	12.4%	7.8%	12.2%
Wansbeck	-4.2%	16.5%	21.1%	17.0%	18.4%

Source: TEMRPO v6.1

Table 3 shows that the number of households without a car is set to decrease in the former local authority areas that make up South East Northumberland over the 15 year period by just under five percent. This is against an increase in the number of households without a car across the whole of England. In addition, there will also be an increase in the number of households having one or more cars across South East Northumberland with the greatest increases occurring in Wansbeck, the district with the lowest car ownership levels in the Census 2001 data.

Although the number of cars in Northumberland is expected to increase, the level of increase is projected to be lower than that for Great Britain or the North East. This is likely a result of the current higher than average levels of car ownership in the region. That said, car ownership is going to increase and this could prove problematic for the operation of public transport; in the context of services which are not commercially viable and also in the travel time experienced by public transport users where delays are associated with congestion. The challenge therefore lies in encouraging new car owners to continue making use of alternative modes of travel in order to manage transport demands and reduce carbon emissions.

Emerging Challenges

Low levels of car ownership may inhibit accessibility to important destinations, should these not be served by suitable public transport links.

Emerging Challenges

Car ownership in South East Northumberland is forecast to increase. This has potential implications for the commercial viability of public transport and modal share in the future.

source of emissions. Key to achieving this will be influencing a modal shift from the private motor car to a more sustainable mode of transport. Understanding the current modal share in South East Northumberland is therefore essential in order to develop an appropriate set of options. This has been analysed using the 2001 Census journey to work data.

3.3.2 Modal Share

The Stern Report emphasised the need for a transition to a low carbon economy if climate change were to be limited. Transport was identified as one of the market sectors where attention should be focused since it is the fastest growing

Table 4 shows the modal split data for journeys to work originating in the three former districts of South East Northumberland; comparable figures for Northumberland, the North East and England are also included.

Table 4 – 2001 Census, Mode Share for Journey to Work Trips

Mode	Blyth Valley	Castle Morpeth	Wansbeck	N/land	North East	England
Works from home	7%	12%	7%	11%	8%	9%
Underground, metro, light rail, tram	1%	1%	<1%	1%	2%	3%
Train	<1%	1%	<1%	1%	1%	4%
Bus, minibus or coach	9%	5%	8%	6%	11%	8%
Taxi	1%	<1%	<1%	<1%	1%	1%
Car driver	60%	64%	59%	58%	55%	55%
Car passenger	11%	7%	11%	9%	9%	6%
Motorcycle	1%	1%	1%	1%	1%	1%
Bicycle	2%	1%	2%	2%	2%	3%
On foot	8%	8%	11%	11%	10%	10%
Other	<1%	1%	<1%	1%	<1%	<1%

Source: 2001 Census

It is notable from the data that the modal share figures for Blyth Valley and Wansbeck are relatively similar, whilst there are notable differences in the figures for Castle Morpeth. As mentioned previously, the Ellington and Lynemouth wards of the former Castle Morpeth district within the study are more likely to be characteristically similar to wards within Blyth Valley and Wansbeck.

Both Blyth Valley and Wansbeck have percentages of people who travel to work as a car driver above those recorded for Northumberland, and also the North East and England. These locations also have a high percentage of people travelling to

work as a car passenger. These results contrast with the figures showing that Wansbeck and Blyth have the lowest levels of car ownership in the county.

Throughout the county the use of public transport is low with only 6% of commuters travelling by bus and 1% of commuters by train. Bus usage in Blyth Valley and Wansbeck is the highest in the county with 9% and 8% respectively using the bus to travel to work. This is likely to be indicative of the higher population densities in these areas, and their more urban nature, making bus services more readily available. The number of bus users is also likely to be influenced by the

provision of alternative public transport options. In both Blyth Valley and Wansbeck less than 1% of commuters use the train to travel to work. There is no rail provision in Wansbeck and provision in Blyth Valley is limited to a station in Cramlington to the south west of the district, away from Blyth itself which is the main population centre of the district.

Although public transport use in Blyth Valley and Wansbeck is higher than the levels recorded in Northumberland as a whole, usage remains lower than both the national and regional figures.

Working from home is lowest in Blyth Valley and Wansbeck at 7%. This is possibly reflective of the shorter distance of these districts from main centres of employment compared to other districts in Northumberland. Having already indentified these districts as being the most deprived with low earning amongst the resident population, low levels of working from home may also be reflective of the job types that people in these districts undertake and the equipment required to work from home. As already mentioned working from home completely removes commuter trips from the network and is therefore something which should be encouraged where feasible.

Non motorised forms of transport account for 10% of journey to work trips in Blyth Valley and 13% in Wansbeck (both with 2% of journeys made by bicycle, and 8% and 11% respectively made on foot.. It is recognised that whilst these forms of transport will only be suitable for journeys to work that are within a given distance; they are wholly sustainable modes of transport and as such, should be encouraged where appropriate. Additionally, walking and cycling also have health benefits associated with them. The IHT acceptable walking distances are given in **Table 5** whilst PPG13 guidelines state that cycling has the '*potential to replace short car journeys particularly those under 5km*'¹⁴.

Table 5 – IHT Recommended Walking Distances

Criteria	Commuting/ School	Elsewhere (Other than Town Centre)
Desirable	500m	400m
Acceptable	1000m	800m
Preferred Maximum	2000m	1200m

Source: Providing for Journeys on Foot, IHT (2000)

Emerging Challenges

Public transport usage in South East Northumberland is lower than the regional and national average. Increased usage of public transport could contribute to the achievement of the transport objectives.

Emerging Challenges

The proportion of people working from home in South East Northumberland is the lowest out of all the areas of Northumberland.

3.3.3 Trip Distances

The Census 2001 data has also been used to identify how far commuters are travelling to work. Distance to work will be a determining factor in the choice of mode of transport. **Table 6** shows the distance to work for the population as well as the national and regional average.

Table 6 – 2001 Census, Distance to Work

Distance	Location					
	England	North East	N/land	Blyth Valley	Castle Morpeth	Wansbeck
Less than 2km	20%	20%	21%	18%	16%	21%
2km to less than 5km	20%	22%	11%	12%	9%	18%
5km to less than 10km	18%	21%	14%	22%	13%	19%
10km to less than 20km	15%	17%	22%	31%	25%	18%
20km to less than 30km	5%	4%	8%	3%	15%	10%
30km to less than 40km	2%	1%	3%	1%	3%	1%
40km to less than 60km	2%	1%	2%	0%	1%	0%
60km and over	3%	3%	3%	3%	3%	2%
Working at or from home	9%	8%	11%	7%	12%	6%
Other	5%	4%	4%	4%	4%	3%

Source: 2001 Census

The data shows that 18% of the population of Blyth Valley and 21% of the population of Wansbeck live within 2km of their workplace; this is comparable to the North East at 20% and England at 20%. The IHT acceptable walking distances have already been outlined in **Table 5** of this report. This table shows that 2km is considered to be an acceptable walking

distance for commuting to work and the data therefore suggests that as much as 21% of the population could be walking to work.

An additional 12% and 18% of the population of Blyth Valley and Wansbeck respectively live within 5km of their workplace which would be a suitable distance for cycling to work.

Comparing the modal split results, with the travel to work distances in both Blyth Valley and Wansbeck, show that the use of sustainable modes for shorter distance trips is not being maximised. If a mode shift to sustainable transport is going to be achieved, it is important to address the reasons why people aren't walking or cycling to work despite living within an acceptable distance of their workplace.

For those making longer distance trips to work, the data supports evidence presented throughout this report, in that the distances being travelled from South East Northumberland would enable access to Newcastle and North Tyneside.

Emerging Challenges

The use of non-motorised transport for shorter distance journey to work trips is not being maximised. . Increased use of non motorised forms of transport could contribute to both transport and health objectives.

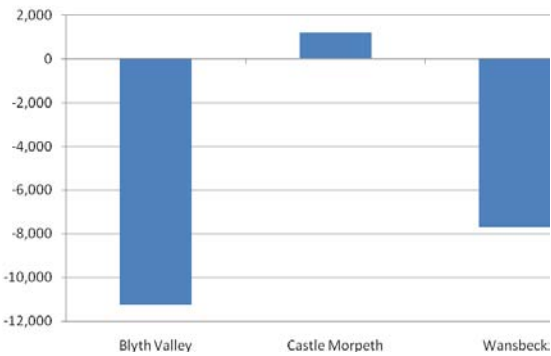
3.4 Travel Patterns

The 2001 Census Journey to Work data has been used to assess travel patterns from South East Northumberland. Although this data should be treated with some caution given that it is ten years old, it does provide some useful insight into district to district movements within Northumberland. A comparison with data from 1981 and 1991 has been conducted to identify how travel patterns in Northumberland have been changing, whilst a more recent analysis of commuter movements produced by NERIP (North East Research and Information Partnership) has been used to reinforce the results of the Census data for 2001.

3.4.1 Census Journey to Work Data

Details regarding journey to work movements for trips originating or terminating in South East Northumberland have been sourced from 2001 Census data. **Figure 11** shows the overall balance for commuter trips in the area. Both Blyth Valley and Wansbeck are shown to have a notable net outflow of commuters, whilst Castle Morpeth has a small net increase.

Figure 11 – 2001 Census, Net Inflow and Outflow of Commuter Trips



Source: 2001 Census

Northumberland as a whole has a net outflow of commuter trips with Newcastle and North Tyneside, as shown in **Table 7**, being the principle destinations of these trips. Newcastle and North Tyneside are therefore an important source of employment for people residing in Northumberland and good transport links between these areas will be essential for economic growth.

Blyth Valley has the highest percentage of its employed residents commuting out of the area for work at 57.9%.

Table 7 displays the district to district flows within South Northumberland and to the wider workplace area. The data shows the majority of commuter movements are internal within each district. There are however, noticeable commuter movements between some districts within South East Northumberland which highlights the necessity for good transport links within the Northumberland area. The top five district to district movements within Northumberland are as follows;

- Wansbeck to Castle Morpeth;
- Wansbeck to Blyth Valley;
- Blyth Valley to Wansbeck;
- Castle Morpeth to Wansbeck;
- Blyth Valley to Castle Morpeth.

Data also shows significant movements to Newcastle and North Tyneside from South East Northumberland.

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Table 7 – 2001 Census, District to District Origin Destination Movements

Origin/ Destination	Alnwick	Berwick	Blyth Valley	Castle Morpeth	Tynedale	Wansbeck	Gateshead	Newcastle	North Tyneside	South Tyneside	Sunderland	Rest of England and Wales	Scotland
Alnwick	8,996	313	272	1,463	94	474	220	1,027	332	42	84	349	63
Berwick	391	9,312	39	162	31	47	29	165	54	4	26	235	894
Blyth Valley	114	14	15,375	1,691	114	1,775	1,466	7,930	5,442	372	628	1,166	134
Castle Morpeth	647	31	923	9,556	321	1,694	918	4,425	1,135	183	342	704	74
Tynedale	37	8	161	734	17,580	81	1,643	4,183	585	169	421	1,702	108
Wansbeck	177	31	3,005	3,515	97	11,980	803	3,092	1,523	155	306	711	97
Gateshead	56	3	421	659	1,219	140							
Newcastle	122	26	1,239	1,743	851	508							
North Tyneside	134	37	2,362	1,256	346	624							
South Tyneside	11	0	211	263	92	83							
Sunderland	14	0	223	333	127	85							
Rest of England and Wales	155	45	597	728	1,289	204							
Scotland	38	987	19	25	24	7							

Source: 2001 Census

Emerging Challenges

There is an outflow of commuters from South East Northumberland into Tyne and Wear. Congestion is already an issue on the strategic road network into Tyne and Wear.

3.4.2 Historical Commuting Patterns 1981-2001

The Northumberland InfoNet provides statistical information for Northumberland. Analysis has already been conducted on changes in commuting patterns between 1981 and 2001. This analysis shows that there has been an increase in the percentage of the population commuting out of Northumberland for work from 23% in 1981 to 27% in 1991 and 32.9% in 2001. The increase has been observed in all districts and is likely attributable to a decline in traditional industries

within Northumberland alongside an increased willingness to travel.

Tyne and Wear has always been a popular destination for commuters from Northumberland although the 2001 Census data indicates that the importance of Tyne and Wear as a destination maybe decreasing. In 1981, 89% of out commuters from Northumberland had a destination in Tyne and Wear; by 2001 this had decreased to 84.1%. It is likely that an increase in car ownership levels will have impacted on this figure with more people now having the ability to travel further.

Despite this reduction in the importance of Tyne and Wear as a destination for out commuters, it is still the principal destination for out commuters from Northumberland. It is therefore important that there is a good and efficient highway and public

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transport network between Northumberland and Tyne and Wear.

3.4.3 Changes in Commuting 2001-2008

NERIP (North East Research and Information Partnership) has recently published a piece of research analysing the flows of residents and workers in the North East¹⁵. This data is based on results from both the annual population survey and the local labour force survey. It therefore offers a more up to date analysis of commuting flows compared to 2001 Census data, albeit using a much smaller sample size.

The key findings extracted from the report which relate specifically to South East Northumberland are as follows;

- More than half of the working residents of Blyth Valley work elsewhere;
- The proportion of jobs in Wansbeck that are filled by people who live in Wansbeck has increased. The people who live in Wansbeck that have a job in Wansbeck has also increased from 47.6% to 54.2%;

The key findings from this research suggest that there have been changes in the pattern of commuting flows in Northumberland between 2001 and 2008. Some districts within the county have become more self-contained with the opposite being true of other districts. The data does however suggest that out commuting from South East Northumberland districts is still important and transport links must therefore support this demand.

3.4.4 Rail Network Movements

As noted in **Section 3.2.2** the only rail station in South East Northumberland is at Cramlington.

Services between Cramlington and Newcastle Rail stations operate approximately hourly Monday to Saturday. There are no outbound services to Newcastle departing from Cramlington before 08:00 and last return service departing from Newcastle is at 22:00, although there are no services to Cramlington between 18:30 and 22:00. There is no Sunday service.

The LENNON database has been used to assess the ridership patterns of heavy railway users in the Northumberland area. This analysis has shown that the major railway movements from stations within Northumberland are to destinations outside of the county. The biggest movements are as follows;

- Berwick – Wider UK;
- Hexham – Tyne and Wear;
- Morpeth – Tyne and Wear;

- Prudhoe – Tyne and Wear; and
- Alnmouth – Wider UK.

It is clear from these results that journeys by rail from Cramlington to destinations outside of Northumberland are not amongst the most sizeable movements recorded. This gives an indication of the quantum of movement from Cramlington Station compared to other stations in Northumberland. Travel from Morpeth to Tyne and Wear is however a notable movement.

Analysis of movements between districts within Northumberland shows the following origin destination pairs to be important;

- Haltwhistle – Hexham;
- Prudhoe - Hexham;
- Wylam – Hexham;
- Cramlington - Morpeth; and
- Haydon Bridge - Hexham.

This data shows journeys from Cramlington to Morpeth being an important origin destination pair for journeys with both an origin and destination within Northumberland. This supports the data shown in Section 3.4.1 which identifies Blyth Valley to Castle Morpeth trips as being an important journey to work movement.

The LENNON movements into and out of Cramlington Station are shown in **Table 8**, the table shows single direction movements, with the assumption that these movements will be balanced for origin/destination trips.

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Table 8 – Single Direction Rail Movements from LENNON Data

Origin/Destination	Cramlington
Acklington	80
Alnmouth	161
Berwick-upon-Tweed	30
Chathill	9
Corbridge	16
Haltwhistle	8
Haydon Bridge	4
Hexham	101
Morpeth	3322
Pegswood	4
Prudhoe	37
Riding Mill	3
Stocksfield	22
Widdrington	294
Wylam	8
Tyne and Wear	37567
Rest of UK	2562
Total	44224

Source: LENNON, 2009

As stated above the LENNON data shows that the dominant movement for those using Cramlington Station are to Morpeth and into Tyne and Wear. Morpeth and Tyne and Wear (most notably North Tyneside and Newcastle) have been identified in previous sections of the report as key employment destinations. Whilst station to station information is useful, it does not reveal in detail the ultimate destination of those travelling.

Emerging Challenges

There is a lack of evening and Sunday rail services to and from Cramlington.

travel in the area. **Table 9** shows the percentage of total bus movements for commuter flows in South East Northumberland.

3.4.5 Bus Movements

Up to date information regarding origin destination bus movements in Northumberland is not available; Census data can however be used to assess bus movements amongst commuter flows. Although this data does not include other trip purposes, many of which may use the bus, it will give some indication of the most popular origin destination pairs for bus

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Table 9 – Census Data 2001, Bus Origin Destination Movements for Commuter Flows

Origin Destination	Blyth Valley	Castle Morpeth	Wansbeck	Gateshead	Newcastle upon Tyne	North Tyneside	South Tyneside	Sunderland	Elsewhere in the UK
Blyth Valley	32%	3%	5%	2%	41%	15%	0%	0%	2%
Castle Morpeth	2%	39%	15%	2%	33%	3%	0%	0%	1%
Wansbeck	14%	16%	41%	2%	21%	3%	0%	0%	1%
Gateshead	0%	0%	0%						
Newcastle upon Tyne	0%	1%	0%						
North Tyneside	2%	1%	0%						
South Tyneside	0%	0%	0%						
Sunderland	0%	0%	0%						

Source: Census 2001

In South East Northumberland, whilst internal bus movements are still important, there are a higher proportion of bus movements with a destination outside of the origin district. The data shows that Newcastle-upon-Tyne is an important destination for bus travel from South East Northumberland and it is therefore essential that these bus connections are maintained if not improved.

3.5 Public Transport Surveys

In order to better understand public transport movements in South East Northumberland a series of passenger interviews and headcount surveys have been undertaken. The surveys conducted in June/July 2010 at key public transport stops in South East Northumberland capture origin/destination movements by both bus and rail. Two additional surveys at Morpeth Rail Station and Northumberland Park Metro Station support the surveys undertaken in South East Northumberland. All surveys were conducted between 06:00 and 20:00.

Table 10 uses an aggregated zoning system of South East Northumberland and the wider area to determine an origin/destination matrix for the survey results. Those movements shown in the matrix relate to bus movements only. It should be noted that the matrix will not be representative of all movements made by public transport in the South East Northumberland area; rather it represents those movements made from the bus stops surveyed. As such, all of the bus stop

locations surveyed fall into the South East Northumberland Zones (shown in rows/columns one to ten in **Table 10**), therefore there are fewer trips originating in zones outside of this area. The origin and destination points of the trip are taken as the starting location and ultimate destination of the trip, in order to capture the entire journey rather than identifying the movements between public transport stops.

The zoning system covers the whole of the country, and is also suitable for use in the rail surveys. Given the more local nature of bus trips, as shown in **Table 10**, some zone to zone movements are not made by bus and are hence recorded as zero in the table.

The table shows movements for all journey purposes, based on passengers' responses given to the survey. **Table 10** shows expanded data, using the headcount data to factor the passenger survey responses. The results show movement for the time period surveyed (06:00-20:00). **Appendix A** shows two plans of the zoning system.

Table 10 shows sizeable movements from the Blyth and Cramlington zones, together with the zones making the settlements of Ashington and Bedlington. Beyond movements within the South East Northumberland area, Morpeth, North Tyneside and Newcastle are key destinations for those travelling from South East Northumberland.

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Figure 12 to Figure 14 show the origin destination movements of people boarding rail services at Morpeth, Cramlington and Northumberland Park.

Figure 12 shows that despite Morpeth Rail Station being outside South East Northumberland, there are a number of people from the area travelling to Morpeth to use the rail services. Morpeth Rail Station is shown to have a wider catchment area compared to Cramlington Rail Station; this is likely to be due to the number of services at each station. Both stations show that Newcastle is a key destination for rail travel. Surveys show that Northumberland Park attracts a number of people travelling from South East Northumberland, albeit to a lesser extent than the mainline rail stations. Origin destination movements from Northumberland Park show that Newcastle and North Tyneside are important origin and destination points; this is to be expected given the east west alignment of the Metro network.

Capabilities on project:

Transportation

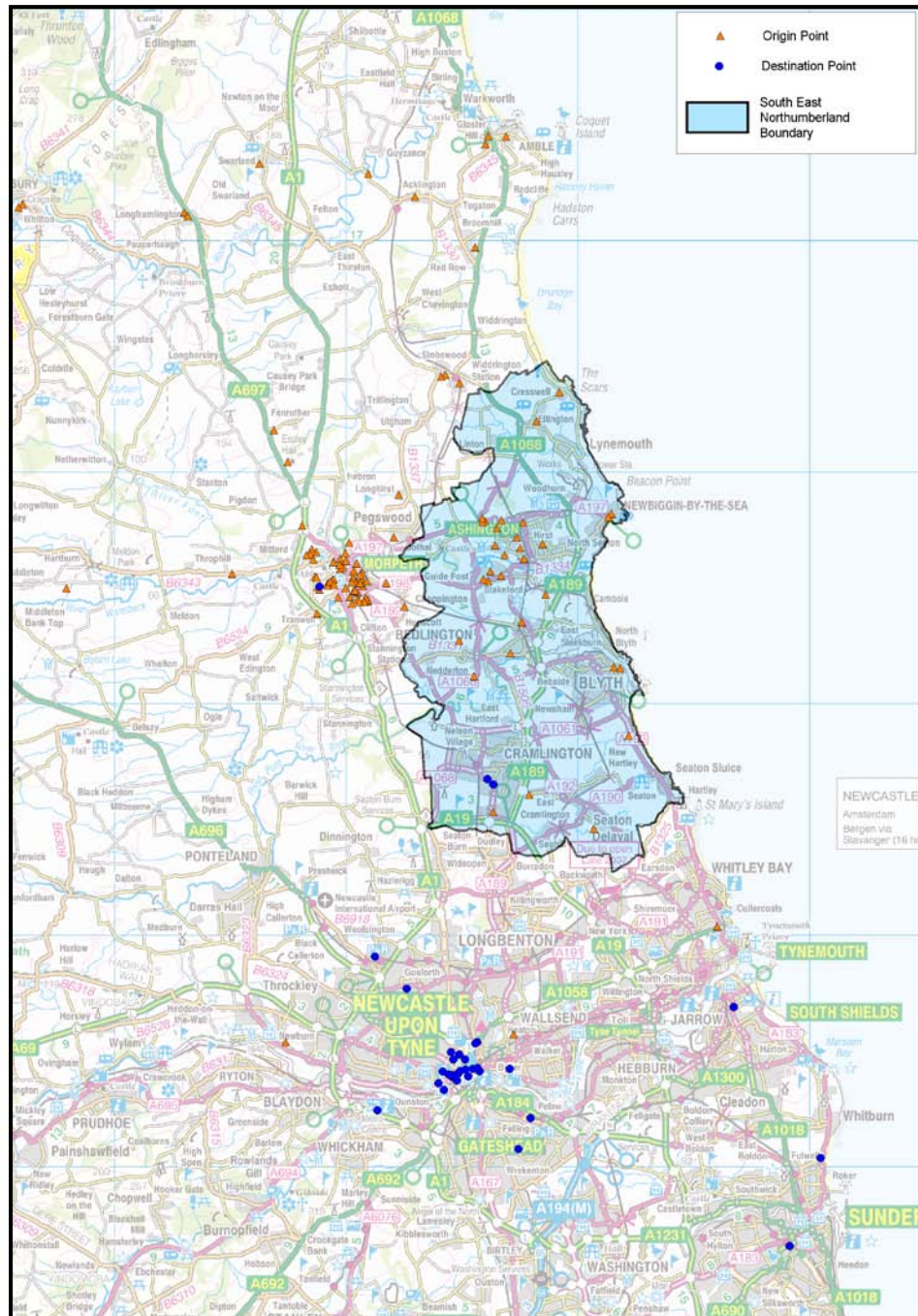
Table 10 – Bus Users Origin/Destination Matrix

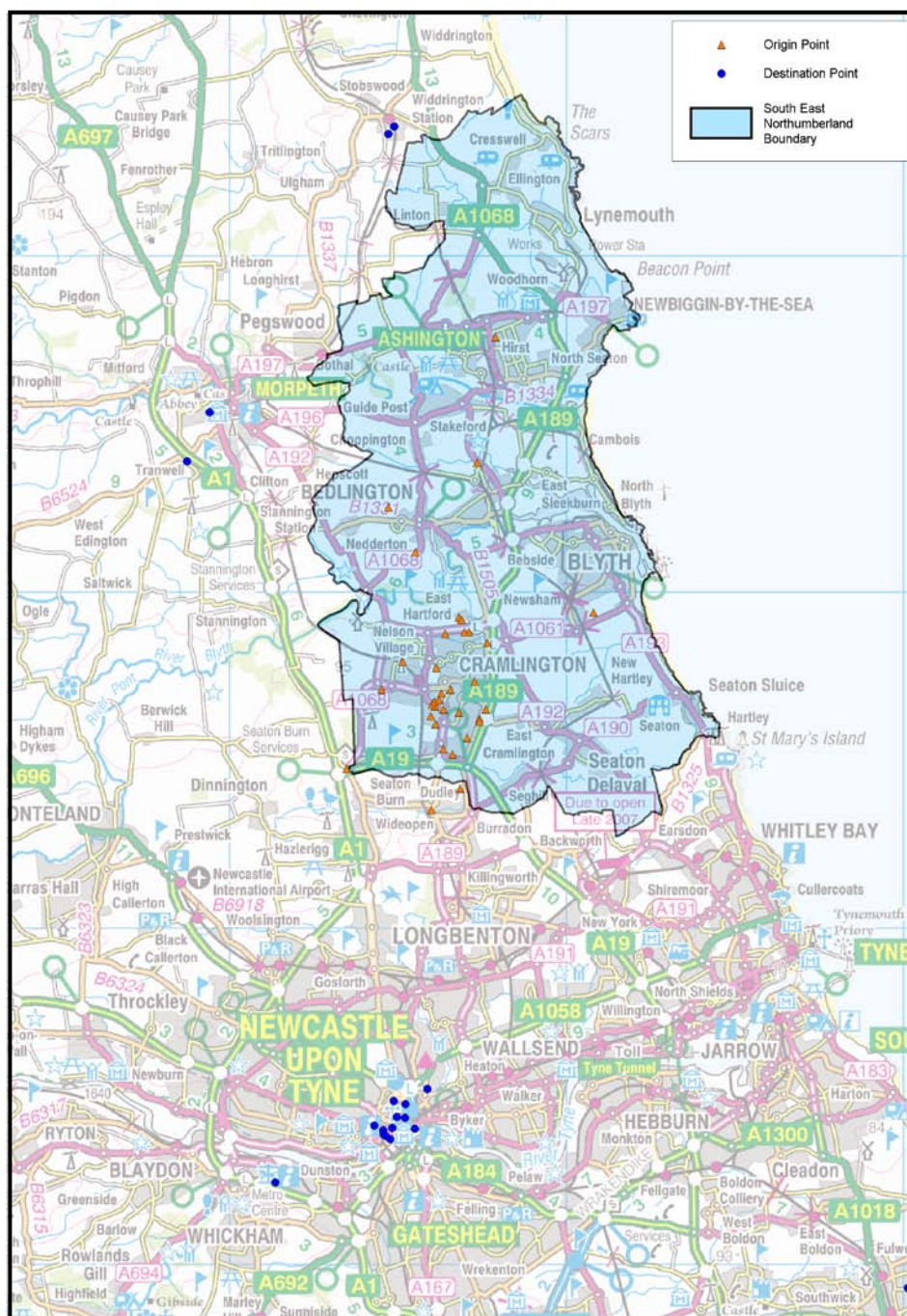
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
		Ellington, Lynemouth and Linton	East Ashington	West Ashington	Newbiggin	Choppington, Stakeford and Guidepost	East Bedlington	West Bedlington	Cramlington	Blyth	Seaton Valley	Morpeth East	Morpeth Central A1	Morpeth Rural	Berwick	Alnwick	Tynedale	North Tyneside East	North Tyneside West	Newcastle	Gateshead	South Tyneside	Sunderland	Other	Other - North	
1	Ellington, Lynemouth and Linton	0	0	0	0	0	0	0	6	6	0	0	0	0	0	0	0	0	6	17	0	0	0	0	0	34
2	East Ashington	13	41	158	22	86	32	37	21	66	0	8	67	14	1	20	0	18	9	73	2	2	2	0	0	693
3	West Ashington	0	76	86	8	86	42	30	13	66	15	2	59	0	0	6	0	5	6	81	6	0	0	0	0	587
4	Newbiggin	0	40	99	10	8	21	8	8	30	5	3	42	0	3	0	0	3	3	38	3	0	0	0	0	323
5	Choppington, Stakeford and Guidepost	0	11	79	2	16	7	5	5	7	5	0	26	0	0	0	0	2	0	46	5	0	0	0	0	216
6	East Bedlington	0	17	42	0	9	74	76	11	194	5	0	25	0	4	5	0	6	7	85	5	1	0	1	0	566
7	West Bedlington	4	24	39	7	14	92	46	19	65	2	0	27	2	0	9	2	5	3	106	5	0	0	3	0	473
8	Cramlington	8	2	19	0	33	25	31	286	287	144	0	31	0	0	0	0	78	203	117	16	0	0	0	0	1280
9	Blyth	0	9	13	2	19	26	34	191	838	229	0	34	7	3	4	0	242	76	274	14	13	2	12	0	2038
10	Seaton Valley	0	1	8	0	0	0	0	49	38	71	0	0	0	0	0	0	43	26	96	5	0	0	0	0	336
11	Morpeth East	0	0	2	0	0	0	6	0	0	0	0	0	1	0	0	0	0	0	7	0	0	0	0	0	16
12	Morpeth Central_A1	0	0	6	2	0	6	6	17	15	8	0	0	0	0	0	0	5	0	2	0	0	0	0	0	66
13	Morpeth Rural	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Berwick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Alnwick	0	0	6	0	6	6	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	23
16	Tynedale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	North Tyneside East	0	0	4	0	0	0	0	21	15	11	0	3	0	0	0	0	0	0	13	0	0	0	0	0	66
18	North Tyneside West	0	0	5	0	0	0	0	22	17	4	0	0	0	0	0	0	5	0	11	0	0	0	0	0	64
19	Newcastle	0	0	6	0	0	4	6	16	24	8	0	0	0	0	0	0	4	0	6	0	0	0	0	0	72
20	Gateshead	0	0	0	0	0	2	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
21	South Tyneside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Sunderland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Other - North	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		24	221	571	52	278	337	288	694	1666	506	12	313	25	11	44	2	415	338	973	60	16	4	16	0	6866

Notes: Surveys conducted between 06:00 and 20:00. Data is expanded (using headcounts to factor survey origin/destination movements from survey responses)

Capabilities on project:
Transportation

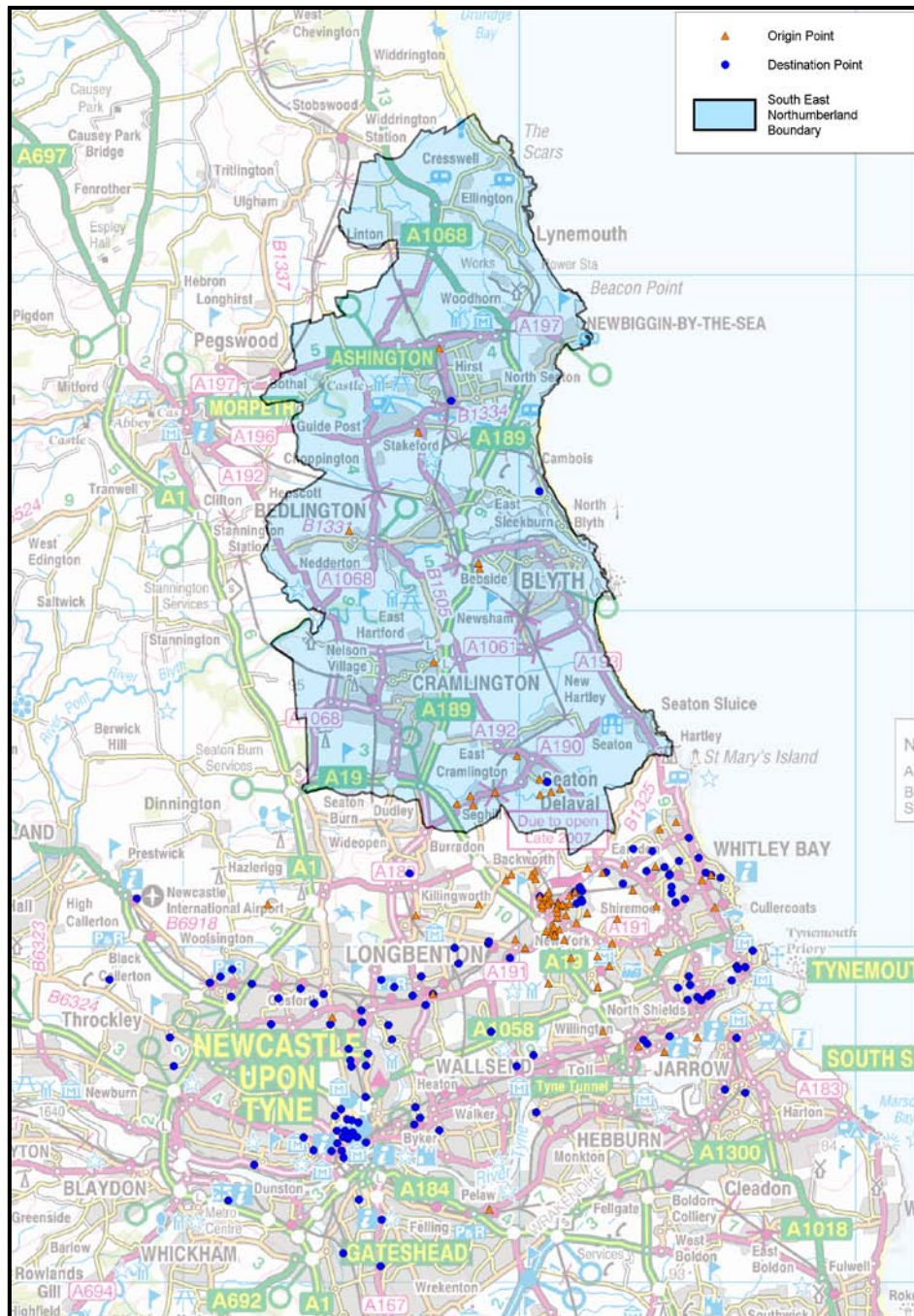
Figure 12 – Origin/Destination movements at Morpeth Rail Station





Capabilities on project:
Transportation

Figure 14 – Origin/Destination movements at Northumberland Park Metro Station



Capabilities on project:
Transportation

3.6 Travel Cost

Modal choice is generally determined by availability and cost, amongst a number of other variables. Research has suggested that the cost of public transport is often perceived as being high, and can act as a deterrent particularly for those seeking employment and those in lower income groups.

An exercise has been undertaken to determine the cost of travel between key origins and destinations within and neighbouring the study area. The focus is to determine the cost of travel by car, bus and rail, where available and considers financial costs incurred to an individual, rather than including a value of time component. A detailed appraisal of travel cost will be undertaken when particular interventions are assessed in more detail.

Ashington, Bedlington Blyth, Cramlington, Morpeth, Newcastle and North Tyneside have been chosen as key destinations based on information obtained from the Census data and the travel surveys. Cobalt has been used as the origin/destination point for North Tyneside, given its function as a major employment location. The following table identifies the cost associated with each journey type.

Table 11 – Travel Cost Details

Bus	Rail	Car
Bus fare, assumes no station/stop access costs or onward costs from destination. The fare for a single journey is taken as one tenth of the cost of a weekly pass.	Rail fare, station parking costs and station access costs. Assumes no onward cost from destination. The fare for a single journey is taken as one tenth of the cost of a weekly pass.	Fuel cost assumed to be 15p per mile. In this case other motoring costs eg insurance, depreciation etc are not included.

Further assumptions included in these calculations are:

- **Parking charges:** Charges are levied in Morpeth and Newcastle Centres; these are considered to be £2 per day in Morpeth and £5 per day in Newcastle. It is assumed that all people driving to Morpeth and Newcastle will incur these costs (for the purposes of calculating the cost of a single journey these costs are halved).

All other locations have free car parking

Morpeth and Cramlington rail stations do not charge for parking. For rail journeys originating in Newcastle it has been assumed that people will not drive into the city centre incurring parking charges to make a local journey by rail; particularly for those who make such a journey on a regular basis.

- **Station access costs:** for Morpeth and Cramlington rail stations, those accessing the station would do so in a 50% / 50% split between a car journey or walking/cycling. This is based on the results of the travel surveys conducted at these stations. Walking and cycling are considered to incur no cost to the individual. For those travelling by car, an arbitrary distance of two miles is assumed. Therefore an average station access cost for those travelling from Morpeth and Cramlington is £0.15 (half of people making a £0.30 car journey)

For journeys commencing in Newcastle it has been assumed that the proportion of people accessing the station would be split 50% / 50% between public transport and walking/cycling. Again an arbitrary figure of £0.50 has been used for those accessing the station by public transport. The average station access cost is therefore £0.25 (half of people using public transport)

Table 12 shows the lowest cost mode of travel between each origin/destination pair, whilst **Table 13** shows the actual cost by all modes for each journey. The results show that for all journeys with both an origin and destination in South East Northumberland travel by car is cheaper compared to travel by bus. One factor in this is the distance between each of the locations and the other is that for these journeys no parking costs are incurred. For longer journeys to Newcastle and North Tyneside the bus is generally shown to be the cheapest option, again due to the greater distance travelled and the inclusion of car parking charges at Newcastle.

Emerging Challenges

All journeys by car with an origin and destination within South East are shown to be cheaper than those by bus.

Emerging Challenges

For the majority of origin destination movements the car remains more competitively priced than the public transport services offered.

Capabilities on project:
Transportation

Table 12 – Lowest Cost Travel Mode

Origin Destination	Ashington	Bedlington	Blyth	Cramlington	Morpeth	Newcastle	North Tyneside (Cobalt)
Ashington		Car	Car	Car	Car	Bus	Bus
Bedlington	Car		Car	Car	Bus	Bus	Car
Blyth	Car	Car		Car	Bus	Bus	Car
Cramlington	Car	Car	Car		Rail	Bus	Car
Morpeth	Car	Car	Car	Car		Bus	Bus
Newcastle	Bus	Car	Bus	Car	Bus		Car
North Tyneside (Cobalt)	Bus	Car	Car	Car	Bus	Bus	

Table 13 – Travel Cost Comparison

Origin	Destination	Bus	Rail	Car	Cheapest
Ashington	Bedlington	£1.55	n/a	£0.77	Car
Ashington	Blyth	£2.00	n/a	£1.28	Car
Ashington	Cramlington	£2.00	n/a	£1.62	Car
Ashington	Morpeth	£2.00	n/a	£1.96	Car
Ashington	Newcastle	£2.30	n/a	£5.38	Bus
Ashington	North Tyneside (Cobalt)	£2.30	n/a	£2.39	Bus
Bedlington	Ashington	£1.55	n/a	£1.17	Car
Bedlington	Blyth	£2.00	n/a	£0.62	Car
Bedlington	Cramlington	£2.00	n/a	£0.77	Car
Bedlington	Morpeth	£2.00	n/a	£2.04	Bus
Bedlington	Newcastle	£2.30	n/a	£4.53	Bus
Bedlington	North Tyneside (Cobalt)	£2.30	n/a	£1.53	Car
Blyth	Ashington	£2.00	n/a	£1.29	Car
Blyth	Bedlington	£2.00	n/a	£0.62	Car
Blyth	Cramlington	£1.55	n/a	£1.04	Car
Blyth	Morpeth	£2.00	n/a	£2.88	Bus
Blyth	Newcastle	£2.00	n/a	£4.80	Bus
Blyth	North Tyneside (Cobalt)	£2.00	n/a	£1.80	Car
Cramlington	Ashington	£2.00	n/a	£1.53	Car
Cramlington	Bedlington	£2.00	n/a	£0.68	Car
Cramlington	Blyth	£1.55	n/a	£0.96	Car
Cramlington	Morpeth	£2.00	£1.91	£2.37	Rail
Cramlington	Newcastle	£1.50	£2.18	£4.06	Bus
Cramlington	North Tyneside (Cobalt)	£2.00	n/a	£1.07	Car
Morpeth	Ashington	£2.00	n/a	£0.93	Car
Morpeth	Bedlington	£2.00	n/a	£0.99	Car
Morpeth	Blyth	£2.00	n/a	£1.76	Car
Morpeth	Cramlington	£2.00	£1.91	£1.32	Car
Morpeth	Newcastle	£1.90	£2.57	£4.95	Bus
Morpeth	North Tyneside (Cobalt)	£2.30	n/a	£2.33	Bus
Newcastle	Ashington	£2.30	n/a	£2.79	Bus
Newcastle	Bedlington	£2.30	n/a	£1.94	Car
Newcastle	Blyth	£2.00	n/a	£2.22	Bus
Newcastle	Cramlington	£1.50	£2.28	£1.46	Car
Newcastle	Morpeth	£1.90	£2.67	£3.58	Bus
Newcastle	North Tyneside (Cobalt)	£1.94	n/a	£1.04	Car
North Tyneside (Cobalt)	Ashington	£2.30	n/a	£2.40	Bus
North Tyneside (Cobalt)	Bedlington	£2.30	n/a	£1.55	Car
North Tyneside (Cobalt)	Blyth	£2.00	n/a	£1.83	Car
North Tyneside (Cobalt)	Cramlington	£2.00	n/a	£1.07	Car
North Tyneside (Cobalt)	Morpeth	£2.30	n/a	£3.42	Bus
North Tyneside (Cobalt)	Newcastle	£1.94	n/a	£3.61	Bus

3.7 Links of Economic Importance – GVA-T Analysis

Work undertaken by AECOM has established a quantitative measure of the economic importance of business connections in England, Scotland and Wales. The work has established the economic importance of links between districts and regions across mainland UK – this has been termed GVA-T values.

The start point has been to consider the structure of the economy in each mainland UK district, placing emphasis on economic sectors that are the most reliant on transport for their success (i.e. sectors whose transport costs are the greater proportion of overall business costs). An analysis of transport links has been undertaken between each district-district pair in mainland UK by considering the following issues;

- The size and sectoral composition of the economy in each origin district;
- The size and sectoral composition of the economy in each destination district;
- The connectivity between those districts, measured by using generalised journey costs drawn from the National Transport Model. By using modelled generalised cost data, future year scenarios can be run in order to see how various interventions can improve or worsen the strength of economic links.

In this context, the GVA-T analysis is founded upon an assessment of;

- The value of places – established at a district level;
- The value of connections – based upon the mix of economic sectors in each district and their proximity to each other; and
- Defining the corridors – based on transport costs between places, based on National Transport Model data.

Table 14 shows the relevant GVA-T values for district to district values within the Northumberland area.

Table 14 – Economic Importance of Transport Links (GVA-T) within Northumberland

	Alnwick	Berwick Upon Tweed	Blyth Valley	Castle Morpeth	Tynedale	Wansbeck	Total
Alnwick	0.0	0.1	0.3	0.2	0.1	0.2	0.9
Berwick Upon Tweed	0.1	0.0	0.2	0.2	0.1	0.1	0.7
Blyth Valley	0.3	0.2	0.0	0.7	0.5	0.6	2.3
Castle Morpeth	0.2	0.2	0.7	0.0	0.4	0.4	1.8
Tynedale	0.1	0.1	0.5	0.4	0.0	0.3	1.5
Wansbeck	0.2	0.1	0.6	0.4	0.3	0.0	1.6

Source: AECOM GVA-T Analysis

The table shows that the transport links of greatest importance to businesses within Northumberland are between;

- Blyth Valley and Castle Morpeth;
- Blyth Valley and Wansbeck;
- Blyth Valley and Tynedale;
- Castle Morpeth and Tynedale; and
- Castle Morpeth and Wansbeck.

Overall links within Northumberland are of greatest importance to Blyth Valley (2.3 GVA-T), Castle Morpeth (1.8 GVA-T) and Wansbeck (1.6 GVA-T). In terms of facilitating economic regeneration and prosperity, this shows the importance of providing good transport links into these three core centres from across the City Region.

A wider analysis of the economic importance of transport links between the districts of South East Northumberland and Tyne and Wear has also been undertaken as it has previously been identified that Tyne and Wear is an important employment location for the residents of Northumberland. The results are displayed in **Table 15** below.

Capabilities on project:
Transportation

Table 15 – Economic Importance of Transport Links (GVA-T) between Northumberland and Tyne and Wear

	Blyth Valley	Castle Morpeth	Wansbeck	Total
Gateshead	3.8	2.5	2.0	8.3
Newcastle	6.7	4.5	3.7	14.9
North Tyneside	3.2	1.9	1.7	6.8
South Tyneside	1.5	0.9	0.8	3.2
Sunderland	4.0	2.4	2.2	8.6

Source: AECOM GVA-T Analysis

The table shows that the transport links of greatest importance to businesses within South East Northumberland are between;

- Newcastle and Blyth Valley;
- Newcastle and Castle Morpeth; and
- Sunderland and Blyth Valley.

This demonstrates the importance of good transport links between South East Northumberland and Newcastle as well as South East Northumberland and Sunderland. Overall Newcastle scores highest with a GVA-T value of 14.9. Sunderland has the second highest value of GVA-T, 8.6. This would suggest the link between South East Northumberland and Newcastle is almost twice as important as the link to Sunderland. What is most notable from the data in **Table 14** and **Table 15** is that linkages from South East Northumberland to Tyne and Wear are much more important than linkages within Northumberland.

This analysis may be developed further by examining the strategic links that connect South East Northumberland with other regions of the UK.

Table 16 – Economic Importance of Transport Links (GVA-T) between Northumberland and other UK Regions

	Blyth Valley	Castle Morpeth	Wansbeck	Total
Yorkshire & Humber	11.8	7.4	6.5	25.7
North West	10.2	6.6	5.6	22.4
East Midlands	2.8	1.8	1.5	6.1
West Midlands	1.9	1.2	1.0	4.1
South East	1.1	0.7	0.6	2.4
East of England	0.2	0.1	0.1	0.4
Greater London	0.9	0.6	0.5	2.0
South West	0.2	0.1	0.1	0.4
Wales	0.3	0.2	0.2	0.7
Scotland	7.4	5.9	4.6	17.9

Source: AECOM GVA-T Analysis

Table 16 shows that there are important regional linkages between South East Northumberland and Yorkshire and Humber, South East Northumberland and the North West and South East Northumberland and Scotland. However, the economic linkages between these origin destination points are of lesser importance than the linkages between South East Northumberland and Tyne and Wear. The data suggests that linkages between South East Northumberland and Tyne and Wear, particularly links into Newcastle upon Tyne, are the most significant to the economic needs of businesses in South East Northumberland.

3.8 Public Transport Accessibility

To gain a greater understanding of the accessibility issues facing South East Northumberland, online journey planners have been used to determine journey times by public transport for key origin/destination movements. The online journey planner Transport Direct¹⁶ has been used to assess access to employment since this will be a key determinant for economic growth in South East. Whilst the list of employment sites is by no means exhaustive, it does give some insight into the accessibility issues facing South East Northumberland. Accessibility has been assessed in the peak hours.

Table 17 – Public Transport Journey Times (minutes) to Key Employment Sites

Origin Destination	Newcastle City Centre	DSS Longbenton	Silverlink and Cobalt	Regent Centre	Team Valley
Bedlington	35	50	40	20	70
Blyth	60	60	35	40	90
Cramlington	20	40	25	20	70
Morpeth	20	50	80	25	40
Ashington	50	60	55	40	75

Source: Transport Direct online journey planner

Table 17 shows that there are a number of journeys to key employment sites taking in excess of 50 minutes. Trips from Cramlington and Morpeth to Newcastle can be made by train hence the shorter journey times. From Blyth journey times to all shown destination are over 30 minutes, with the journey to Team Valley taking 90 minutes. Again, the journey to Team Valley from Bedlington, Cramlington and Ashington records a long journey time. From Morpeth journeys to destinations other than Newcastle and Regent centre are long, with Silverlink and Cobalt having a journey time of 80 minutes. Again, journeys from Ashington and Blyth are characterised by long journey times with no journey being less than 35 minutes. These results show that despite areas of South East Northumberland being located adjacent to Tyne and Wear the available public transport results in long journey times. To a number of the destinations from South East Northumberland one or more interchanges may be required. Not only does this impact on the journey time to the destination, it also has a negative effect on

journey experience with research suggesting that a seamless public transport journey is normally preferred.

When assessing accessibility within an area, the social issues behind accessibility should also be considered. Research undertaken as part of the North West Regional Delivering a Sustainable Transport System Study conducted by JMP, revealed that the majority of unemployed people regard a public transport journey of over 40 minutes and £15 a week as upper limits for access to work. South East Northumberland has the highest levels of unemployment in Northumberland yet journey times from this location, with the exception of Cramlington, are equal to or in excess of 40 minutes. Whilst we do not have the available data to map how far £15 a week would allow somebody to travel, a weekly bus pass on Arriva or Go North East services, the main bus providers in Northumberland, costs in the region of £15 - £20. These passes would not permit interchanges between modes or operators for onward transport from Newcastle City Centre.

Emerging Challenges

Public transport options do not meet the needs of all residents of South East Northumberland. A lack of available services, timely journeys and high public transport costs mean that public transport is not a viable option for many people. This is likely to lead to increased use of the private motorcar as well as contributing to social exclusion.

Whilst the data in the previous section offers further insight into accessibility issues in Northumberland, it does not highlight the problems faced in more remote areas or outside of the peak hours.

3.9 Emerging Challenges

From this section of the report, the following important challenges have emerged that will impact on the objectives and subsequent interventions developed as part of this study;

- **Car Ownership:** Low levels of car ownership may inhibit accessibility to important destinations, should these not be served by suitable public transport links.
- **Car Ownership:** Car ownership in South East Northumberland is forecast to increase. This has potential implications for the commercial viability of public transport and modal share in the future.
- **Mode Share:** Private motor car use for journeys to work is high amongst Wansbeck and Blyth Valley residents; this is despite the districts having high levels of non-car ownership. This could contribute to congestion and air quality issues.

Capabilities on project:
Transportation

- **Mode Share:** Public transport usage in South East Northumberland is lower than the regional and national average. Increased usage of public transport could contribute to the achievement of the transport objectives.
- **Mode Share:** The proportion of people working from home in South East Northumberland is the lowest out of all the areas of Northumberland.
- **Mode Share:** The use of non-motorised transport for shorter distance journey to work trips is not being maximised. Increased use of non motorised forms of transport could contribute to both transport and health objectives.
- **Travel Patterns:** There is an outflow of commuters from South East Northumberland into Tyne and Wear. Congestion is already an issue on the strategic road network into Tyne and Wear.
- **Rail Service:** There is a lack of evening and Sunday rail services to and from Cramlington.
- **Travel Cost:** All journeys by car with an origin and destination within South East are shown to be cheaper than those by bus.
- **Travel Cost:** For the majority of origin destination movements the car remains more competitively priced than the public transport services offered.
- **Accessibility:** Public transport options do not meet the needs of all residents of South East Northumberland. A lack of available services, timely journeys and high public transport costs mean that public transport is not a viable option for many people. This is likely to lead to increased use of the private motorcar as well as contributing to social exclusion.

4 Transport Problems

4.1 Introduction

This section of the report explores the problems that occur regularly on the transport network. Travel by all modes is considered and factors such as congestion, accessibility, travel time and cost are identified.

4.2 Highway Congestion

Highway congestion is defined as delay experienced on journeys at peak times that would not otherwise be experienced at other times of the day. It can impact on the economic performance of an area and quality of life, as well as contributing to climate change. Reducing congestion will therefore play a central role in the achievement of the five DfT national goals.

4.2.1 Local Highway Congestion

Considering the areas of Northumberland, highway congestion is most prevalent on links within South East Northumberland. However this congestion is shown to be localised in nature, rather than being a widespread problem. Overall congestion levels do however need to be monitored to ensure that it does not become a more significant problem in the future, especially with the predicted growth in population and car ownership levels.

ATC data has been used to assess congestion on the transport network at various points across South East Northumberland. For the purpose of this assessment, congestion has been measured using the flow to capacity value. Those links which have a flow to capacity value of 0.85 or higher are considered to be congested, with a value above 1 indicating a link which is operating above its design standard. Trends in traffic growth have also been analysed to assess how the situation is likely to change. The data is shown in **Table 18**. These results are shown graphically for the AM and PM peak periods in **Figure 16** and **Figure 17**.

Table 18 shows that there are only three locations where the flow to capacity value is above 0.85, the A197 Telford Bridge in both the AM and PM peak, the A1061 South Newsham Roundabout to Laverock Hall Roundabout in both the AM and PM peak and the A193 Cowpen Road in both the AM and PM peak. Congestion on the A1061 and the A193 Cowpen Road has the potential to impact on the economic vitality of both Cramlington and Blyth, whilst also impacting on the quality of life of local residents, whilst congestion on the A197 Telford Bridge will impact on journey times to Morpeth (this is important as Morpeth is shown to be a key employment destination).

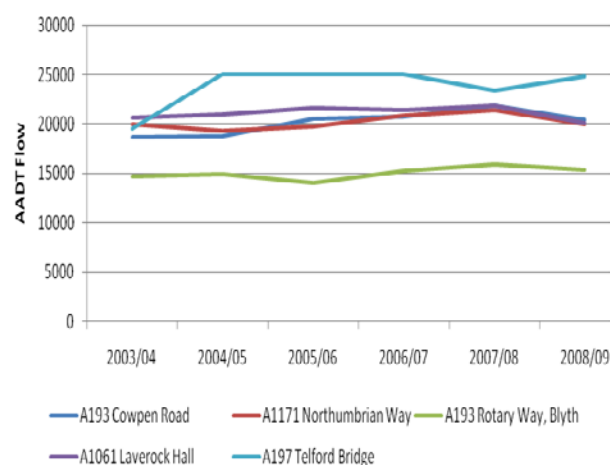
The flow to capacity data would support the argument that, with the exception of localised issues, congestion in Northumberland is not an issue based on current traffic levels.

However, traffic growth does need to be monitored to ensure that it will not become an issue in the future.

Table 18 shows that between 2008 and 2009, there has been a growth in traffic at a number of locations. Notably there has also been a significant decline in the level of traffic between 2008 and 2009 on some links in the Northumberland network. Without further analysis it is not possible to conclude the exact reasons for this decline although it could have been brought about by the effects of the recession or changes in land use in the area. If this decline in traffic is as a result of the recession, it is not reasonable to assume that traffic will continue to decline in the future.

Whilst the 2008/09 annual growth figures show areas of traffic growth and traffic decline on the Northumberland road network, it is not appropriate to draw conclusions from two years' data. For this reason, the growth in traffic for a six year period has been analysed across five key links in the Northumberland area, all but the A197 Telford Bridge link are in South East Northumberland. This is illustrated in **Figure 15**.

Figure 15 – Traffic Growth across Selected Links in Northumberland



Capabilities on project:
Transportation

Figure 15 shows that, with the exception of the A197 Telford Bridge, traffic flows have remained relatively steady over the six year period.

Table 18 – Traffic Flows in Northumberland

Road Number	Link	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2008/09	Link Flow Capacity	
		Vol	Vol	Vol	Vol	Vol	Vol	Annual Growth	AM Peak	PM Peak
A189	Woodhorn Roundabout to North Seaton Roundabout	17803	18240	18314	18967	19379	21134	9.1%	0.28	0.30
A189	North Seaton Roundabout to Sleekburn Interchange	29600	31508	33004	30491	31155	32818	5.3%	0.40	0.46
A189	Kitty Brewster Bridge	40179	44242	44451	44691	41475	42925	3.5%	0.46	0.56
A189	Moor Farm Roundabout, North	38996	40563	41341	42428	41564	41780	0.5%	0.59	0.52
A190	Seghill to County Boundary	12524	12612	12845	12581	13206	12143	-8.0%	0.55	0.62
A192	Fairmoor to Newgate Street	10682	10929	10082	10889	11126	11145	0.2%	0.53	0.57
A192	Stobhill Roundabout to Stannington Station Road	9734	8839	10596	10966	11205	11336	1.2%	0.53	0.62
A192	Plessey Checks Roundabout to West Hartford Roundabout	8204	8579	9391	9388	9498	7778	-18.1%	0.11	0.12
A192	West Hartford Roundabout to East Hartford Interchange	10575	11639	11528	12049	13010	11373	-12.6%	0.18	0.16
A192	Seaton Delaval	13824	12286	14749	12707	12984	13123	1.1%	0.67	0.68
A193	Cowpen Road (UPGRADE)	18673	18767	20591	20740	21821	20463	-6.2%	0.87	0.91
A193	Rotary Way, Blyth	14670	14946	14083	15237	15903	15413	-3.1%	0.64	0.81
A193	Seaton Sluice	10587	10608	10611	10981	11220	11191	-0.3%	0.46	0.56
A196	Stakeford Bridge	14764	14788	15540	15259	15078	15065	-0.1%	0.73	0.77
A197	Newbiggin North	3370	3982	4057	4537	4534	4588	1.2%	0.00	0.00
A197	Telford Bridge	19590	25040	25008	25049	23372	24795	6.1%	1.15	1.17
A197	Woodhorn Rbt to The Churches Rbt	14935	15616	16765	16648	17339	17542	1.2%	0.00	0.00
A197	Railway Bridge	16310	16814	17146	17975	17168	16356	-4.7%	0.73	0.84
A197	B1337 junction to Morpeth	12030	12215	12389	13228	13200	12573	-4.8%	0.64	0.60
A1061	South Beach Roundabout to South Newsham Roundabout	14793	13313	13463	15235	14208	14375	1.2%	0.70	0.69
A1061	South Newsham Roundabout to Laverock Hall Roundabout	20620	21035	21622	21473	21880	20097	-8.1%	0.90	1.08
A1068	Widdrington Roundabout to Ellington Roundabout	8832	9009	9055	9905	10120	9313	-8.0%	0.42	0.49
A1068	Sheepwash Bridge	5220	5853	5965	6173	4391	4443	1.2%	0.20	0.24
A1068	Scotland Gate	12469	14013	10731	11064	11305	11438	1.2%	0.49	0.51
A1068	Plessey North Roundabout to Plessey Checks Roundabout	12812	13348	15030	13684	13983	14147	1.2%	0.00	0.00
A1171	Crow Hall Lane, Cramlington	7605	8123	8853	9162	9721	8179	-15.9%	0.40	0.42
A1171	Northumbrian Way, Cramlington	20025	19360	19732	20924	21379	19934	-6.8%	0.50	0.48
A1171	West of Moor Farm Roundabout	9257	9951	9730	9166	9086	9736	7.2%	0.51	0.48
A1172	Beacon Hill, Cramlington	10890	11193	10931	10916	10307	10045	-2.5%	0.12	0.14
B1326	East West Link, Cramlington	12564	12463	12714	13078	12657	13312	5.2%	0.59	0.69
B1329	Blyth Outer Relief Road	7876	8388	8271	8681	8835	8938	1.2%	0.43	0.45
B1331	Netherton	6159	5765	9279	5658	5780	5884	1.8%	0.30	0.32
B1334	Newbiggin Road, North Seaton	14626	15003	14809	15630	15701	15041	-4.2%	0.00	0.76
C363	Stannington Station Road	3998	4357	4188	4484	4643	4697	1.2%	0.31	0.27

Emerging Challenges

There are localised issues of congestion in South East Northumberland on the A1061 South Newsham Roundabout to Laverock Hall Roundabout and the A193 Cowpen Road. This will impact on the economic vitality of these areas.

Emerging Challenges

Congestion on the A197 Telford Bridge is likely to lead to long journey times for those accessing Morpeth from South East Northumberland.

Capabilities on project:
Transportation

Figure 16 – Flow to Capacity Ratio, AM Peak, 2008

Capabilities on project:
Transportation

Figure 17 – Flow to Capacity Ratio, PM Peak, 2008

Capabilities on project:
Transportation

4.2.2 Strategic Highway Congestion

Census data and travel surveys show that there is significant demand for travel between South East Northumberland and Newcastle and North Tyneside. Data from the DaSTS Access to Tyne and Wear Study¹⁷ evaluated congestion on key links into the Tyne and Wear City region, of note to this study is congestion on the A1, A19 and the A1058 Coast Road.

The following congestion portraits in **Figure 18** to **Figure 20** illustrate that volume of traffic on the three identified routes into Newcastle and North Tyneside is increasing travel time for commuters using the private car and inhibiting public transport movements. Data shows that congestion is expected to continue increasing on the A1 and the A1058. Congestion at the Tyne Tunnel is shown to decline given the opening of the second Tyne Tunnel.

Emerging Challenges

Congestion on the A1, A19 and the A1058 Coast Road is increasing journey times from South East Northumberland to key employment destinations for both private car and public transport users.

Capabilities on project:
Transportation

Figure 18 – A19 Congestion Portrait

A19 Tyne Tunnel

Congestion

This section highlights congestion in the Tyne Tunnel now and in the future.

Current Congestion

- ▶ 2005 AM ratio to flow capacities are 0.87 NB and 1.089 SB¹
- ▶ 2005 IP ratio to flow capacities are 0.752 NB and 0.752 SB¹
- ▶ 2005 PM ratio to flow capacities are 0.901 NB and 0.897 SB¹

Forecast Problems

- ▶ 2014 AM ratio to flow capacities are 0.369 NB and 0.583 SB¹
- ▶ 2014 IP ratio to flow capacities are 0.325 NB and 0.339 SB¹
- ▶ 2014 PM ratio to flow capacities are 0.412 NB and 0.391 SB¹
- ▶ 2021 AM ratio to flow capacities are 0.370 NB and 0.778 SB¹
- ▶ 2021 IP ratio to flow capacities are 0.564 NB and 0.460 SB¹
- ▶ 2021 PM ratio to flow capacities are 0.400 NB and 0.433 SB¹

Congestion forecast to decline between 2005 and 2014 due to the opening of an additional tunnel

Travel Patterns

Traffic Movements in the AM Peak

- ▶ 97% of journeys have an origin or destination within Tyne and Wear
- ▶ Important district to district movements include;
 - South Tyneside to North Tyneside
 - North Tyneside to South Tyneside
 - South Tyneside to the wider Newcastle area
- ▶ The Tyne Tunnel provides an important access route for vehicles with a destination at the South Shields Business Park

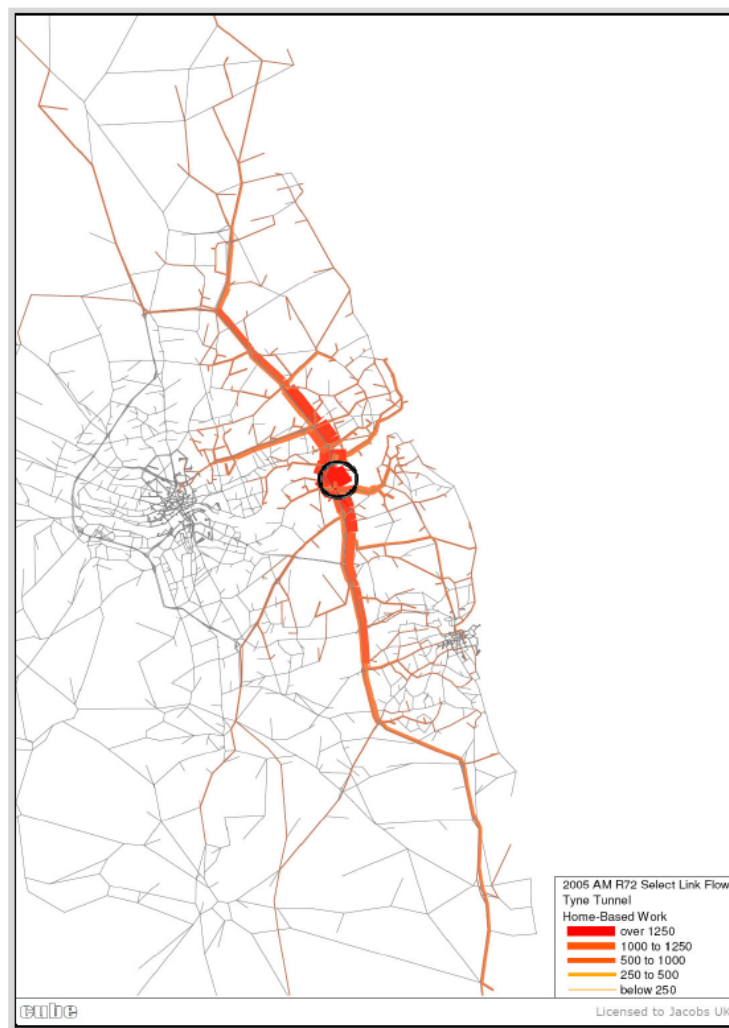
Journey Purpose

- ▶ AM Peak Average Hour (2843)
 - Journeys to work: 57% NB 79% SB
 - Shopping and other: 19% NB 6% SB
 - Employers business: 23% NB 14% SB
 - Education: 1% NB 1% SB

The data shows that the majority of trips on the A19 Tyne Tunnel are JTW trips; this is compared to only 37% of JTJ trips across the entire TPM model.

Underlying Causes of Congestion

- ▶ Commuting between South Tyneside and North Tyneside
- ▶ Commuting from South Tyneside to the wider Newcastle area
- ▶ Journey to work trips to South Shields Business Park
- ▶ Unfavourable journey time for public transport with buses also having to use the tunnel



¹ Ratio to flow capacity values taken from TPM Model

² Ratio to flow capacity values taken from Highways Agency Stress Maps

Alternatives

This section identifies transport alternatives to the link examined.

Highway Alternatives

- ▶ The river acts as a barrier between North Tyneside and South Tyneside; as a consequence there are no comparable highway alternatives to using the Tyne Tunnel in the close vicinity
- ▶ Trips between South Tyneside and the wider Newcastle area could use the Tyne Bridge to cross the River Tyne but this route is also known to be congested
- ▶ Over 50% of trips to the South Shields Business Park have an origin in North Tyneside and the Tyne Tunnel is the only highway alternative within the vicinity for this movement

Public Transport Alternatives

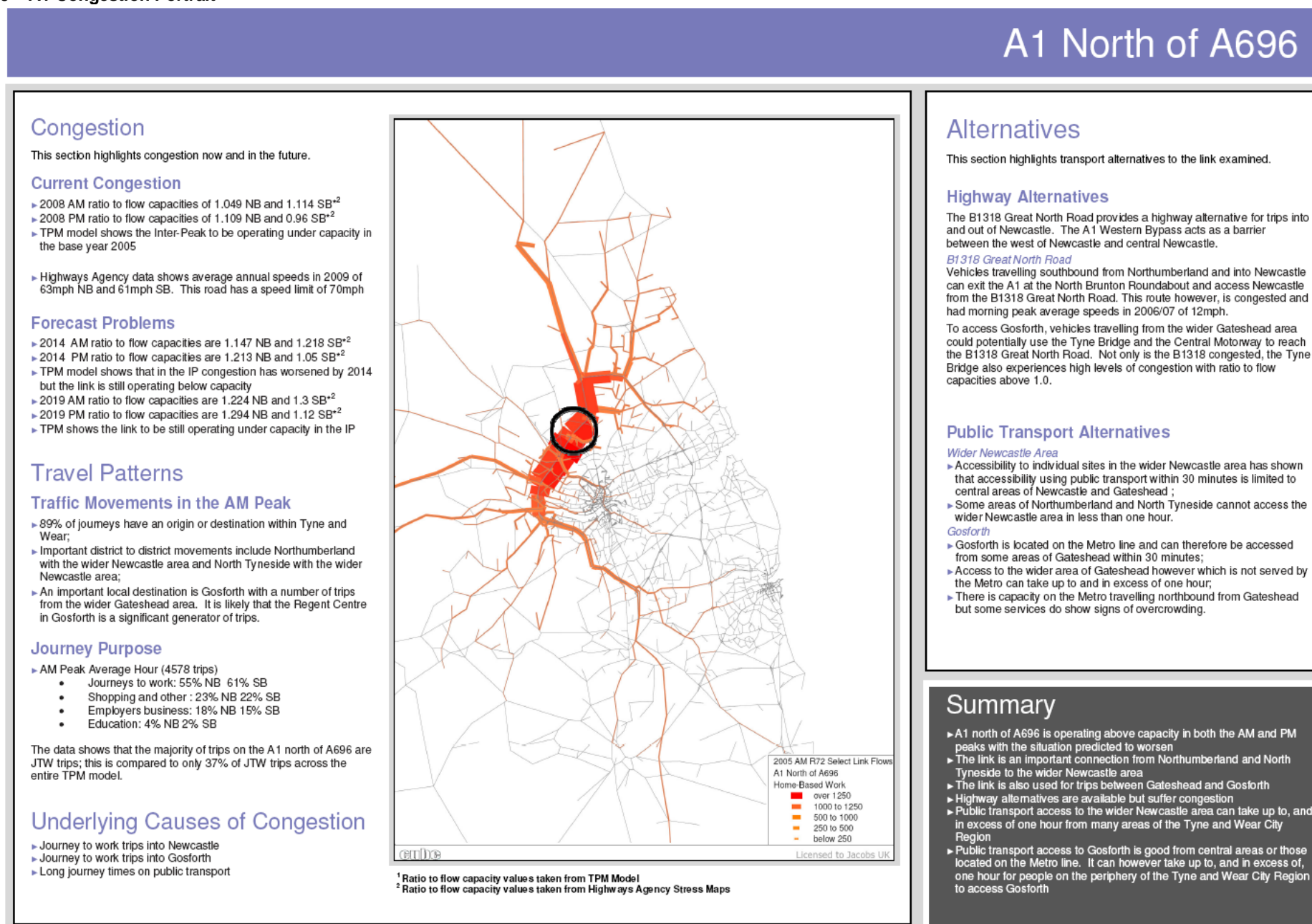
- ▶ Access to North Shields from South Tyneside is within 30 minutes within the vicinity of the Shields Ferry but public transport access from some areas of South Tyneside can take up to one hour
- ▶ Access to South Shields from North Tyneside is within 30 minutes within the vicinity of the Shields Ferry but public transport access from some areas of North Tyneside can take up to one hour
- ▶ The Shields Ferry acts as an alternative to bus or Metro travel and is operating under capacity
- ▶ Access from South Tyneside to Newcastle City Centre is within 30 minutes within the vicinity of the Metro; access to the wider Newcastle area however, can take significantly longer depending upon the exact destination
- ▶ Access to the South Shields Business Park is within 30 minutes along the banks of the Tyne but can be up to one hour from some areas of Northumberland

Summary

- ▶ A19 Tyne Tunnel is currently operating above capacity in the AM peak and approaching capacity in the PM peak
- ▶ Congestion is forecast to reduce with the opening of an additional tunnel in 2011
- ▶ Links across the Tyne are important with large movements between North Tyneside and South Tyneside
- ▶ Highway alternatives are limited as the River Tyne acts a barrier to transport between North Tyneside and South Tyneside
- ▶ There are good public transport links between South Tyneside and North Tyneside within the vicinity of the Shields Ferry
- ▶ Public transport links from the wider areas of South Tyneside and North Tyneside can be timely and do not offer a real alternative to the car

Capabilities on project:
Transportation

Figure 19 – A1 Congestion Portrait



¹ Ratio to flow capacity values taken from TPM Model

² Ratio to flow capacity values taken from Highways Agency Stress Maps

Capabilities on project:
Transportation

Figure 20 – A1058 Coast Road Congestion Portrait

A1058 Cradlewell Bypass

Congestion

This section highlights congestion on the A1058 Cradlewell Bypass now and in the future.

Current Congestion

- 2005 AM ratio to flow capacities of 0.791 WB and 0.520 EB¹
- 2005 IP ratio to flow capacities of 0.579 WB and 0.568 EB¹
- 2005 PM ratio to flow capacities of 0.525 WB and 0.722 EB¹

The data highlights that the link is experiencing congestion in the AM peak towards Newcastle and the PM peak away from Newcastle

Forecast Problems

- 2014 AM ratio to flow capacities of 0.927 WB and 0.579 EB¹
- 2014 IP ratio to flow capacities of 0.677 WB and 0.638 EB¹
- 2014 PM ratio to flow capacities of 0.590 WB and 0.902 EB¹
- 2021 AM ratio to flow capacities of 1.011 WB and 0.582 EB¹
- 2021 IP ratio to flow capacities of 0.723 WB and 0.653 EB¹
- 2021 PM ratio to flow capacities of 0.6 WB and 0.969 EB¹

Travel Patterns

Traffic Movements in the AM Peak

- 100% of journeys have an origin or destination within Tyne and Wear
- Important district to district movements are between North Tyneside and Newcastle and Newcastle and North Tyneside
- Important local destinations are Silverlink Retail Park and Cobalt Business Park with the majority of these trips coming from Newcastle

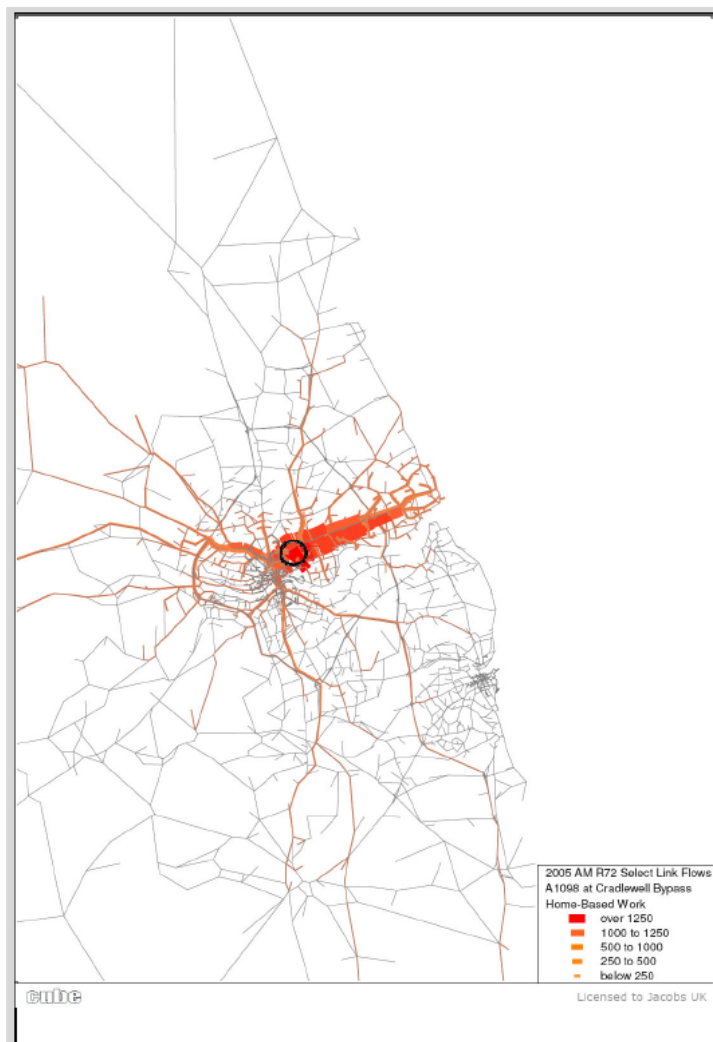
Journey Purpose

- AM Peak Average Hour (3464 trips)
 - Journeys to work: 57% EB 73% WB
 - Shopping and other: 25% EB 17% WB
 - Employers business: 14% EB 8% WB
 - Education: 4% EB 2% WB

The data shows that the majority of trips on the A1058 Cradlewell Bypass are JTW trips; this is compared to only 37% of JTW trips across the entire TPM model.

Underlying Causes of Congestion

- Journey to work trips into Newcastle
- Journey to work trips into North Tyneside
- Journey to work trips to Silverlink and Cobalt
- Retail and leisure trips to Silverlink



¹ Ratio to flow capacity values taken from TPM Model
² Ratio to flow capacity values taken from Highways Agency Stress Maps

Alternatives

This section highlights transport alternatives to the link examined.

Highway Alternatives

When travelling between North Tyneside and Newcastle, it is possible to leave the Coast Road at a number of points and avoid travelling on the A1058 Cradlewell Bypass. The A191 and the A193 are two possible options.

A191

Vehicles travelling from North Tyneside to Newcastle can leave the Coast Road at the A186 and travel on the A191 into Newcastle. This route however experiences congestion on the approach into Gosforth with the B1318 Great North Road having slow average speeds.

A193

Vehicles travelling from North Tyneside to Newcastle can leave the Coast Road at the A186 and travel on the A193 which runs parallel to the A1058 into Newcastle. The TPM model shows that this route is operating close to capacity WB into Newcastle in the AM peak and EB out of Newcastle in the PM peak.

The traffic lights at the A186/Coast Road Roundabout, which will affect both alternative routes, can also add additional time to the journey.

Public Transport Alternatives

Newcastle

- Newcastle is accessible from a wide area by public transport
- Access from North Tyneside is generally within 30 minutes due to a good Metro connection which is not overcrowded
- Journey times from some areas on the periphery of North Tyneside can take up to one hour

Cobalt and Silverlink

- Cobalt and Silverlink are accessible from Newcastle Centre within 30 minutes using public transport;
- Access from the wider Newcastle area can take up to one hour

Summary

- Congestion on the A1058 Cradlewell Bypass is beginning to be prevalent by 2014 and again to 2021
- The bypass acts as an important connection between North Tyneside and Newcastle
- Highway alternatives are available but are often timely and still experience congestion on the approach into Newcastle
- Public transport could provide a reasonable alternative for travel between central areas of each district as journey times are quick and capacity is available

4.2.3 Public Transport and Congestion

Where the highway capacity does not permit the provision of bus priority measures, highway congestion will have a detrimental impact on the operation of bus services. Not only will it increase the operational cost of public transport in the area, which in turn is likely to be passed onto passengers, it will lead to unreliable journey times which will see buses being viewed as a less favourable mode of transport. Given that a modal shift needs to be encouraged from the private motorcar to more sustainable modes of transport in an attempt to address the issues of climate change, this is something which needs to be addressed. Bus operators have provided a list of problems on the transport network in South East Northumberland which is detailed in **Table 21** along with a more detailed explanation of the nature of the problem.

As can be seen from the data in **Table 21** the A197 Telford Bridge and the A1061 Laverock Hall Road, both of which were identified as being congested in **Table 18**, are problem areas for public transport in Northumberland.

Emerging Challenges

The A1061 Laverock Hall Road and A197 Telford Bridge experiences congestion; this is also affecting the operation of public transport which may lead to public transport being viewed as a less desirable mode of transport.

4.3 Public Transport Overcrowding

Overcrowding on public transport can reduce its attractiveness as a mode of travel. Not only does overcrowding negatively impact on journey ambience but it can also significantly impact on journey time reliability. Any evidence of overcrowding on public transport will restrict the potential for future growth in public transport numbers which is contrary to the aims of the DfT goals.

Rail overcrowding data for services between Morpeth/Cramlington and Newcastle has been sourced from Nexus, the Passenger Transport Executive for Tyne and Wear. As was outlined in **Section 3** of this report, this is the principle destination for rail travel originating in Northumberland. At the time of writing, no bus overcrowding data has been obtained.

Table 19 and **Table 20** show the rail overcrowding data for railway lines in Northumberland

Table 19 – Rail Overcrowding in the Morning

Line	Recorded Time	Pax into	Capacity	% full (Entering)
ECML	07:50	Newcastle	120	93%
ECML	08:32	Newcastle	120	73%

Table 20 – Rail Overcrowding in the Evening

Line	Recorded Time	Pax out of	Capacity	% full (Entering)
ECML	17:39	Newcastle	120	100%
ECML	18:07	Newcastle	120	49%

Table 19 shows that the earlier service in the AM peak from Cramlington to Newcastle is operating near to capacity. Given that Cramlington is one of the last calling points on this service, it is likely that there will be capacity issues for those boarding at Cramlington.

A capacity level of 85% or greater would indicate that the service will appear full to passengers with no seating available and considerable numbers of passengers standing.

Therefore the likelihood of getting a seat on peak hour commuter trains and the overall journey experience on heavily crowded trains may deter people from using such services, and increase the propensity for car use.

Table 20 shows in the PM peak the situation is more pronounced with the 17:39 service operating at 100% of its capacity. This service departs Newcastle at 17:15, and is again a popular commuter service.

Information in the East Coast Mainline Route Utilisation Strategy (2008)¹⁸ highlights that car parking at Morpeth Rail Station is at or above 90% of capacity on weekdays; again this is likely to reduce the attractiveness of rail travel.

Further to this, the public transport surveys discussed in **Section 3.5** demonstrate that residents of South East Northumberland are travelling to Morpeth and Cramlington stations, in particular from the Ashington area, to access rail services to Newcastle.

If use of more sustainable travel modes is to be encouraged thought must be given to the available capacity on train services which are popular commuter services.

Capabilities on project:
Transportation

Emerging Challenges

Overcrowding is a problem on rail services between Morpeth, Cramlington and Newcastle in peak periods, with residents travelling from areas without rail provision to Morpeth and Cramlington stations. Further to this, car parking problems are also experienced. There is therefore insufficient capacity to accommodate a modal shift.

Table 21 – Public Transport Operator Issues

Location	Problem
A189 Spine Road, Chase Farm, Blyth	Congestion causing delays to bus services
A193 Cowpen Road (Chase Farm Drive to Tynedale Road), Blyth	Congestion causing delays to bus services
A1/A19 Seaton Burn	Congestion causing delays to bus services during AM and PM peak
A1171 Westmoorland Way, Cramlington	Congestion due to queuing traffic on to A19
A1061 Laverock Hall Road	Delays to buses caused by volume of traffic
Blyth Town Centre	Parking taxis
Cramlington Town Centre	Parking taxis
A1068 Fisher Lane to Old Great North Road (Holiday Inn), Cramlington	Delays to bus services due to volume of traffic
Cowpen Road/Briardale junction	Delays/congestion in turning out of Briardale Road into Cowpen Road particularly in the peak hour. There are a number of risk issues associated with this congestion and junction
Hawthorn Road, Ashington	Congestion due to inconsiderately parked cars and delays due to volume of traffic at junction with Woodhorn Road
Milburn Road, Ashington	Limited access to bus stops due to inconsiderately parked cars and delays to bus services due to volume of traffic at junction with Newbiggin Road
Guide Post Shops, Morpeth (Newcastle bound)	Volume of traffic causes delay to bus services

4.4 Road Safety

Improving road safety is a key priority for achieving the DfT goals. As such, accident data for South East Northumberland has been analysed in terms of accident severity and location.

4.4.1 Location of Accidents

Data has been sourced from TADU (Traffic and Accident Data Unit) to show the location of all reported road accidents in South East Northumberland over a five year period, 2005-2009. The location of each accident has been mapped by severity and is shown in **Figure 21** to **Figure 23**.

4.4.1.1 Accident Severity

Within South East Northumberland there were a total of 1386 accidents over the five year period, of which 1248 were slight, 124 were serious and 14 were fatal.

Slight accidents are widespread throughout South East Northumberland and are shown to be prevalent on the major routes through the area, and notably clustered at the junctions with the A189.

Capabilities on project:
Transportation

As for serious accidents, again these are located throughout the area, and are more noticeable on the routes carrying higher volumes of traffic.

Fatal accidents are more prevalent in the vicinity of Cramlington on the A1068 Fisher Lane and the A189.

Of particular note are the two fatal accidents recorded in proximity to one another at the junction of the A189 and the A197 (to the east of Ashington and to the west of Newbiggin).

Emerging Challenges

Accidents are more prevalent on particular sections of road in South East Northumberland; most notably at junctions with the A189 and the A1068.

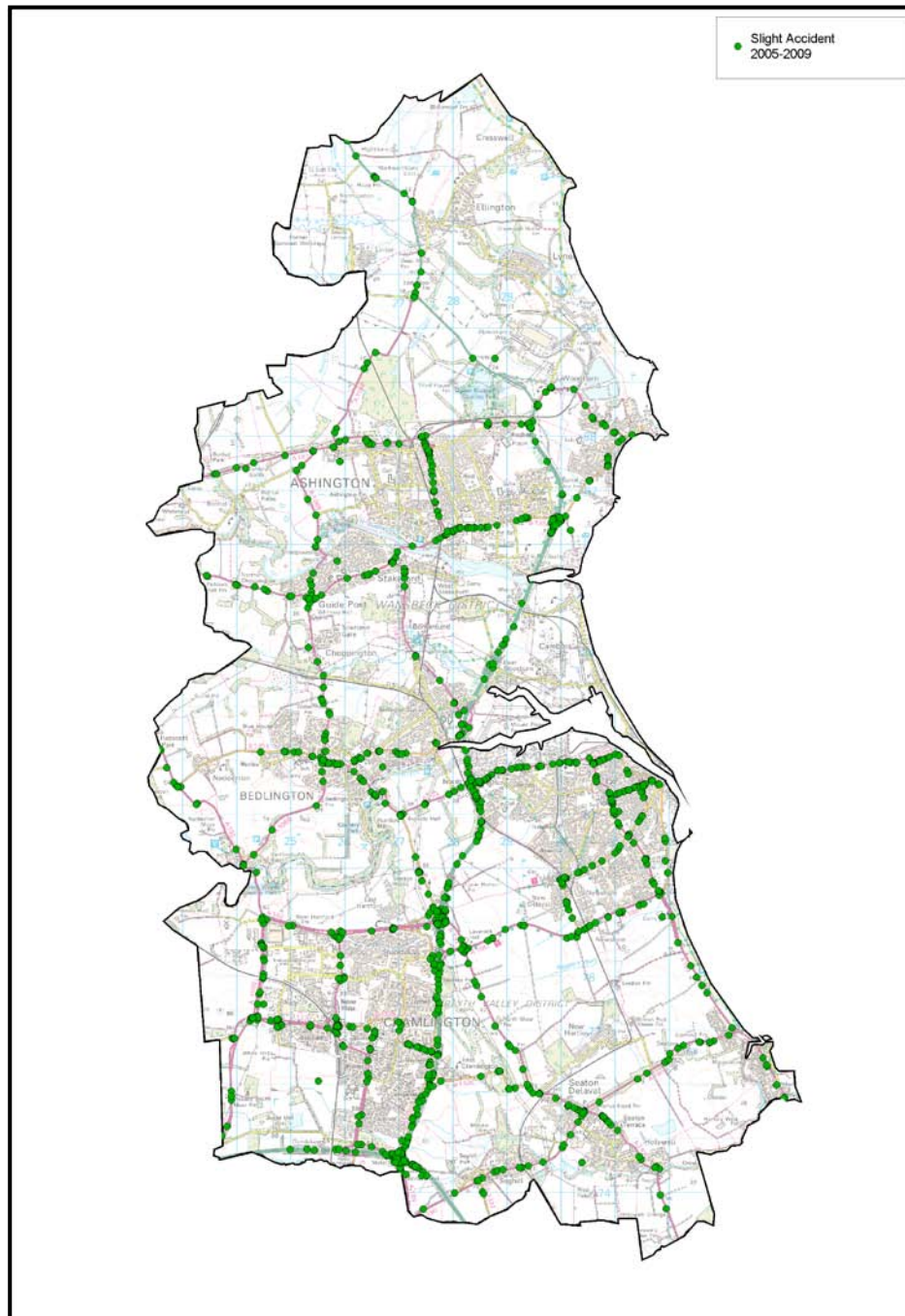
4.5 Emerging Challenges

From this section of the report, the following important challenges have emerged that will impact on the objectives and subsequent interventions developed as part of this study;

- **Congestion:** Congestion on the A1, A19 and the A1058 Coast Road is increasing journey times from South East Northumberland to key employment destinations for both private car and public transport users.
- **Congestion:** There are localised issues of congestion in South East Northumberland on the A1061 South Newsham Roundabout to Laverock Hall Roundabout and the A193 Cowpen Road. This will impact on the economic vitality of these areas.
- **Congestion:** Congestion on the A197 Telford Bridge is likely to lead to long journey times for those accessing Morpeth from South East Northumberland.
- **Public Transport and Congestion** The A1061 Laverock Hall Road experiences congestion; this is also affecting the operation of public transport which may lead to public transport being viewed as a less desirable mode of transport.
- **Overcrowding on Public Transport:** Overcrowding is a problem on rail services between Morpeth, Cramlington and Newcastle in peak periods, with residents travelling from areas without rail provision to Morpeth and Cramlington stations. Further to this, car parking problems are also experienced. There is therefore insufficient capacity to accommodate a modal shift.
- **Road Safety:** Accidents are more prevalent on particular sections of road in South East Northumberland; most notably at junctions with the A189 and the A1068.

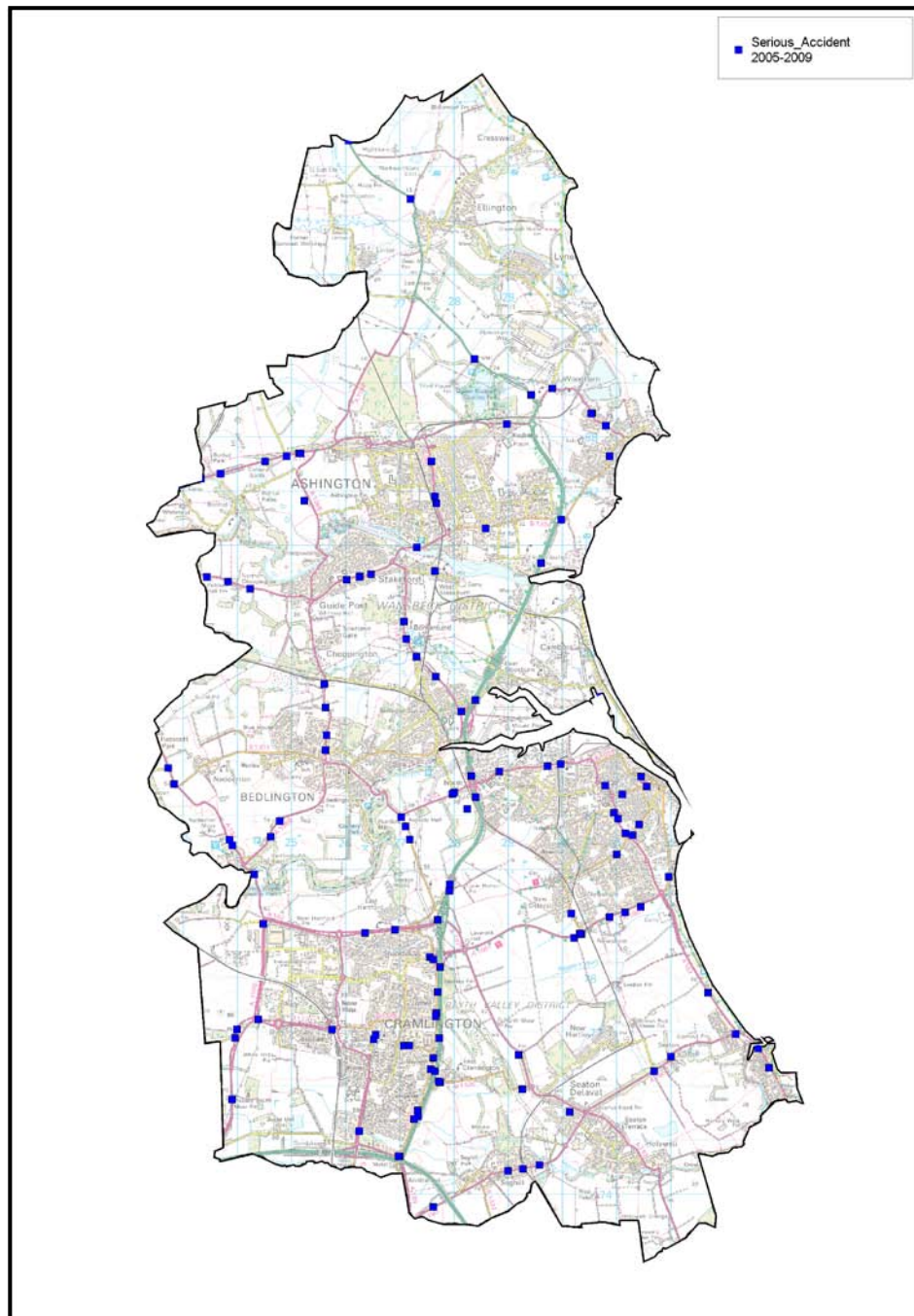
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Figure 21 – Slight Accidents in South East Northumberland (2005 – 2009)



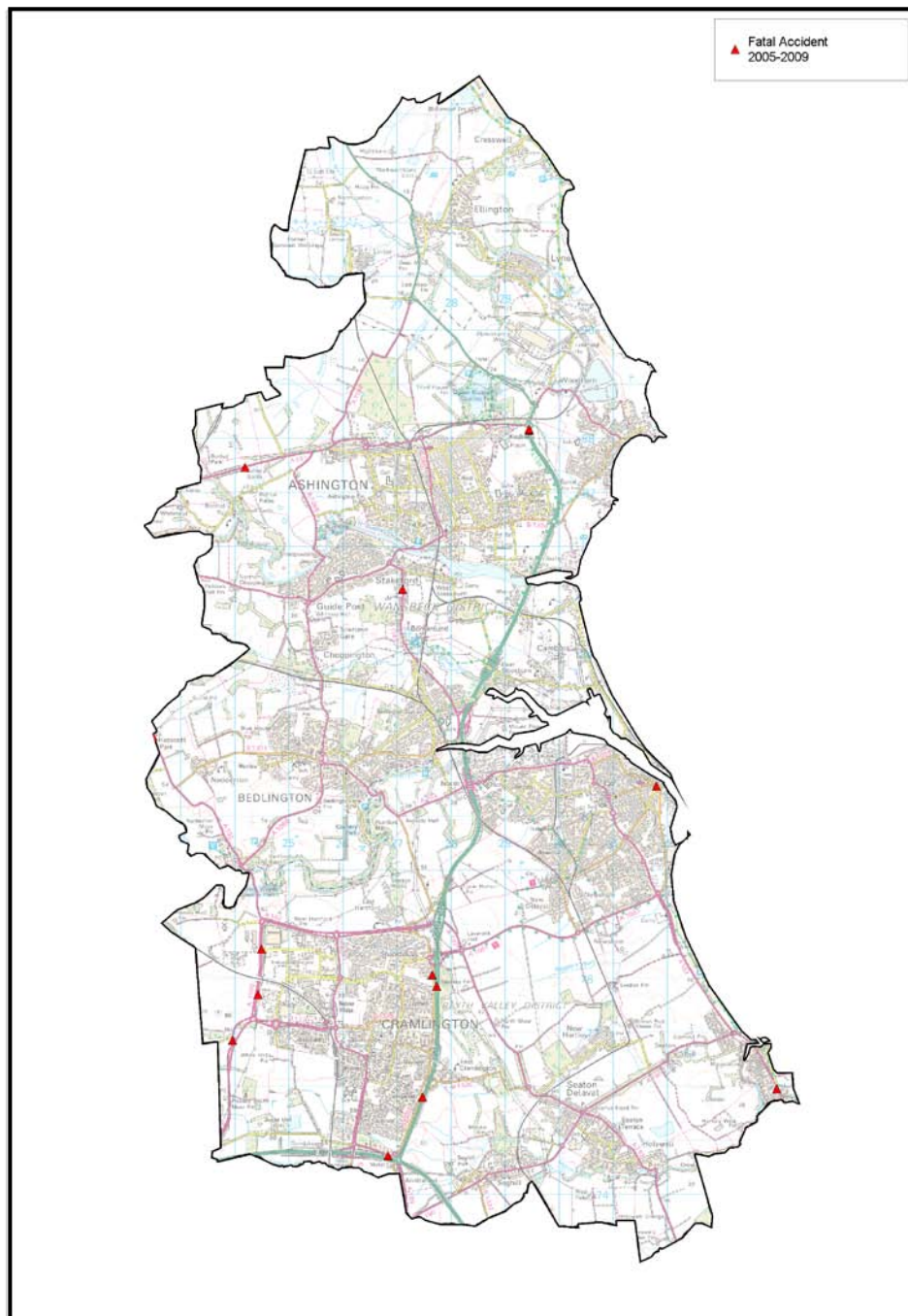
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Figure 22 – Serious Accidents in South East Northumberland (2005 – 2009)



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Figure 23 – Fatal Accidents in South East Northumberland (2005 – 2009)



5 Economy, Society and Environmental Portrait

5.1 Introduction

This section builds an economic, social and environmental portrait of South East Northumberland area, in the context of the wider Northumberland, North East and national background. Data have been sourced from a number of key documents and online resources.

5.2 Economy of South East Northumberland

The last thirty years have seen the North East region, and Northumberland, undergo significant economic changes as the manufacturing sector has declined. Many of the urban areas of South East Northumberland were built around the mining industry. The industry's decline has led to high levels of unemployment in the area. As a consequence of this, the population has had to find alternative sources of employment which has led to significant commuter trips into Tyne and Wear.

One of the five DfT goals is to support economic growth by delivering reliable and efficient transport networks. Understanding the current economic situation in South East Northumberland and the changes that the area has undergone in previous years will be fundamental to achieving this goal.

If GVA is to be used as a measure of economic prosperity, Northumberland is situated within the poorest region in England with the North East having the lowest GVA per Capita in 2008. Within the region there is variation in GVA per Capita although only Durham has a GVA per Capita lower than Northumberland.

Whilst GVA is a useful measure of the economic wealth of an area, it is a work based measure of production and as such, is distorted by those employees who commute between regions. As a further analysis, average weekly earnings have been analysed to show the relative wealth of both the area and residents of South East Northumberland.

Table 22 – Average Weekly Earnings 2009

Area	2009	
	Resident	Workplace
England	£496.00	£495.20
North East	£438.80	£435.90
Northumberland	£467.70	£421.60
Blyth Valley	£412.10	£399.40
Castle Morpeth	£608.30	£475.10
Wansbeck	£423.70	£425.50

Source: Annual Survey of Hours and Earning

The data in **Table 22** shows that the average wage earned in Northumberland in 2009 was below the national and regional average. The average wage of a resident of Northumberland however was above the regional average and supports the theory of out-commuting as the Census Journey to Work data set out in **Section 3**.

Of the districts, Blyth Valley has both the lowest resident and workplace wages. The resident wages for those residing in Castle Morpeth are notably higher than those earned by residents of Blyth Valley and Wansbeck. The data shows that amongst the former districts there is a greater range of resident wages, compared to figures shown for workplace earnings.

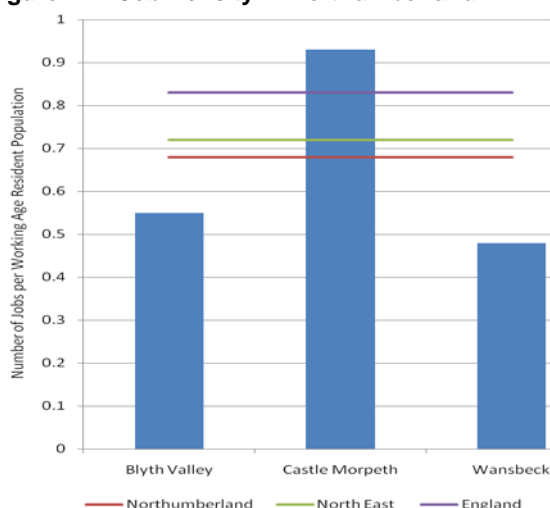
In terms of youth unemployment, 33% of those ages between 16 and 24 are unemployed in Wansbeck. The corresponding figure for Blyth Valley is 19%, based on 2009 figures. The figure for Blyth Valley is on par with the national young people's unemployment figure, also at 19%, however the figure for Wansbeck shows that there is a significant problem with the levels of youth unemployment. It is important therefore that every effort is made to improve accessibility to employment for young adults in the Wansbeck area.

If economic growth in South East Northumberland is to be encouraged, it is necessary to have an understanding of the availability of employment in the area. In terms of the transport implications, this will identify where people need to get to and whether the current transport provision allows for this.

Jobs density is a measure of the number of filled jobs in an area divided by the resident working age population. The location of jobs will impact on the transport choices available for the employees who work there. **Table 23** shows the job density for the districts of South East Northumberland compared to regional and national figures.

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Figure 24 – Job Density in Northumberland



Source: Office of National Statistics

The graph shows that the job density for Northumberland is 0.68; this is lower than the job density for the North East and lower than the national job density figure.

Wansbeck had the lowest job density at 0.48 suggesting that over half of the working age population of Wansbeck commute to other areas. Blyth Valley also has a job density which is also markedly below the figure for Northumberland, suggesting a similar pattern of out-commuting for employment purposes.

Newcastle, immediately south of Northumberland, is within commuting distance of South East Northumberland and had a jobs density figure in 2008 of 1.07; this suggests that more of the working age population are employed in Newcastle than actually live there and these people could potentially be commuting from Northumberland.

Emerging Challenges

The working age population of South East Northumberland is greater than the number of jobs in the area. Some of these people who want to work must therefore commute to neighbouring authorities. This can contribute to congestion and air quality issues both in Northumberland and the neighbouring authorities.

Emerging Challenges

Youth unemployment is high in South East Northumberland; this will impact upon economic prosperity and potential for economic growth.

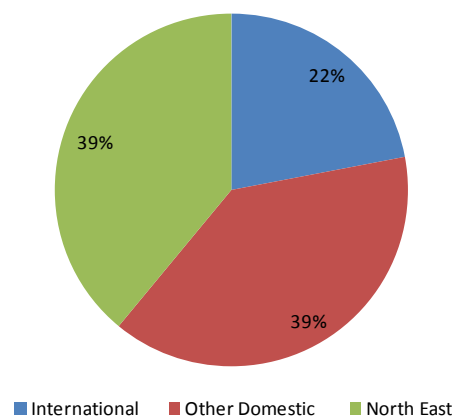
5.2.1 Tourism in Northumberland

Tourism in Northumberland makes a significant contribution to the economy of the area. In 2008 it is estimated that tourism accounted for 11.7% of employment in Northumberland placing tourism as one of the top employment sectors in the area.

The importance of tourism in Northumberland is expected to grow in the coming years with the current economic climate seeing UK residents opting to holiday domestically or make only day trips to tourist attractions. This is reflected in the Northumberland Area Tourism Management Plan which suggests that there is still scope for growth in the tourism industry in Northumberland. It is often the case however that tourism is seasonal and offers low paid employment. It is therefore essential that this growth in the tourism sector is spread throughout the year.

The Regional Visitor Survey 2008 showed that the origins of visitors to the Northumberland area are both national and international as outlined in **Figure 25** below.

Figure 25 – Origin of Visitors to Northumberland



Of the people surveyed in the Regional Visitor Survey, 83% of visitors to Northumberland used the private motor car to reach their destination with a further 4% of visitors using a hire car; the plane was an important mode of transport for foreign visitors to the area. The data in the Regional Visitor Survey 2008 highlights the importance of the domestic and foreign market to the economy of Northumberland and it is essential that transport connections from these places are maintained, if not improved.

The Northumberland Area Tourism Management Plan (ATMap) 2010-2015 sets out the vision for growth in tourism in

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Northumberland over the next five year period. Within this plan is the aspiration for a sustainable visitor economy which supports – not damages – the core values of Northumberland. Central to this aspiration will be the role of transport in accessing Northumberland. Current transport connections by rail, sea and air however, are somewhat limited and this is reflected in the fact that 87% of visitors to Northumberland use the car.

Emerging Challenges

The majority of tourists who visit Northumberland use the private car for access to the region and throughout their stay. This is because of a lack of public transport options and limited awareness of the services that are available.

5.3 South East Northumberland Society

Changes in the economy of South East Northumberland at the end of the 20th Century have had an impact on the society that serves that economy. South East Northumberland has a very diverse society characterised by both areas of significant deprivation and areas of wealth. Transport has a role to play in tackling this deprivation by addressing accessibility issues within the county. This will in turn help facilitate social inclusion and increase the opportunities that are available to the people who live there.

5.3.1 Headline Statistics

Similar to the economic situation in South East Northumberland, areas have undergone significant social change in the last thirty years largely associated with the decline of the manufacturing industry and the social problems inextricably linked to unemployment. For the most part, these problems are located in the industrial areas of South East Northumberland. Ultimately, this has led to some areas within the county being classified as the most deprived in the county as measured by the index of multiple deprivation. In total, 7% of the population of Northumberland live in the 10% most deprived SOAs in the country whilst 8% of the population live in the 10% least deprived SOAs in the country.

5.3.2 Indices of Multiple Deprivation

The index of multiple deprivation can be used to rank local authorities in terms of the most deprived amongst the 354 local authorities in England. Authorities are ranked based on the average of super output areas (SOAs) measure (which is the population weighted average of the combined scores for the

SOAs in a district). SOAs are measured on seven different categories and an overall score calculated; income, employment, health deprivation and disability, education skill and training, barriers to housing and services, crime and finally the living environment. The most recent IMD is from 2007 and therefore the former districts of Northumberland are included in the data for the Northumberland Local Authority. This data is shown in **Table 23**.

Table 23 – Indices of Multiple Deprivation, Northumberland

Local Authority	Overall IMD Ranking
Blyth Valley	80
Castle Morpeth	223
Wansbeck	46

Wansbeck was ranked as the 46th most deprived Local Authority in England with around 21% of the population living in the 10% most deprived SOAs in the country, whilst Blyth Valley was ranked only slightly higher as the 80th most deprived Local Authority. In comparison, Castle Morpeth is ranked as the 223rd most deprived local authorities in the country respectively.

The IMD for South East Northumberland is shown in plan form in **Figure 26** and illustrates the locations that are considered to be the most deprived and least deprived SOAs in the county. This clearly shows that deprivation is concentrated in the urban areas of South East Northumberland around the old industrial sites.

Clearly the level of deprivation will depend on the indicator being assessed. For this reason, an analysis on the seven indicators which make up the IMD has been undertaken. **Table 25** shows the percentage of the population in each district which live in the 10% most deprived SOAs for each of the indicators.

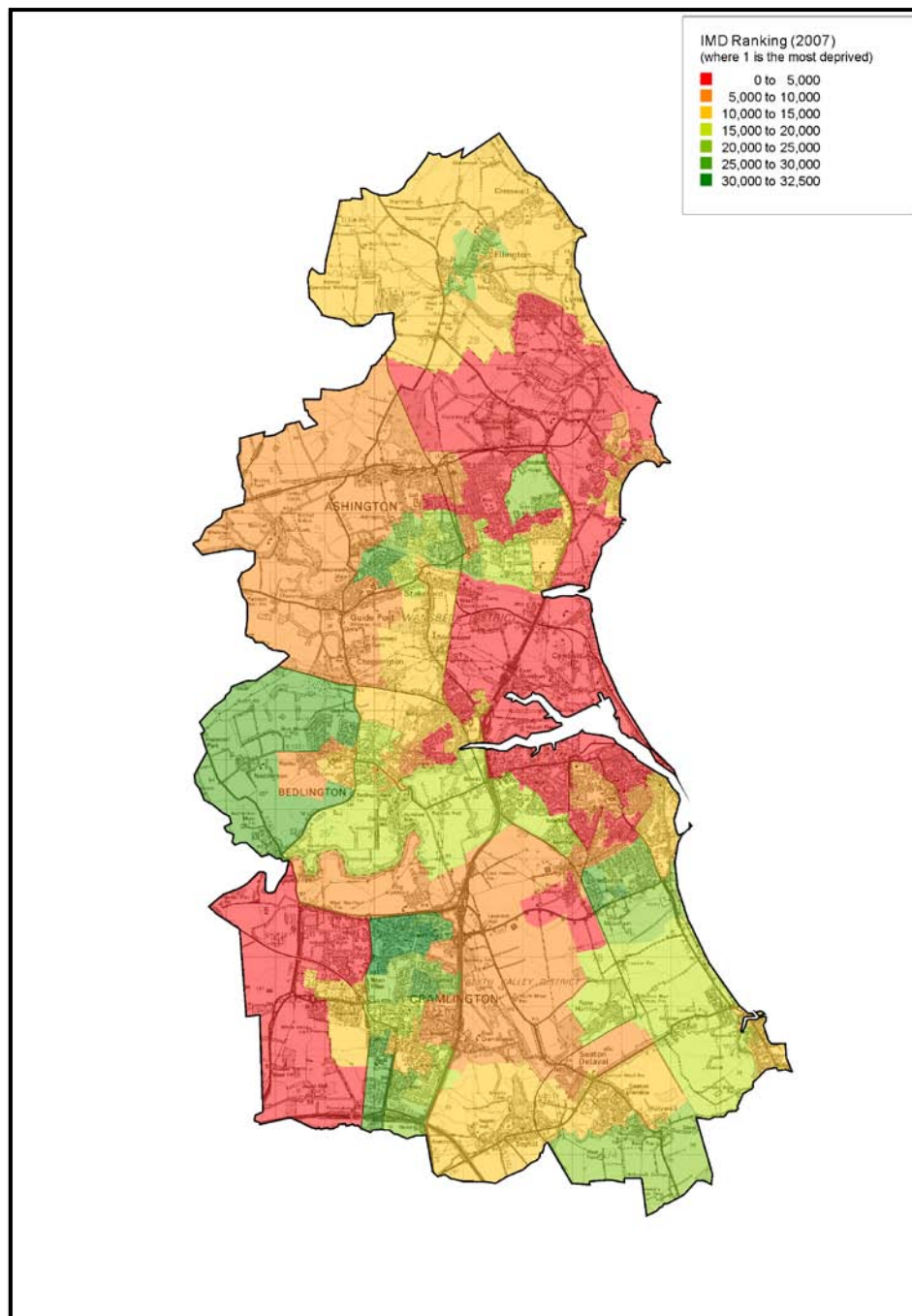
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Table 24 – Comparative Social Statistics

Social Factor	Base	Location						Source
		Blyth Valley	Castle Morpeth	Wansbeck	Northumberland	North East	England	
People not in good health	Resident Population	11%	9%	13%	10%	12%	9%	2001 Census
People with limiting long term illness	Resident Population	21%	19%	24%	21%	23%	18%	2001 Census
Average weekly wage by residence (full time employees)	Economically active residents	£412.1	£608.3	£423.7	£468.0	£439.0	£496.0	2009 Annual Survey of Hours and Earnings
Mortality rates	Per 100,000 population	652.4	538	698.4	578.7	656.9	574.8	ONS 2008
Population living in the 20% most deprived super output areas	Resident Population	25%	10%	28%	16%	34%	20%	IMD 2007
Residents claiming Job Seekers Allowance	Working age population	n/a	n/a	n/a	3.80%	5.10%	4%	DWP 2009
Residents claiming Incapacity Benefit	Resident age population	n/a	n/a	n/a	3.90%	5.20%	3.60%	DWP 2009
Residents claiming Disability Living Allowance	Resident age population	n/a	n/a	n/a	5.70%	6.80%	5%	DWP 2009
Residents who are economically inactive	Working age population	25.5%	22.5%	23.3%	22.7%	26.4%	20.2%	Annual Population Survey 2009
Residents with no qualifications	Working age population	17.0%	13.0%	14.8%	12.2%	14.8%	12.1%	Annual Population Survey 2009
Residents with qualifications at degree level or above	Working age population	21.0%	29.9%	19.0%	26.7%	24.0%	29.6%	Annual Population Survey 2009
Population living in local authority or other social housing rented properties	Resident Population	24.0%	12.0%	24.0%	19.0%	24.0%	18.0%	2001 Census

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Figure 26 – South East Northumberland IMD Ranking



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Table 25 – Percentage of Population Living in the 10% Most Deprived SOAs in England

Indicator	Location			
	Blyth Valley	Castle Morpeth	Wansbeck	N/land
Income	7%	0%	12%	4%
Employment	24%	13%	47%	18%
Health, deprivation & disability	24%	4%	29%	13%
Education skills & training	21%	4%	20%	10%
Barriers to housing & services	0%	17%	0%	12%
Crime	3%	0%	18%	4%
Living environment	0%	0%	0%	1%

The data in **Table 25** shows a number of differences between each of the districts depending on the indicator which is being assessed. Wansbeck has a large percentage of its population living in the 10% most deprived SOAs in England for a number of indicators; this is closely followed by Blyth Valley. It is not surprising that these districts score less favourably than the figures shown for Northumberland as a whole given that they are predominantly urban in nature and were built around heavy industry which was once prevalent in the region. The decline of these industries has led to an increased level of unemployment in the area which is represented in a poor score for employment in the IMD index. Whilst it is not reasonable to suggest that the provision of transport is the sole contributor to high unemployment levels in these areas, it is essential to ensure that public transport is linking these areas with the main employment locations in both South East Northumberland and Tyne and Wear, and at a cost that is considered affordable by the user. It is also imperative that the right transport infrastructure is in place in order to facilitate access to and within South East Northumberland to assist in the development of employment opportunities within South East Northumberland itself.

Other indicators where there are noticeable differences in the performance of areas within South East Northumberland are health, deprivation and disability, education, skills and training and barriers to housing and services. These indicators are discussed in greater detail in the following sections.

5.3.3 Health

The North East region consistently performs poorly in health league tables despite having some of the best health care facilities in the country. Many of the health problems present in the region are strongly linked to the area's industrial past and the problems associated with post industrialisation poverty and unemployment.

Within the North East however there is much spatial variation. The health of residents in Northumberland is generally similar to the England average and Northumberland actually performs better than the England average against a number of national health indicators. There are however still areas of concern which are illustrated in **Table 26**.

Whilst the data in **Table 26** suggests that Northumberland performs well against a number of key health indicators when compared to national and regional areas, there is much variation within Northumberland as indicated by the index of multiple deprivation. Blyth Valley and Wansbeck both perform poorly against the health aspect of the IMD with 24% and 29% of their population living within the 10% most deprived SOAs in England respectively. Both of these areas of South East Northumberland were once dominated by heavy industry and as such their current problems are often related to the post industrialisation poverty previously mentioned.


5.3.3.1 Education

In 2008 just over 12% of the working age population of Northumberland were recorded as having no qualifications. This is below the regional average and only marginally higher than the national average. Within Northumberland however, the figure varies considerably with 17% of the working age population of Blyth Valley having no qualifications.


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Table 26 – Health Outcomes Compared to National Average, North East, 2009

	New cases of tuberculosis	Road injuries and deaths*	Physically active children*	Violent crime*	People diagnosed with diabetes	Statutory homelessness	Excess winter deaths	Infant deaths	Drug misuse	Physically active adults	Obese adults	Obese children*	GCSE achieved (5A*-C inc.Eng & Maths)*	Hip fractures in over-65s	Children in poverty*	Children's tooth decay (at age 5)	Adults who smoke*	Deprivation	Early deaths: cancer*	Early deaths: heart disease and stroke*	Teenage pregnancy (under 18)*	Binge drinking adults	Deaths from smoking	Healthy eating adults	Life expectancy - male*	Breast feeding initiation*	Hospital stays for alcohol related harm*	Incapacity benefits for mental illness*	Life expectancy - female*	Over-65s 'not in good health'	Smoking in pregnancy	Carbon emissions*
Northumberland																																
North Tyneside																																
County Durham																																
Darlington																																
Stockton-on-Tees																																
Hartlepool																																
Middlebrough																																
Redcar and Cleveland																																
Gateshead																																
Sunderland																																
South Tyneside																																
Newcastle upon Tyne																																

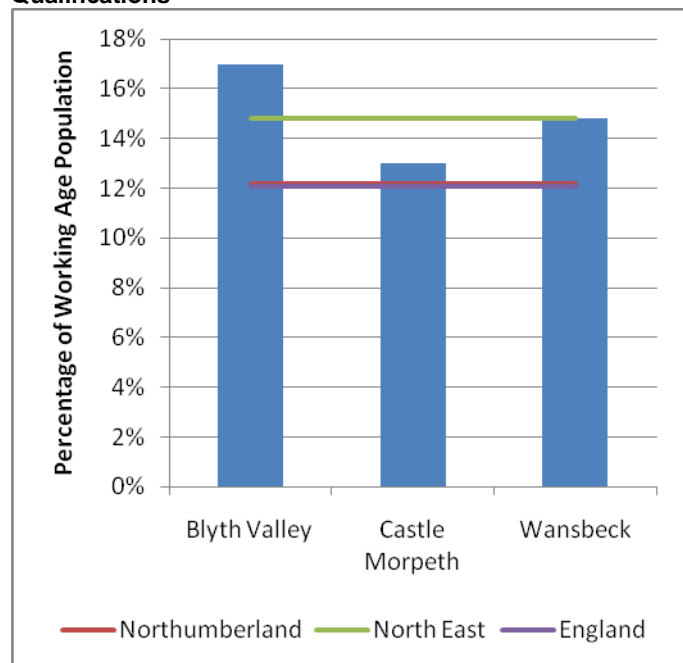
 Significantly worse than England average

 Significantly better than England average

 Not significantly different from England average

 No significant can be calculated, or data unavailable or suppressed due to small numbers

* Relates to national indicator 2009

Figure 27 – Percentage of the Population with No Qualifications

Source: Annual Population Survey 2009

Northumberland has a higher proportion of its working age residents educated to degree level or above compared to the regional average; 26.7% for Northumberland compared with 24% for the North East. This figure is however below the national figure of 29.6% of the working age population. It is again the socially deprived areas of South East Northumberland which seem to perform worst with both Blyth Valley and Wansbeck having a low percentage of their working age population educated to degree level.

People who hold a degree level qualification are more likely to enter a higher paying profession and as a result achieve a higher standard of life. Furthermore, being educated to degree level or above can be a catalyst for entrepreneurial activity which is essential for growth in the economy.

5.3.3.2 Barriers to Housing and Services

One indicator of a good place to live is available, affordable and high quality housing. House prices in Northumberland however are the highest in the North East region with the mean average house price increasing at a greater percentage than the national average since 1998. This is illustrated in **Table**

27. However, there are variations in the price of houses throughout Northumberland.

Table 27 – Average House Prices

Area	Band	House Price		
		1998	2008	Increase
England	Lower Quartile	55,000	124,950	127%
	Median	63,000	175,000	178%
	Mean	84,180	221,270	163%
North East	Lower Quartile	31,500	86,000	173%
	Median	46,000	119,000	159%
	Mean	53,658	139,710	160%
Northumberland	Lower Quartile	34,850	95,000	173%
	Median	53,000	137,000	158%
	Mean	62,766	179,629	186%

The following table, published by the land registry, shows the average house prices for the lowest quartile of housing in the former districts of Northumberland. The table highlights the variation in house prices throughout South East Northumberland. .

Table 28 – Lowest Quartile House Prices 2007

Area	Lowest Quartile House Price
Blyth Valley	£90,000
Castle Morpeth	£125,000
Wansbeck	£78,000

Table 28 shows that house prices in Wansbeck are the least expensive. House prices in both Wansbeck and Blyth Valley are notably lower than those in other areas of Northumberland. The lower house prices in Blyth Valley and Wansbeck give rise to issues such as the potential quality of housing stock in these areas and also the desirability of these areas as a place to live.

5.4 Environment of South East Northumberland

Modal choice and decisions' regarding transport investment and journey patterns can seriously impact on the quality of South East Northumberland's environment and it is therefore important that a context for the environment is set out and well understood in this report.

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The Stern Review outlined that climate change was likely to have a big impact on the environment in the future and it is for this reason that climate change is central to the DfT national transport goals. Transport has an important role to play in tackling climate change, principally through addressing the emission of transport related greenhouse gases.

5.4.1 Greenhouse Gases

Greenhouse gases exist naturally in the earth's atmosphere and help to regulate the surface temperature thus allowing life to flourish. Changes to the balance of these gases in the atmosphere, through the actions of mankind, are affecting the regulation of surface temperatures and leading to global warming. Carbon dioxide (CO₂), Nitrous Oxide (N₂O) and Methane (CH₄) are three of the principle greenhouse gases which are contributing to global warming.

5.4.2 Environmental Policies

A number of recent environmental policies will influence the development of future local, regional and national transport strategies over the next decade and beyond. These policies are discussed below along with various sources of key environmental evidence.

5.4.2.1 The Climate Change Act 2008

The UK Government passed the Climate Change Act, legislation introducing the world's first long-term binding framework to tackle climate change, coming into effect in November 2008. The act provides a legally binding target of at least an 80% reduction in greenhouse gas emission by 2050, and a 34% reduction by 2020. However, CO₂ emissions from road transport are increasing and are predicted to represent 13% of total CO₂ emissions in 2020 compared to 9% in 1990 (North East England Greenhouse Gas Emissions Baselines and Trajectories Study, 2009). Therefore transport faces a major challenge in contributing towards meeting the targets as set out in the 2008 Act.

In the same context health can be improved through reduced exposure to emissions. In 2007, the Committee on the Medical Effects of Air Pollutants Great Britain estimated that respiratory disorders associated with particulates are responsible for 8,100 additional deaths and 10,500 additional hospital admissions in the UK each year. Reducing these emissions will have benefits for the individual by way of improved health and quality of life, and in terms of the economy potentially increase productivity due to a healthier workforce with fewer sick days.

5.4.2.2 The Covenant of Mayors

The Covenant of Mayors initiative is an ambitious commitment by cities across Europe to go beyond the objectives set by the EU 20-20-20 and to achieve a 20% reduction in CO₂ in the respective territories by 2020. As of March 2010, 1,370 cities across Europe had signed the Covenant.

The commitments will be achieved by:

- Developing a Sustainable Energy Action Plan for each signatory authority;
- Adapting city structures to a lower carbon future; and
- Mobilising civic society to assist in the action plan.

Northumberland, as with all of the Local Authorities with the Tyne & Wear City Region, had signed the Mayors Covenant by January 2009. The covenant puts an onus on local government to reduce carbon dioxide emissions through their own activities which include energy intensive services such as street lighting and public transport.

5.4.2.3 Northumberland Climate Change Strategy

As well as the Climate Change Act 2008, Northumberland has also developed its own climate change strategy. The aim of the strategy is to encourage partners to put in place effective and timely measures at both corporate and community levels to address the causes and implications of climate change in Northumberland by mainstreaming climate change planning with their own core business.

The strategy has identified the following priority areas where action is required;

- Leadership;
- Emergency planning;
- Transport and utilities;
- Spatial planning;
- Delivering for rural areas;
- Business resilience;
- Protecting our natural environment;
- Addressing future needs;
- Communicating climate change; and
- Trading carbon for community and environmental benefits.

5.4.3 Carbon Emissions

Northumberland is committed to reducing carbon emissions and this is reflected in its endorsement of the Covenant of Mayors which is a voluntary agreement. Whilst transport is not the only sector where reductions can be made, it was identified in the Stern Review as being the market sector with the fastest growing carbon emissions.

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Within the UK road transport is seen as a considerable contributor to CO₂ emissions. **Table 29** and **Table 30** show the CO₂ emissions by road transport for each of the districts within Northumberland.

Table 29 – CO₂ Emissions by Road Transport, Northumberland (kilo tonnes)

Authority	Base Year (2005)	% of Total Emissions	2007	% of Total Emissions	% Increase
Blyth Valley	111	22%	109	23%	-1%
Castle Morpeth	127	31%	124	34%	-2%
Wansbeck	71	9%	71	10%	0%
Northumberland	662	22%	663	23%	0%
North East	4782	23%	4738	23%	-1%
England	86,090	24%	84,976	24%	-1%

Table 30 – CO₂ Emissions by Road Transport, Northumberland (tonnes per capita)

Authority	Base Year (2005)	2006	2007	% Increase
Blyth Valley	1.36	1.33	1.35	-1%
Castle Morpeth	2.57	2.50	2.50	-3%
Wansbeck	1.15	1.16	1.16	1%
Northumberland	2.13	2.10	2.14	0%
North East	1.88	1.84	1.85	-1%
England	1.71	1.66	1.66	-3%

Table 29 shows that in both 2005 and 2007, Wansbeck had the lowest levels of CO₂ emissions from road transport in Northumberland. The level of emissions had remained unchanged from 2005 levels. Blyth Valley has seen a small decrease in CO₂ emissions which is in line with the regional and national average. Work towards reducing and maintaining a low level of CO₂ emissions relating to road transport should be continued if Northumberland is to meet the targets set out in the Covenant of Mayors.

What is notable from the data is that although South East Northumberland has seen a percentage decrease in its CO₂ emissions from road transport, the percentage of total

emissions has actually increased. This suggests that whilst progress is being made in reducing CO₂ emissions from road transport within South East Northumberland, progress is lagging behind other market sectors.

Table 30 shows CO₂ emissions by road transport per head of population for the three year period between 2005 and 2007. This allows for a comparison to be made between different spatial areas. Wansbeck and Blyth Valley show CO₂ levels per capita lower than North East and England levels. Wansbeck was identified in **Section 3** of the report as having the lowest car ownership levels in Northumberland which were much higher than the national average. This will undoubtedly have impacted on the levels of CO₂ emissions from road transport and gives rise to the argument that increasing car ownership levels could prove problematic in the future.

Figure 28 displays the level of CO₂ emissions from road transport across South East Northumberland. This map shows that emissions from road transport are concentrated along the A189 corridor.

Emerging Challenges

CO₂ emissions in South East Northumberland from road transport per head of population are not seeing a reduction compared to the figures shown regionally and nationally.

5.4.4 Air Quality Management Areas (AQMA's)

A reduction in greenhouse gas emissions from transport is likely to have a major impact on air quality. Not only will this help in combating climate change, it will also contribute to improvements in people's health and quality of life. Whilst South East Northumberland is not known to have a particular air quality issue, it does have one registered air quality management area and therefore air quality in the county does need to be addressed.

Blyth Town was declared an air quality management area (AQMA) on the 22nd December 2004. This was due to an excessive level of particulates in the air which exceeded acceptable levels for England and Wales. Since this time however, monitoring of this AQMA has shown that the levels of particulates are now lower than the acceptable value and the council intends to continually monitor this site to ensure that this reduction in particulates is maintained.

Whilst there are no other AQMAs declared in South East Northumberland, a site at Cowpen in Blyth is showing levels of Nitrous Oxide (N₂O) which are above the acceptable levels for

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England and Wales. The monitoring tubes for this site are located close to two arterial routes into Blyth as well as well as a set of traffic signals which will generate stationary traffic. It is therefore likely that the level of traffic in the vicinity of this site has a considerable impact on the levels of N₂O.

Emerging Challenges

There is an area of poor air quality within Blyth which is largely associated with road transport. This needs to be addressed.

5.4.5 Future Forecasts for Greenhouse Gas Emissions

Whilst forecasts are not available for greenhouse gas emissions for Northumberland, in 2009 SUSTAIN and AEA produced the North East England Greenhouse Gas Emissions Baselines and Trajectories Study. This study outlines the position of the North East region in relation to greenhouse gas emissions both now and in the future.

The study focuses on emissions of CO₂ and suggests that unless preventative measures are taken now, by 2050 CO₂ emissions in the region will be 1% higher than the baseline of 1990. Whilst some market sectors are predicted to see a decline in their CO₂ emissions, road transport is forecast to see a 58% increase during this period. This would suggest that the North East as a region will fail to meet their CO₂ reduction targets with transport being a contributory factor.

Emerging Challenges

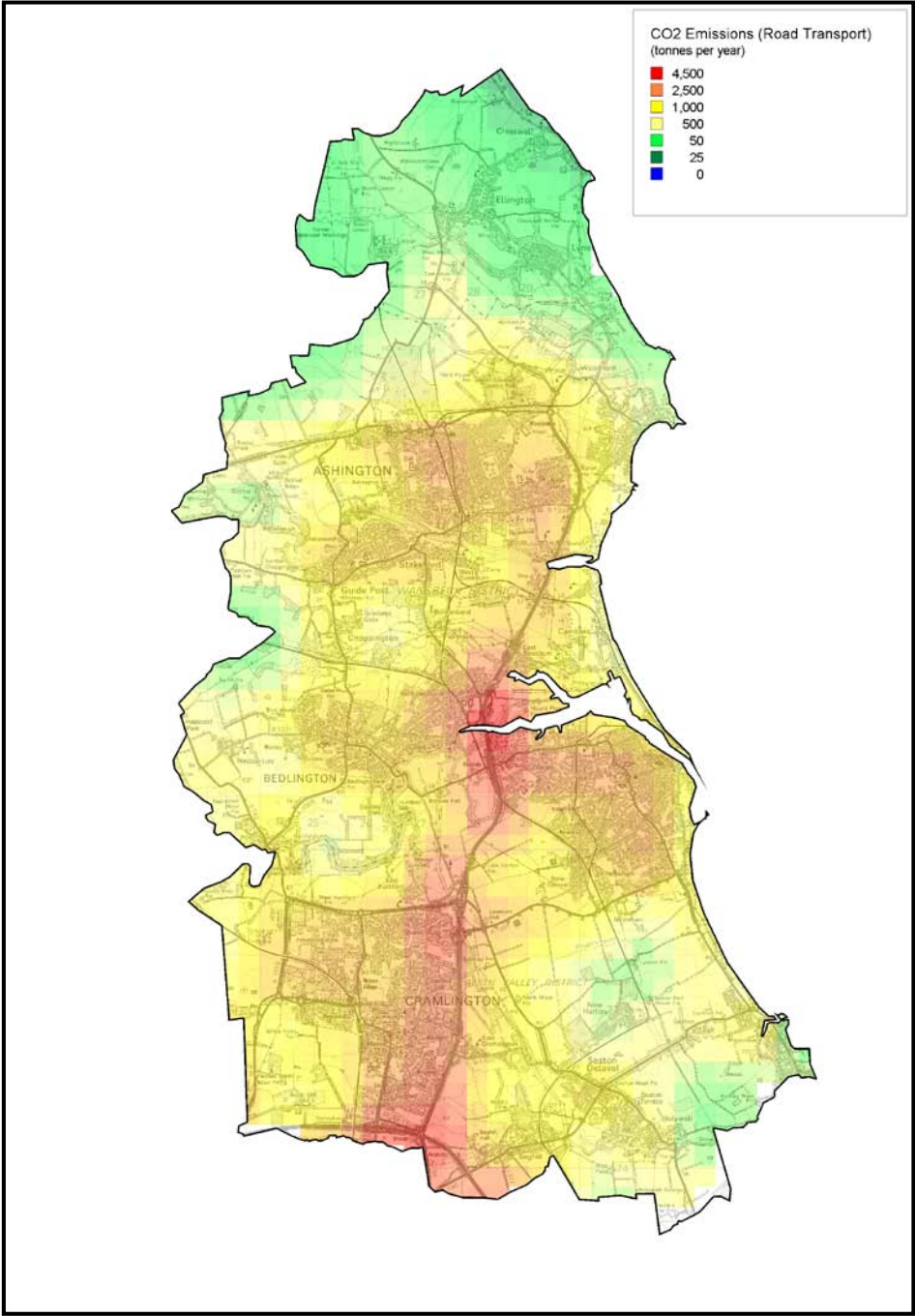
CO₂ emissions from road transport in the North East are forecast to increase. This will impact on climate change and health in South East Northumberland.

5.5 Emerging Challenges

From this section of the report, the following important challenges have emerged that will impact on the objectives and subsequent interventions developed as part of this study;

- **Tourism:** The majority of tourists who visit Northumberland use the private car for access to the region and throughout their stay. This is because of a lack of public transport options and limited awareness of the services that are available.
- **Carbon Emissions:** CO₂ emissions in South East Northumberland from road transport per head of population are not seeing a reduction compared to the figures shown regionally and nationally.
- **Air Quality:** There is an area of poor air quality within Blyth which is largely associated with road transport. This needs to be addressed.
- **Future Emissions:** CO₂ emissions from road transport in the North East are forecast to increase. This will impact on climate change and health in South East Northumberland.
- **Economy:** The working age population of South East Northumberland is greater than the number of jobs in the area. Some of these people who want to work must therefore commute to neighbouring authorities. This can contribute to congestion and air quality issues both in Northumberland and the neighbouring authorities.
- **Economy:** Youth unemployment is high in South East Northumberland; this will impact upon economic prosperity and potential for economic growth.

Figure 28 – Annual CO² Road Transport Emissions



6 Challenges and Objectives

6.1 Introduction

This section of the report collates the emerging challenges highlighted in previous chapters, before they are then rationalised. These rationalised challenges are then combined as appropriate to formulate the study specific objectives.

6.2 Rationalised Challenges

Table 31 shows how the emerging challenges have been grouped by theme, and subsequently shows the rationalised challenge that encompasses the identified emerging challenges.

Table 31 – Rationalisation of Emerging Challenges

Emerging Challenge	Rationalised Challenge
Employment Opportunities: There are insufficient numbers of jobs in South East Northumberland to support the population that live there. People will therefore be required to travel to neighbouring LSOAs to gain employment.	There are insufficient jobs in South East Northumberland leading to out-commuting particularly to Tyne and Wear and also unemployment, particularly amongst the youth population. New employment opportunities will be centred in Tyne and Wear, whilst housing growth is focused in South East Northumberland.
Future Developments: There is an emphasis on employment growth in the North East being centred on Tyne and Wear despite housing growth points being established in South East Northumberland, this will require longer distance journeys to work and will not work towards increasing South East Northumberland's job density.	
Future Population Trends: The number of households in South East Northumberland is forecast to increase at a higher rate than the population. The location of these new households could put added pressure on the transport network if a sustainable transport network is not in place.	
Travel Patterns: There is an outflow of commuters from South East Northumberland into Tyne and Wear. Congestion is already an issue on the strategic road network into Tyne and Wear.	
Economy: The working age population of South East Northumberland is greater than the number of jobs in the area. Some of these people who want to work must therefore commute to neighbouring authorities. This can contribute to congestion and air quality issues both in Northumberland and the neighbouring authorities.	
Economy: Youth unemployment is high in South East Northumberland; this will impact upon economic prosperity and potential for economic growth.	
Age Structure: South East Northumberland has an increased proportion of elderly residents and a lower proportion of working age residents compared to the regional and national averages. This will lead to reduced economic potential and a need for transport to health facilities and hospitals as well as additional funding for concessionary travel.	Economic potential is set to decrease because of the reduced proportion of working age people and the increased ageing population in South East Northumberland, this is also likely to put pressure on health care services and require additional concessionary travel support.
Age Structure: The working age population of South East Northumberland is set to decrease. This will impact upon economic growth and an individual's contribution to the economy.	

Capabilities on project:
Transportation

Emerging Challenge	Rationalised Challenge
Congestion: Congestion on the A1, A19 and the A1058 Coast Road is increasing journey times from South East Northumberland to key employment destinations for both private car and public transport users.	Strategic congestion on the A1, A19 and A1058, combined with localised congestion on the A1061 South Newsham Roundabout to Laverock Hall Roundabout, the A193 Cowpen Road and the A197 Telford Bridge, contribute to longer journey times for private car and public transport users and also have an adverse economic and environmental impact.
Congestion: There are localised issues of congestion in South East Northumberland on the A1061 South Newsham Roundabout to Laverock Hall Roundabout and the A193 Cowpen Road. This will impact on the economic vitality of these areas.	
Congestion: Congestion on the A197 Telford Bridge is likely to lead to long journey times for those accessing Morpeth from South East Northumberland.	
Public Transport and Congestion: The A1061 Laverock Hall Road and A197 Telford Bridge experience congestion; this is also affecting the operation of public transport which may lead to public transport being viewed as a less desirable mode of transport.	
Car Ownership: Low levels of car ownership may inhibit accessibility to important destinations, should these not be served by suitable public transport links.	Low levels of car ownership may inhibit accessibility; conversely the expected rise in car ownership levels is likely to affect the use of public transport and contribute to congestion.
Car Ownership: Car ownership in South East Northumberland is forecast to increase. This has potential implications for the commercial viability of public transport and modal share in the future.	
Mode Share: Private motor car use for journeys to work is high amongst Wansbeck and Blyth Valley residents; this is despite the districts having high levels of non-car ownership. This could contribute to congestion and air quality issues.	
Mode Share: Public transport usage in South East Northumberland is lower than the regional and national average. Increased usage of public transport could contribute to the achievement of the transport objectives.	
Mode Share: The proportion of people working from home in South East Northumberland is the lowest out of all the areas of Northumberland.	Many journeys to work are reliant on the private car, with lower levels of public transport use. Shorter distance journeys to work are common in South East Northumberland; however this is not reflected in the proportion of people walking and cycling to work. Further to this, few people are working from home.
Mode Share: The use of non-motorised transport for shorter distance journey to work trips is not being maximised. Increased use of non-motorised forms of transport could contribute to both transport and health objectives.	
Travel Cost: All journeys by car with an origin and destination within South East are shown to be cheaper than those by bus.	
Travel Cost: For the majority of origin destination movements the car remains more competitively priced than the public transport services offered.	
Accessibility: Public transport options do not meet the needs of all residents of South East Northumberland. A lack of available services, timely journeys and high public transport costs mean that public transport is not a viable option for many people. This is likely to lead to increased use of the private motorcar as well as contributing to social exclusion.	There are problems with public transport provision including, long journey times and service availability. Public transport costs are shown to be high; this is likely to be one factor in deterring use.
Rail Service: There is a lack of evening and Sunday rail services to and from Cramlington.	
Overcrowding on Public Transport: Overcrowding is a problem on rail services between Morpeth, Cramlington and Newcastle in peak periods, with residents travelling from areas without rail provision to Morpeth and Cramlington stations. Further to this, car parking problems are also experienced. There is therefore insufficient capacity to accommodate a modal shift.	Poor evening and Sunday rail services combined with overcrowding on peak hour rail services is likely to deter use.
Road Safety: Accidents are more prevalent on particular sections of road in South East Northumberland; most notably at junctions with the A189 and the A1068.	Road accidents remain a problem in South East Northumberland; accidents are apparent on key links and at junctions.

Capabilities on project:
Transportation

Emerging Challenge	Rationalised Challenge
Tourism: The majority of tourists who visit Northumberland use the private car for access to the region and throughout their stay. This is because of a lack of public transport options and limited awareness of the services that are available.	Tourists are using private cars in the area due to limited public transport options and a lack of awareness.
Carbon Emissions: CO ₂ emissions in South East Northumberland from road transport per head of population are not seeing a reduction compared to the figures shown regionally and nationally.	CO ₂ emissions are increasing in South East Northumberland; there is also an area of poor air quality in Blyth.
Air Quality: There is an area of poor air quality within Blyth which is largely associated with road transport. This needs to be addressed.	
Future Emissions: CO ₂ emissions from road transport in the North East are forecast to increase. This will impact on climate change and health in South East Northumberland.	

6.3 Study Specific Objectives

The ten rationalised challenges in **Table 31** can be grouped and used to set study specific objectives. The study specific objectives are shown in **Table 32**.

Table 32 – Study Specific Objectives

Rationalised Challenge	Study Specific Objective
There are insufficient jobs in South East Northumberland leading to out-commuting particularly to Tyne and Wear and also unemployment, particularly amongst the youth population. New employment opportunities will be centred in Tyne and Wear, whilst housing growth is focused in South East Northumberland.	Improve access to job opportunities for South East Northumberland residents; increasing the rate of employment, via reduced congestion and improvements to both journey time and reliability.
Economic potential is set to decrease because of the reduced proportion of working age people and the increased ageing population in South East Northumberland, this is also likely to put pressure on health care services and require additional concessionary travel support.	
Strategic congestion on the A1, A19 and A1058, combined with localised congestion on the A1061 South Newsham Roundabout to Laverock Hall Roundabout, the A193 Cowpen Road and the A197 Telford Bridge, contribute to longer journey times for private car and public transport users and also have an adverse economic and environmental impact.	
Low levels of car ownership may inhibit accessibility; conversely the expected rise in car ownership levels is likely to affect the use of public transport and contribute to congestion.	Improve the Public Transport offer to/from and within South East Northumberland and encourage modal change away from the private car.
Many journeys to work are reliant on the private car, with lower levels of public transport use. Shorter distance journeys to work are common in South East Northumberland; however this is not reflected in the proportion of people walking and cycling to work. Further to this, few people are working from home.	
There are problems with public transport provision including, long journey times and service availability. Public transport costs are shown to be high; this is likely to be one factor in deterring use.	

Capabilities on project:
Transportation

Poor evening and Sunday rail services combined with overcrowding on peak hour rail services is likely to deter use.	
Tourists are using private cars in the area due to limited public transport options and a lack of awareness.	
Road accidents remain a problem in South East Northumberland; accidents are apparent on key links and at junctions.	Work towards improving road safety in South East Northumberland.
CO ₂ emissions are increasing in South East Northumberland; there is also an area of poor air quality in Blyth.	Seek to reduce the environmental impacts associated with travel in South East Northumberland.

The next section, Section 7, will identify and appraise transport interventions that are designed to alleviate the challenges identified through the production of the evidence base. These interventions will be assessed against the study specific objectives outlined above. In addition to the four objectives set out, it is necessary that any intervention is deliverable, in terms of being affordable and providing value for money in the current climate, whilst being technically feasible and also socially acceptable. As such, a further objective has been derived to capture these elements:

- Ensure interventions are deliverable; in terms of affordability, value from money, feasibility and acceptability

6.4 Objective Prioritisation

Section 7 discusses interventions and option development in detail. Ultimately the assessment of each intervention is to identify those to be taken forward to a preferred option(s) or for further study/investigation. Via the appraisal process interventions will be assessed against a range of criteria, however determining which of the criteria is most important should be study dependent. The study specific objectives have been ranked in terms of local importance and will be used alongside the appraisal process to determine which interventions are progressed beyond the initial assessment. The objectives are ranked as follows:

Table 33 – Objective Prioritisation

Prioritised Objectives
<ol style="list-style-type: none"> 1. Improve access to job opportunities for South East Northumberland residents; increasing the rate of employment, via reduced congestion and improvements to both journey time and reliability. 2. Improve the Public Transport offer to/from and within South East Northumberland and encourage modal change away from the private car. 3. Seek to reduce the environmental impacts associated with travel in South East Northumberland 4. Work towards improving road safety in South East Northumberland.
All interventions should be deliverable; in terms of affordability, value for money, feasibility and acceptability

7 Interventions and Option Development

7.1 Introduction

This section discusses the interventions designed to alleviate the transport challenges identified throughout the previous chapters. A long list of interventions has been developed covering a wide range of transport categories. These interventions have then been appraised using the DfT's Early Assessment Sifting Tool (EAST). The study specific objectives, alongside the EAST assessment have then been used to determine a preferred option and interventions which merit further study.

7.2 Long List

In total 46 possible interventions have been identified covering eight categories. The categories and the number of intervention identified in each are listed in **Table 34** below.

Table 34 – Intervention Categories

Intervention Category	Number of Interventions
Highway Capacity	4
Highway Management	2
Public Transport	19
Park and Ride	3
Parking Strategy	4
Smarter Choices	7
Walking and Cycling	5
Additional/Other	2

A full list of interventions is included in **Appendix B**

7.3 DfT's Early Appraisal Sifting Tool (EAST)

The DfT has developed a new appraisal tool (EAST) in order to provide consistent assessments of interventions in the early stages of development. The assessment requires high level details of each intervention to allow comparison. EAST focuses on the following criteria:

- **Strategic:** including fit with transport and other government objectives;
- **Economic:** considering the economy, society and the environment, along with value for money;
- **Managerial:** looking at acceptability, feasibility and risk ;
- **Financial:** both capital and revenue costs; and
- **Commercial:** assessing option flexibility, funding and revenue generation.

Detailed documentation on the EAST appraisal method and a copy of the sifting tool can be found in the following link:
<http://www.dft.gov.uk/publications/transport-business-case/>.

7.4 Intervention Prioritisation

Following the completion of the EAST appraisal, interventions have been prioritised according to their score against the study specific objectives. This completed long list appraisal of the interventions, scored by how well they meet the study specific objectives is shown in **Appendix B**. Note that at this stage of the process, a detailed investigation into the scale of the potential benefits from a given intervention was not appropriate. Therefore the scoring reflects simply whether a full or partial benefit related to the study objectives would be expected or not, rather than the magnitude.

In order to rank the interventions, a scoring system has been devised which takes into account which objectives have been prioritised as being more important (as discussed in **Section 6.4**) and whether the intervention meets them partially or fully. The details of the scoring system can be seen below in **Table 35**, objectives 1-4 referring to the list in **Table 33**.

Table 35 – Intervention Scoring

Study Specific Objective	Objective Score	
	Fully	Partially
1: Access to Jobs	10	7
2: Improve Public Transport	7	5
3: Environmental Impact	5	3
4: Road Safety	3	1

Therefore each intervention has been given a score based on the above criteria, these scores are then totalled and the interventions ranked in accordance with this overall score. The results from this process are discussed in the next section.

7.5 Preferred Option and Recommendations for Further Study

The full list of the interventions ranked in order can be seen in **Appendix C**. The top ranking interventions are listed below, note that there were 3 interventions that came in joint second place:

1. Improvement to express bus services from South East Northumberland into Tyne and Wear to identify quicker, more direct routes and gaps in service.
2. Personal travel planning - Large Employment Sites across South East Northumberland.

Capabilities on project:
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2. Reopen Ashington, Blyth and Tyne & Wear (ABT) line to passengers.
2. Extend Metro into South East Northumberland.

The above list shows that the intervention with the highest score is an improvement to the bus services between South East Northumberland and Tyne and Wear to increase efficiency, this is understandable as it may reduce the vehicle hours on the road whilst also increasing the public transport accessibility to key employment areas. The three interventions which have a joint second highest score are, firstly, personal travel planning for key employment areas in order to enhance the usage of existing services and infrastructure.

The other two interventions focus on increasing public transport provision via rail, using an extension of the current Metro line and the reopening of the ABT line. These options will provide additional public transport capacity for travelling from Southeast Northumberland to the key employment area of Tyne and Wear.

All of these interventions fully meet the first study specific objective, which is considered to be the most important, namely increasing access to jobs. They all also either fully or partially meet the second and third most important objectives which are increasing the Public Transport provision and reducing environmental impacts respectively. Therefore all of these interventions can be considered worthy of a more detailed appraisal to ascertain the potential scale of the benefits which could be provided.

8 Summary and Conclusions

8.1 Summary

AECOM has developed an evidence base for transport movements in South East Northumberland. Consideration has also been given to the area's demographics and environmental impacts. From the evidence base a number of emerging challenges have been identified and subsequently rationalised. These rationalised challenges have then been used to formulate study specific objectives. The 4 rationalised study objectives are listed below:

1. Improve access to job opportunities for South East Northumberland residents; increasing the rate of employment, via reduced congestion and improvements to both journey time and reliability.
2. Improve the Public Transport offer to/from and within South East Northumberland and encourage modal change away from the private car.
3. Seek to reduce the environmental impacts associated with travel in South East Northumberland
4. Work towards improving road safety in South East Northumberland.

In the next step of the process a long list of interventions have been developed, which are designed to work towards ameliorating the identified challenges whilst also working towards meeting the study specific objectives. These interventions have then been appraised using the DfT's EAST appraisal tool, which provides consistent assessments of interventions at the early stage of development. This allows some interventions to be removed where not feasible.

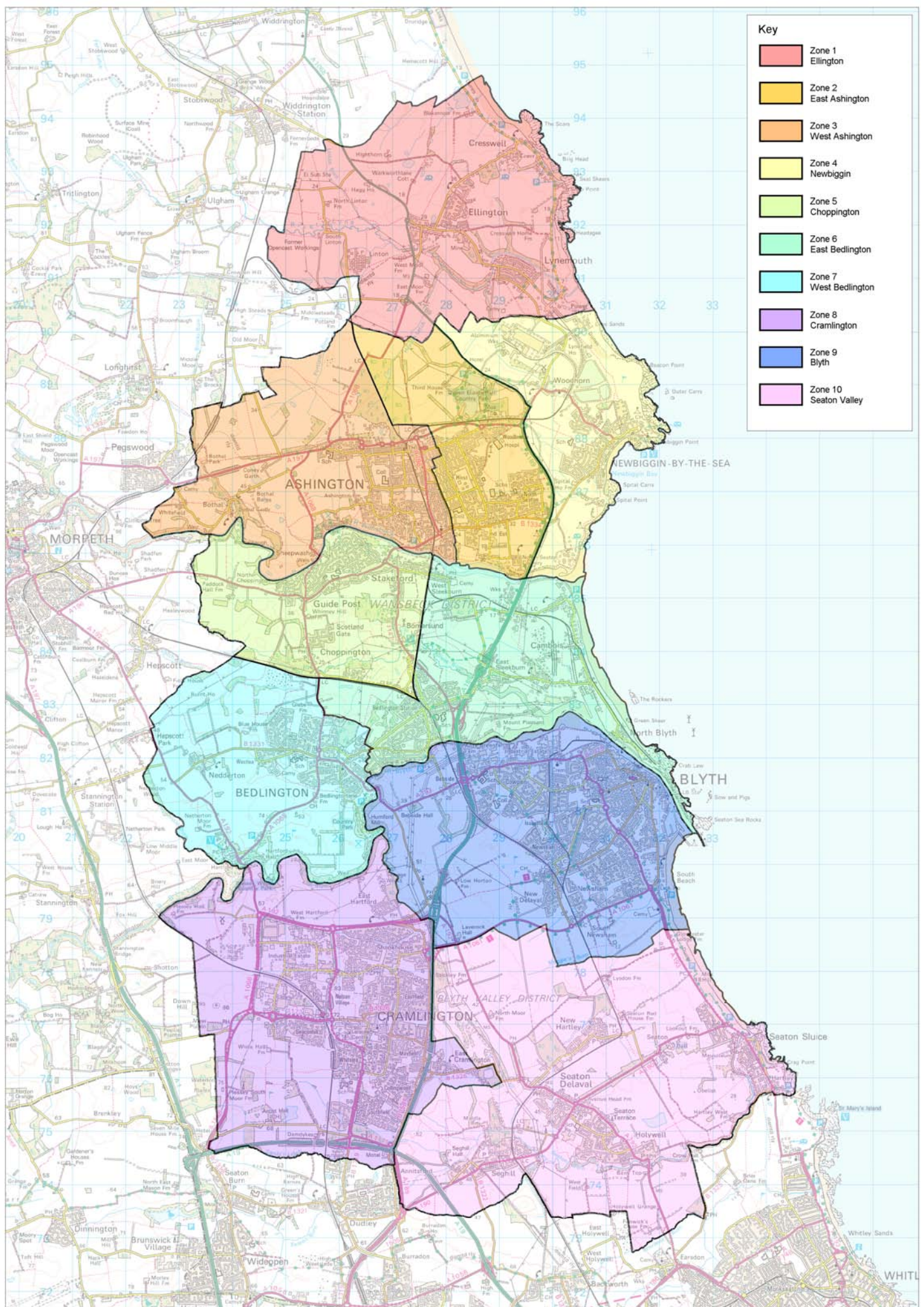
After the EAST Appraisal process, the remaining interventions have been scored against the study specific objectives to provide a prioritised list detailing which interventions best meet the objectives. This scoring system takes into account that some objectives have been assigned a greater priority than others. The final prioritised list of interventions can be seen in **Appendix C**. The top 4 results from this scoring process, which contains the intervention that rated highest and the 3 that were joint second highest, can be seen below:

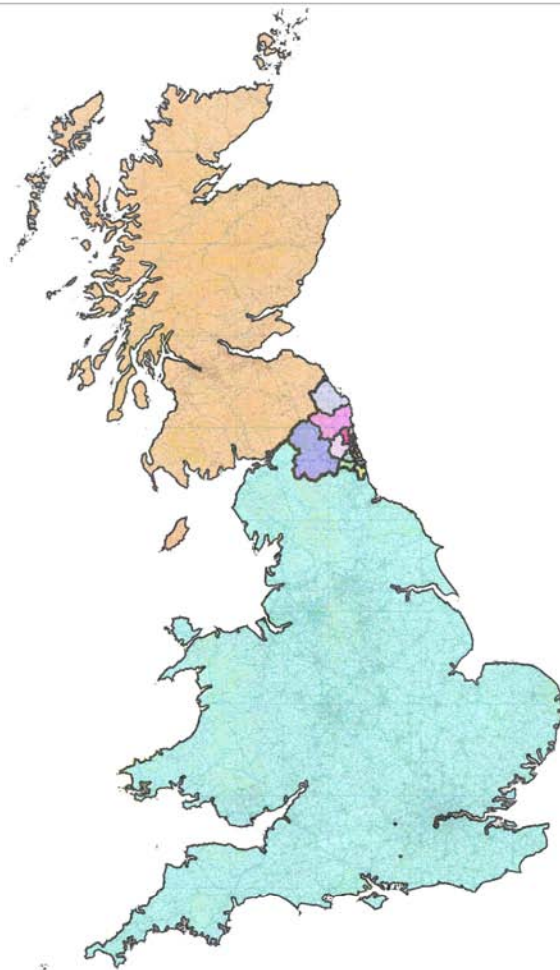
1. Improvement to express bus services from South East Northumberland into Tyne and Wear to identify quicker, more direct routes and gaps in service.
2. Personal travel planning - Large Employment Sites across South East Northumberland.

2. Reopen Ashington, Blyth and Tyne & Wear (ABT) line to passengers.
2. Extend Metro into South East Northumberland.

All 4 of the interventions meet the first study specific objective fully, which is considered to have the greatest priority. They all also either fully or partially meet the second and third most important objectives which are increasing the Public Transport provision and reducing environmental impacts respectively. Therefore all of these interventions can be considered worthy of more detailed appraisal.

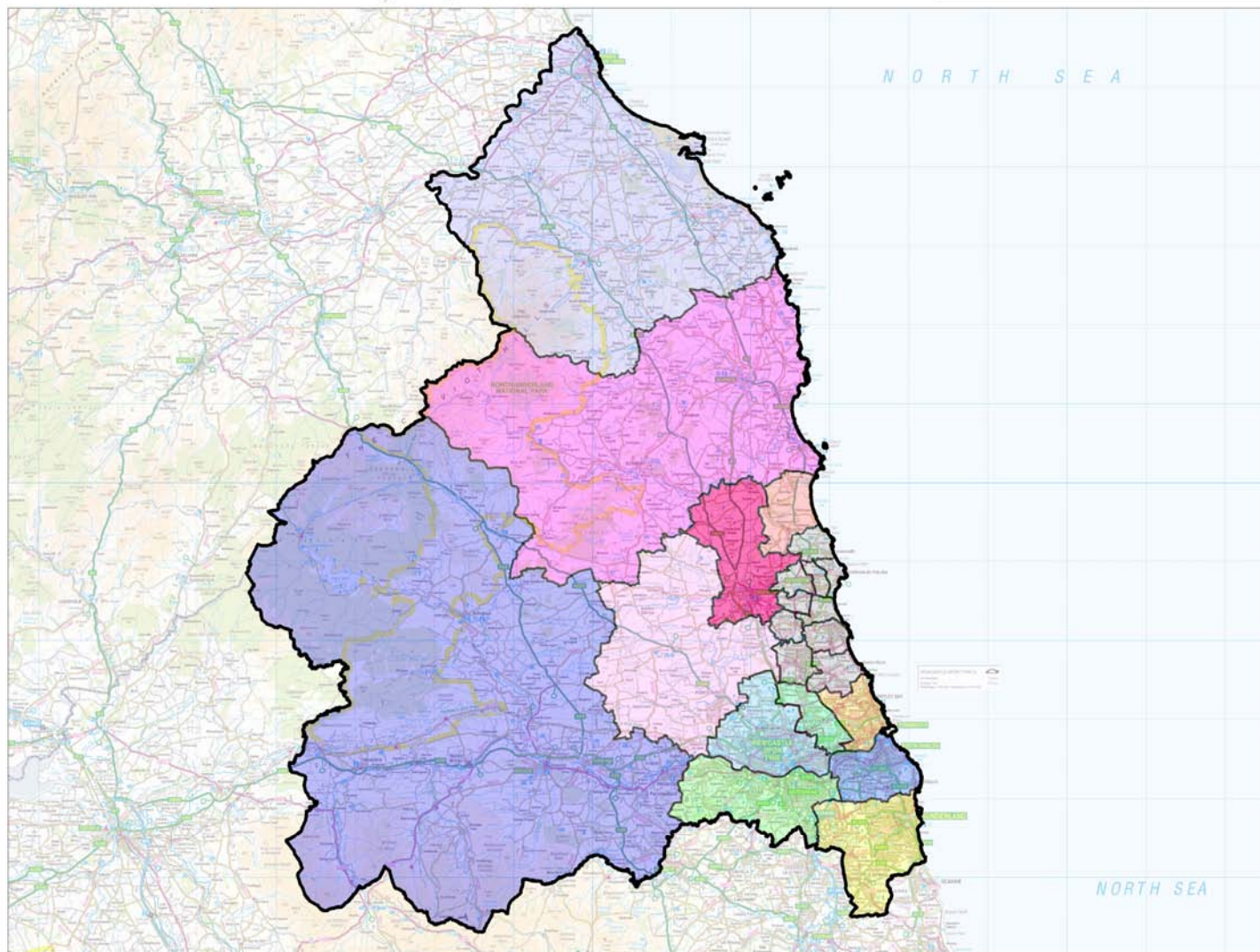
Appendix A





Key

- Zones 1 - 10
South East Northumberland
(see separate plan)
- Zone 11
Morpeth East
- Zone 12
Morpeth Central A1
- Zone 13
Morpeth Rural
- Zone 14
Berwick
- Zone 15
Alnwick
- Zone 16
Tynedale
- Zone 17
North Tyneside East
- Zone 18
North Tyneside West
- Zone 19
Newcastle
- Zone 20
Gateshead
- Zone 21
South Tyneside
- Zone 22
Sunderland
- Zone 23
Other
- Zone 24
Other - North



Appendix B

List of Interventions and their scoring related to Study Specific Objectives

Intervention Name	Improve access to job opportunities for South East Northumberland residents; increasing the rate of employment, via reduced congestion and improvements to both journey time and reliability	Improve the Public Transport offer to/from and within South East Northumberland and encourage modal change away from the private car	Seek to reduce the environmental impacts associated with travel in South East Northumberland	Work towards improving road safety in South East Northumberland
Road safety campaigns targeted at drivers in South East Northumberland, notably A189.	Partially	No	No	Yes
Develop parking standards in new developments such as the Housing Growth Point sites such that private car travel is discouraged.	Partially	No	Yes	No
Greater parking enforcement to improve traffic flow, particularly bus movement in town centres	Partially	Partially	Partially	No
Workplace, Education and Residential travel plans	Partially	Partially	Yes	No
Cycle/walking education in schools/workplace/in communities	No	No	Yes	Partially
Promotion of health/lifestyle benefits active travel towns	No	No	Yes	No
Promotion/support of flexible working practices	Yes	No	Yes	No
Public transport info and marketing to better inform residents about their travel options	No	Partially	No	No

Personal travel planning - Large Employment Sites across South East Northumberland	Yes	Partially	Yes	No
Increase the availability of cycle parking in town centres and at key destinations throughout South East Northumberland in order to encourage cycling and reduce the number of shorter distance trips made by car in the area.	Partially	No	Yes	No
Weetslade Park and Ride. Bus based park and ride on A189 corridor (Weetslade) - serving Balliol Industrial Estate - Four Lane Ends - Newcastle.	Partially	Yes	No	No
Lower speed limits in order to improve free flow of traffic and reduce accidents (A189)	Partially	No	Partially	Yes
Overall decrease in the cost of public transport to encourage modal shift, increase affordability therefore having accessibility benefits	No	Yes	Partially	No
Bus/Train service 'loyalty schemes' to reduce cost if frequently used (subsidies/loans for season tickets provided by operators or other organisations). To encourage constant use of a particular form of transport.	No	Yes	Partially	No
Improve service frequency of local Northern rail services on the East Coast Mainline. Provide a standardised timetable, with additional peak hour services, later and more frequent evening and Sunday services.	Partially	Yes	Partially	No
Extend Grand Central trains from Sunderland up to Ashington	Partially	Yes	Partially	No
Newcastle - Benton Road. Bus priority can be provided within the existing highway although some road widening may be required. The provision of bus priority measures will reduce the capacity of the existing road.	Partially	Yes	No	No
Newcastle - North Tyneside - Coast Road.	Partially	Yes	No	No
Whitley Road Corridor Newcastle - North Tyneside - A191 Whitley Road/Rake Lane. The introduction of some bus priority measures is possible; however localised widening may be required.	Partially	Yes	No	No
Free buses to town centres in South East Northumberland to improve accessibility for those without a car and to reduce the number of vehicles travelling into town centres	Partially	Yes	Partially	No

Reduce the need to interchange, or provide interchanges with less waiting time to improve connectivity (from destinations within South East Northumberland to key employment sites particularly within Newcastle and North Tyneside)	Yes	Yes	No	No
Reallocation of roadspace to improve bus journey times and journey time consistency (A189)	Partially	Yes	No	No
Improve the continuity of routes for cyclists and pedestrians throughout South East Northumberland, including the Connect 2 scheme.	No	No	Yes	No
Provide improved information for cyclists and pedestrians through the provision of maps and signing in town centres.	No	No	Yes	Partially
Encourage residents to become involved in the design process - Home Zones	No	No	No	Partially
Increased parking at Morpeth and Cramlington rail stations	Partially	Yes	Partially	No
Rail based A1058 / East Coast Mainline (ECML) Park and Ride	Partially	Yes	Partially	No
Improve access to train stations, consider the ability to interchange at stations and access/to from stations to town centres and other key employment sites.	Partially	Yes	Partially	No
Reopen Ashington, Blyth and Tyne (ABT) line to passengers	Yes	Yes	Partially	No
Provide passenger services between Newsham and Blyth Central	Partially	Yes	Partially	No
Extend Metro into South East Northumberland	Yes	Yes	Partially	No
A1056 Northern Gateway Strategic Regeneration Link	Partially	No	Partially	No
Great North Road/Grandstand Road improvements. The scheme involves some degree of grade separation at an important junction known as Blue House where the North Road (B1318) intersects with the A189 (Grandstand	Partially	No	Partially	No

Road).				
A19 junction improvements. Improvements at Seaton Burn, Moor Farm and Silverlink roundabouts	Yes	No	Partially	Partially
Blyth Central Link Road. New link road connecting the A189 to the centre of Blyth	Partially	No	Partially	No
Re-opening to passenger traffic of the line between Morpeth, Choppington and Bedlington to enable extension to Bedlington of existing rail passenger services terminating at Morpeth.	Partially	Yes	Partially	No
Improvements to express bus services from South East Northumberland into Tyne and Wear to identify quicker, more direct routes and gaps in service	Yes	Yes	Yes	No

Appendix C

List of Prioritised Inventions

Rank	Intervention
1	Improvements to express bus services from South East Northumberland into Tyne and Wear to identify quicker, more direct routes and gaps in service
2	Personal travel planning - Large Employment Sites across South East Northumberland
2	Reopen Ashington, Blyth and Tyne (ABT) line to passengers
2	Extend Metro into South East Northumberland
5	Workplace, Education and Residential travel plans
5	Improve service frequency of local Northern rail services on the East Coast Mainline. Provide a standardised timetable, with additional peak hour services, later and more frequent evening and Sunday services.
5	Extend Grand Central trains from Sunderland up to Ashington
5	Free buses to town centres in South East Northumberland to improve accessibility for those without a car and to reduce the number of vehicles travelling into town centres
5	Reduce the need to interchange, or provide interchanges with less waiting time to improve connectivity (from destinations within South East Northumberland to key employment sites particularly within Newcastle and North Tyneside)
5	Increased parking at Morpeth and Cramlington rail stations
5	Rail based A1058 / East Coast Mainline (ECML) Park and Ride
5	Improve access to train stations, consider the ability to interchange at stations and access/to from stations to town centres and other key employment sites.
5	Provide passenger services between Newsham and Blyth Central
5	Re-opening to passenger traffic of the line between Morpeth, Choppington and Bedlington to enable extension to Bedlington of existing rail passenger services terminating at Morpeth.
15	Greater parking enforcement to improve traffic flow, particularly bus movement in town centres
15	Promotion/support of flexible working practices
17	Weetslade Park and Ride. Bus based park and ride on A189 corridor (Weetslade) - serving Balliol Industrial Estate - Four Lane Ends - Newcastle.
17	Newcastle - Benton Road. Bus priority can be provided within the existing highway although some road widening may be required. The provision of bus priority measures will reduce the capacity of the existing road.
17	Newcastle - North Tyneside - Coast Road.
17	Whitley Road Corridor Newcastle - North Tyneside - A191 Whitley Road/Rake Lane. The introduction of some bus priority measures is possible; however localised widening may be required.

17	Reallocation of roadscape to improve bus journey times and journey time consistency (A189)
17	A19 junction improvements. Improvements at Seaton Burn, Moor Farm and Silverlink roundabouts
23	Lower speed limits in order to improve free flow of traffic and reduce accidents (A189)
24	Develop parking standards in new developments such as the Housing Growth Point sites such that private car travel is discouraged.
24	Increase the availability of cycle parking in town centres and at key destinations throughout South East Northumberland in order to encourage cycling and reduce the number of shorter distance trips made by car in the area.
26	Road safety campaigns targeted at drivers in South East Northumberland, notably A189.
26	Overall decrease in the cost of public transport to encourage modal shift, increase affordability therefore having accessibility benefits
26	Bus/Train service 'loyalty schemes' to reduce cost if frequently used (subsidies/loans for season tickets provided by operators or other organisations). To encourage constant use of a particular form of transport.
26	A1056 Northern Gateway Strategic Regeneration Link
26	Great North Road/Grandstand Road improvements. The scheme involves some degree of grade separation at an important junction known as Blue House where the North Road (B1318) intersects with the A189 (Grandstand Road).
26	Blyth Central Link Road. New link road connecting the A189 to the centre of Blyth
32	Cycle/walking education in schools/workplace/in communities
32	Provide improved information for cyclists and pedestrians through the provision of maps and signing in town centres.
34	Promotion of health/lifestyle benefits active travel towns
34	Public transport info and marketing to better inform residents about their travel options
34	Improve the continuity of routes for cyclists and pedestrians throughout South East Northumberland, including the Connect 2 scheme.
37	Encourage residents to become involved in the design process - Home Zones

Footnotes

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- 1 <http://www.northumberland.gov.uk/default.aspx?page=7846>
 - 2 <http://www2.dft.gov.uk/pgr/regional/sustainabletransport/pdf/whitepaper.pdf>
 - 3 <http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/transportstrategy/dasts/>
 - 4 <http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/transportstrategy/eddingtonstudy/>
 - 5 http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/stern_review_report.htm
 - 6 Access to Tyne & Wear City Region Study, AECOM, 2011
 - 7 North East Strategic Connections, AECOM, 2010
 - 8 <http://www.gos.gov.uk/nestore/docs/planning/rss/rss.pdf>
 - 9 <http://www.onenortheast.co.uk/lib/liReport/9653/Regional%20Economic%20Strategy%202006%20-2016.pdf>
 - 10 <http://www.northumberland.gov.uk/default.aspx?page=776#LocalDevelopmentFrameworkdocuments>
 - 11 <http://www.northumberland.gov.uk/default.aspx?page=776>
 - 12 <http://committees.northumberland.gov.uk/aksnorthumberland/images/att3921.pdf>
 - 13 <http://www.northumberland.gov.uk/idoc.ashx?docid=3fcc3d21-c6ec-40cb-9709-71ea0454f245&version=-1>
 - 14 <http://www.communities.gov.uk/documents/planningandbuilding/pdf/155634.pdf>
 - 15 <http://www.nerip.com/home.aspx>
 - 16 www.transportdirect.info
 - 17 Access to Tyne and Wear City Region Study, AECOM, 2011
 - 18 East Coast Mainline Route Utilisation Strategy, Network Rail, 2008